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*Nurturing Hospitality, Tourism & Wellness World*

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# **NURTURING HOSPITALITY, TOURISM AND WELLNESS WORLD**

*WELLNESS CLUSTER*

**Editors:**

Normaizatul Akma Saidi, Siti Fatimah Ab Ghaffar, Velan Kunjuraman, Mazne Ibrahim & Raja Norliana Raja Omar

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## Risk of Breast Cancer, Awareness Breast Cancer and Breast Self-Examination Among Young Adult

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### ABSTRACT

This research is to identify the awareness and self-examination of breast cancer among young adults in Pengkalan Chepa, Kota Bharu, Kelantan. Breast cancer is one of the leading causes of death among women in Malaysia. About 3,500 breast cancer cases are recognized each year and research has found that breast cancer is most prevalent among women. Breast self-examination (BSE) is a procedure whereby women examine their breasts routinely to recognize any anomalous changes and to look for restorative consideration. Breast self-examination has transformed into a vital tool for the early detection of cancer, particularly in developing nations. This investigation is aimed to determine young adult consciousness of breast self-examination, phases of progress of BSE conduct, and the related variables among women. Breast self-examination can be performed by women over 20 years of age. The research uses both a primary and secondary source where the data was collected based on a questionnaire among young adults around 19 to 24 years old at Pengkalan Chepa, Kota Bharu, Kelantan. Malaysian women have poor awareness of breast cancer and very few eligible women participate in regular mammograms. The biggest Malaysian populace-based investigation of 10,000 breast cancer patients analyzed between January 2000 and December 2005 by the Health Informatics Center, Ministry of Health Malaysia, the National Cancer Registry and the National Mortality Registry found that the survival rate was 49 percent.

**Keywords:** *Risk of Breast Cancer, Breast Cancer Awareness, Breast Self-Examination*

### INTRODUCTION

In Malaysia, 3738 female breast cancer were accounted for in 2002, making it the most regularly analyzed cancer in women (National Cancer Registry, 2005). Between 1998 and 2001, a sum of 774 instances of breast cancer in Kuala Lumpur Hospital, and only five percent were intangible breast cancers (Hisham, 2003). In view of the World Health Organization (WHO) 2013, breast cancer is the most widely recognized cancer in both developed and less developed countries. In Eastern Africa, the rate rates were 19.3 per 100,000 women compared to 89.7 per 100,000 women in Western Europe. The National Cancer Registry in 2003 and 2006 revealed that the age institutionalized occurrence of breast cancer was 46.2 and 39.3 per 100,000 populaces. A young woman with meddling breast cancer is a higher risk for building up a second breast cancer (Jill et al., 2013). In Malaysia, women who were diagnosed with breast cancer started from as early as 30 years old to a peak of 50 to 59 years old. Most of the women determined to have breast cancer at the basic dimension matured from 40 years old to 60 years old. About fifty percent of cases, which represent almost 1,299 women, can avoid a lethal diagnosis if they are able to have early detection and ideal access to treatment (Hamudin, 2014).

The objectives of this research are to:

1. Identify the level of awareness of risk factors among young adults.
2. Determine young adult's understanding of breast self-examinations.
3. Examine breast awareness as an effective strategy for health promotion.

## **SIGNIFICANCE OF THE STUDY**

### ***Researchers***

This research will provide a clear image of the risk factors of breast cancer among young adults and bring into effect the many parties that are involved directly or indirectly to this research. Through this study, we can identify the occurrences of the problem sources and risk factors of breast cancer among young adults. This study will help to increase awareness of breast cancer and breast self-examination among young adults.

### ***Young Adult***

This research is significant to help young adults improve their knowledge and awareness of breast cancer. Breast cancer can be avoided when young adults are aware of the symptoms and prevention. From this study, young adults can identify the factors that lead to breast cancer. They need to start by caring about their health as breast cancer can happen to anyone without age limitation.

### ***Women***

When this research is completed, the researcher can help women, especially in Malaysia, to be more aware of their health, especially related to breast cancer. Communities might have more information or ways to prevent breast cancer, but they might not have the knowledge to apply it in daily life. So, with this research, we get the opportunity to enlighten the communities, especially women, on ways to avoid breast cancer in their life.

### ***Awareness***

This research is to increase awareness of breast cancer among young adults. Awareness of breast self-examination (BSE) is an essential tool for breast cancer early detection. Moreover, performing BSE regularly makes women acquainted with the normal appearance and feel of their breast and they can perceive any adjustments in their breast (Karayurt et al., 2008).

### ***Breast self-examinations***

This research aims to help young adults on how to check for breast cancer through breast self-examination. Breast self-examination (BSE) has progressed for quite a long time as screening procedures to prevent breast cancer at an early stage to reduce the risk of dying from breast cancer. Young adults who accurately practice BSE monthly are bound to distinguish any irregularities from an early stage of its development; and early detection has been accounted for early treatment, thus yielding a superior survival rate (Petro-Nustas et al., 2002).

The literature review presents an overview of issues related to the study including the awareness of breast cancer, stages of breast cancer and risk factors, and breast self-examination.

### ***Research Hypothesis***

In this study, there were two hypotheses. The hypothesis of this study was to determine the risk of breast cancer, awareness of breast cancer and breast self-examination among young adult.

H1: There is a significant relationship between awareness of breast cancer and the risk of breast cancer among young adults at Pengkalan Chepa, Kota Bharu, Kelantan.

H2: There is a significant relationship between breast self-examination and the risk of breast cancer among young adults at Pengkalan Chepa, Kota Bharu, Kelantan.



### Research Framework

A research framework has been conducted to investigate the connection between the risk of breast cancer, awareness of breast cancer and breast self-examination among young adults.

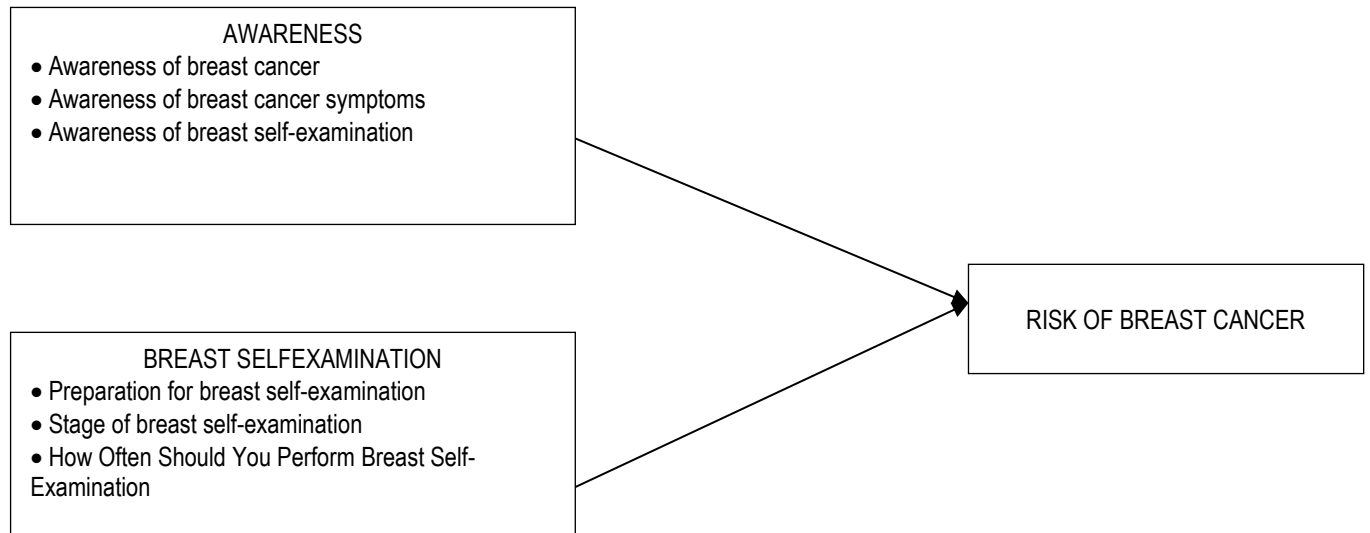


Figure 2.1: Risk of breast cancer, awareness of breast cancer and breast self-examination among young adults Source: Sources: Shatha et al., (2013); Hadi et al., (2010)

## METHODOLOGY

### Study Area

This research focuses on young adults aged 19 to 24 years old in Pengkalan Chepa, Kota Bharu, Kelantan.

### Research Design

The research intention is to accumulate the data investigated for the relationship between the risk of breast cancer, awareness and breast self-examination among young adults in Pengkalan Chepa, Kota Bharu, Kelantan. The investigation utilized a quantitative methodology utilizing a questionnaire.

### Data Collection

In this study, the data were collected based on the primary source, questionnaire, question structure, and secondary sources among 384 young adults from 19 to 24 years old in Pengkalan Chepa. There were two types of questions used; the close-ended and Likert scale questions.

### Sampling Methodology

The respondents were selected using a probability sampling technique. A simple random sampling was done due to its simplicity. In this study, a prior written consent was also taken from the participants.

## **Selection of Study Subjects**

### **Tools of the Study**

A questionnaire was used to obtain the data required for the research. The questionnaire consisted of five sections; sections A, B, C, D and E. Section A asked about respondent demographics. Section B was about their knowledge on breast self-examination (BSE). Section C was on the risk of breast cancer, the dependent variable. Section D was regarding their awareness of breast cancer, the independent variable I. While Section E was on Breast Self-examination (BSE), the independent variable II. The questionnaire was made available in English and Bahasa Malaysia to accommodate the multilingual and multi-ethnic target populations.

### **Definition Used**

(1) Women with no formal education knew less about the breast cancer side effects than those who do, even with O-levels ( $P < 0.001$ ). More unfortunate, learning about breast cancer side effects was related to less capacity in recognizing changes in breast ( $P < 0.001$ ) and with a diminished expectation to look for help in case of indication disclosure ( $P = 0.02$ ).

(2) BSE is a significant screening measure for detecting breast cancer. There is proof that women who accurately practice BSE monthly are bound to distinguish any irregularities from an early stage of its development, and early detection has been accounted for early treatment, thus yielding a superior survival rate (Petro-Nustas et al., 2002).

### **Data Processing**

The data were analysed using the Statistical Package for the Social Sciences (SPSS) which compiled, sorted, edited, classified and coded the data from the questionnaire. Descriptive statistics were used to measure the average value of the sample. Other statistical tests, like the reliability test and Pearson correlation coefficient, were also applied. The level of significance was set at  $p < 0.05$ .

### **Data Analysis**

There were four types of data analyses that were used in this study. They were: descriptive analysis, reliability analysis, Pearson correlation coefficient analysis and cross-tabulation analysis.

## **RESULTS**

### **Demographic Characteristics of the Subjects**

Out of 384 respondents, 100% completed and returned the questionnaires. Table 1 shows the demographic characteristics of the study population. Majority of the respondents were 23 years old or older (71.6%, 275 respondents), female (100%, 384 respondents), Malay (60.4%, 232 respondents), single (73.2%, 281 respondents) and degree holders (58.3%, 224 respondents). 178 (46.4%) respondents have heard about Breast Self-Examination (BSE) while 160 (41.7%) respondents know BSE is a useful tool for early detection of breast cancer and 152 (39.6%) respondents have been taught how to do BSE.

Table 1: Distribution of Respondent According to Demographic Characteristics

	Frequency (N =384)	Percentage (%)
<b>Age (years old)</b>		
19 and 20	15	3.9
21 and 22	94	24.5
23 and above	275	71.6
<b>Gender</b>		
Male	0	0
Female	100	100
<b>Race</b>		
Malay	232	60.4
Chinese	79	20.6
Indian	70	18.2
Others	3	0.8
<b>Marital Status</b>		
Married	103	26.8
Single	281	73.2
<b>Level of Education</b>		
Secondary School Completed	76	19.8
Diploma	84	21.9
Degree Completed	224	58.3
<b>Heard about breast self-examination</b>		
Yes	178	46.4
No	206	53.6
<b>BSE is a useful tool for early detection of breast cancer</b>		
Yes	160	41.7
No	224	58.3
<b>Had you been taught how to do BSE</b>		
Yes	152	39.6
No	232	60.4
<b>Total</b>	<b>384</b>	<b>100</b>

Table 2: Average Mean

Content	Average Mean
Risk of Breast Cancer	3.689
Awareness of Breast Cancer	3.790
Breast Self-Examination (BSE)	4.104

The highest average mean was 4.104 which means that many respondents know about breast self-examination (BSE), but they don't know about the risk of breast cancer. The average mean for risk of breast cancer was 3.689 which was the lowest average mean.

Table 3: Result of Reliability Cronbach Alpha for sections B, C, D, and E

	Number of Items	Reliability of Cronbach Alpha
Knowledge of Breast Self-Examination	10	0.731
Risk of Breast Cancer	10	0.761
Awareness of Breast Cancer	10	0.864
Breast Self-Examination	10	0.862

Table 3 above shows the independent and dependent reliability coefficient for this study. The coefficient alpha for knowledge of breast self-examination was 0.731. The coefficient Alpha or risk of breast cancer was 0.761., the coefficient Alpha for awareness of breast cancer was 0.864 and the coefficient alpha for breast self-examination was 0.862. This result exceeded 0.7 which was consistent. This indicates that the questions were highly reliable.

Table 4: Pearson Correlation Coefficient Table among Variables

		Awareness of Breast Cancer	Breast Self-Examination	Risk of Breast Cancer
Awareness of Breast Cancer	Pearson Correlation	1	.546**	.685**
	Sig. (2-tailed)		.000	.000
	N	384	384	384
Breast Self-Examination	Pearson Correlation	.546**	1	.467**
	Sig. (2-tailed)	.000		.000
	N	384	384	384
Risk of Breast Cancer	Pearson Correlation	.685**	.467**	1
	Sig. (2-tailed)	.000	.000	
	N	384	384	384

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows the correlation between the risk of breast cancer, awareness of breast cancer and breast self-examination among young adults in Pengkalan Chepa, Kota Bharu, Kelantan. The Pearson correlation for awareness of breast cancer with the risk of breast cancer was 0.685. Since 0.685 was relatively close to 0.5 and 1.0, this indicates that both variables were highly correlated ( $r = 0.685$ ,  $p < 0.05$ ). The Pearson correlation between breast self-examination and the risk of breast cancer is 0.467. This indicates that both variables had a moderate relationship. Meanwhile, the significant levels of both variables were 0.000 showing high significance. Therefore, the awareness of breast cancer can decrease the risk of breast cancer among young adults in Pengkalan Chepa, Kota Bahru, Kelantan. So, this research rejected the first null hypothesis (H0) and accept the alternate hypothesis (H1).

## DISCUSSION & RECOMMENDATION

Breast cancer was like other adult cancers and the number of people with breast cancer keeps on growing. Studies have shown that women who were unaware of the signs and indications of breast cancer may postpone looking for treatment and were subsequently diagnosed at later stages. The National Cancer Registry in 2003 and 2006 revealed that the average age institutionalized occurrence of breast cancer was 46.2 and 39.3 per 100,000 populaces. This implies that 1 of every 20 women in Malaysia are at risk of developing breast cancer in their lifetime.

This study was a quantitative study that was designed to investigate awareness of breast cancer and breast self-examinations which influences the risk of breast cancer among young adults. The result found that the majority of the respondents were women who are 23 years old and above (71.6%, 275 respondents). In this study, 178 (46.4%) respondents had heard about Breast Self-Examination (BSE) while 160 (41.7%) respondents know BSE was a useful tool for early detection of breast cancer and 152 (39.6%) respondents had been taught how to do BSE.

Based on the demographics of the respondents, whereby the majority were women with a Bachelor's Degree aged 23 and above, it might mean that most women were too busy with their work and have less time to perform BSE as well as lacking in BSE awareness campaigns conducted by the government.

There were 3525 female breast cancer cases registered in the NCR for 2006, represented seventeen percent of all disease cases enrolled (Akhtari et al., 2015). Awareness of breast cancer and Breast Self-Examination obtained the highest level of internal consistency of 0.864 and 0.862. The lowest internal consistency can be observed for knowledge of Breast Self-Examination and risk of breast cancer with a value of 0.731 and 0.761.

In this study, there was a significant relationship between awareness of breast cancer and the risk of breast cancer and the practice of BSE. Nowadays, young adults use smartphones in which the government can share information online, perhaps in the form of online advertisements. All young adults can also attend for health care talk for early detection of breast cancer.

Lack of knowledge of how to do BSE among young Malaysian women was due to inadequate education programs about breast health awareness for this population. Women had mentioned that they do not know how to do BSE (Redhwan et al., 2011) and they did not believe that they are at risk of getting breast cancer.

## CONCLUSION

The overall level of awareness of the risk factors for breast cancer was found to be moderate even though the majority had a positive perception toward breast self-examination and its outcomes. Hence, an intensive breast health awareness campaign, which should also stress the importance of early detection and reporting, is necessary to improve the awareness of the risk of breast cancer. It should be mostly focused on young adults as they should know about breast cancer. Community-based efforts are required to increase the level of knowledge and awareness about breast cancer, the risk factors and the breast

self-examination among the young adults in Pengkalan Chepa, Kelantan. The research hypothesis had been accepted and the variables were statistically significant.

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## Awareness of Mental Illness and Help-Seeking Intentions among Teenagers In Kelantan, Malaysia

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### ABSTRACT

The aim of this study was to determine the attitude towards mental illness, knowledge about mental illness and the role of the community towards mental illness to seek help by teenagers in Kelantan. A simple random sampling method was used with the sample size of 384 teenagers in Kelantan as the respondents in this study. The result showed that there is a positive correlation ( $r=0.542$ ) between the attitude towards mental illness and the desire to seek help. A significant positive correlation ( $r=0.556$ ) was found between the knowledge about mental illness and the desire to seek help in regards to mental illness. The role of the community on mental illness affecting teenagers to seek help showed a significant positive correlation ( $r=0.369$ ). In conclusion, there is a positive relationship between attitude and knowledge towards mental illness and helping teenagers to seek help for mental illness problems. The role of the community can also affect teenagers' decision to seek help for mental illness.

**Keywords:** *Mental illness, attitude, knowledge, community, seek help, teenagers.*

### INTRODUCTION

Mental illness is not a small issue in Malaysia. Every day we hear people committing suicide, while the total number of people who meet psychiatrists has also increased. According to Berita Harian (28 September 2016), 30 percent (4.2 million Malaysians) who are 16 years old and above have mental health problems. It also mentions that over 40 percent of Malaysian people will suffer from at least one mental illness issue. Former of Health Minister, Datuk Seri Dr S Subramaniam said the total is high because of factors such as financial problems, unemployment, pressure in the workplace and family problems such as divorce (Atiqah, 2016).

It is really important to increase awareness towards mental illness among teenagers because it can help to overcome the negative perceptions surrounding it. Nowadays, most people will have a negative perception of those who are suffering from mental illness and it makes problems worst. Through this research, it can help to increase the knowledge of mental illness, as well as provide suitable ways to help them. Besides that, if people have awareness about it, it can lead to early detection and treatment options. People who are close to teenagers, especially parents and teachers, can identify when they are having these problems and it can increase the chance for them to find help early and effectively.

The objectives of this research are:

1. To determine the relationship between attitude on awareness of mental illness and help-seeking intentions among teenagers in Kelantan.
2. To investigate whether knowledge about mental illness can be helpful for teenagers in Kelantan.
3. To identify the role of the community in educating teenagers about the awareness of mental illness.

### LITERATURE REVIEW

#### **Mental Illness**

Mental illness is a problem or condition that causes changes in an individual's thinking, behaviors, and moods. Depression, anxiety disorders, schizophrenia, eating disorders, and even addictive behaviors are an example of mental illness. Mental health includes "subjective well-being, perceived self-efficacy, autonomy, competence, inter-generational dependence, and self-actualization of one's intellectual and emotional potential, among others (World Health Organization [WHO], 2001). Some mental illnesses can be temporary, while others can last for a lifetime. Mental health can be seen as an unpredictable continuum, where an individual's mental health may have many different possible values (Keyes, 2002).

### ***Help-seeking Intentions***

There are several theories and models that are used to treat mental illness. Ajzen's theory of planned behaviour (Ajzen, 1991) focuses on attitudes, in which subjective norms and perceived control of behaviour interact to influence intentions and thereby influence behaviour itself. Recently, this theory has been used to demonstrate the mediating role of attitudes on male psychological help-seeking intentions (Smith et al., 2008). Another approach, the health belief model, assumes that the decision to continue the behaviour depends on the individual's assessment of the perceived illness threat and its severity, as well as the perceived barriers and benefits of the behaviour itself (Rosenstock, 1966).

### ***Attitudes on Awareness of Mental Illness***

Many studies have found stigma and negative attitudes about teenagers' mental health difficulties. In fact, not only were negative attitudes found, but they were also found to increase with age and with increased knowledge of mental health (Wahl, 2002). This discovery has been replicated over time. In an early study by Royal and Roberts (1987), it was found that primitive children were more willing to make friends with people with mental health difficulties than with college-age young people. The study also found that teenagers believe that people with mental illness are different, unable to cope, suicidal or dangerous (Watson et al., 2005), while Bailey (1999) found that adolescents can cite some derogatory terms and terminology.

### ***Knowledge on Awareness of Mental Illness***

For teenagers, it is important to learn and know about their health and wellness. Schools must also be aware of and understand mental health issues in a timely manner, which is why it is essential for schools to engage in dialogue with students and provide support (National Alliance, 2018). Because teenagers spend most of their time at school, it makes sense to integrate mental health awareness and education as part of the curriculum. When educators give knowledge and encourage dialogue, teenagers will be able to get the help they need. Likewise, if teenagers are not provided with the knowledge they need, it may decrease the awareness of their health issues.

### ***Community on Awareness of Mental Illness***

The community also includes a broad community. As a corollary to the second point, it not only emphasizes reducing or managing environmental adversity, but also emphasizes the advantages of families, social networks, communities, and organizations around mentally ill patients (Warner, 2004). It combines evidence-based medicine with practical ethics. The scientific approach to services prioritizes the use of the best available data on the effectiveness of interventions. At the same time, people with mental illness have the right to understand their disease, consider available interventions and any information about their effectiveness and side effects, and incorporate their preferences into the process of joint decision making (Drake et al., 2014).

### ***Research Hypothesis***

The hypothesis that is corresponding to the research questions are developed as follow:

H1: There is a relationship between attitudes on awareness of mental illness and help-seeking intentions among teenagers in Kelantan.

H2: There is a relationship between the knowledge on mental illness and help-seeking intentions among teenagers in Kelantan

H3: There is a relationship between the awareness of mental illness in the community and help-seeking intentions among teenagers in Kelantan.

### Research Framework

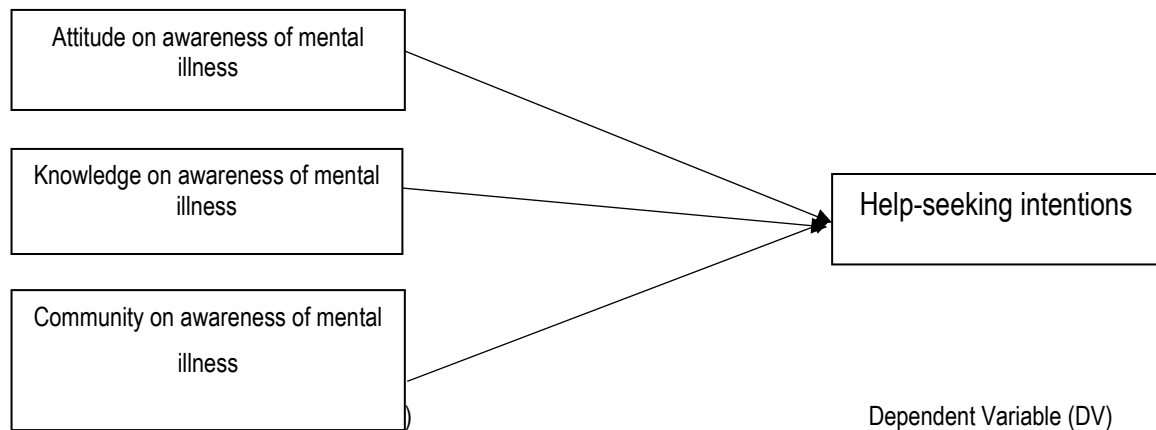


Figure 1: Research Framework of Awareness of Mental Illness and Help-seeking intentions among Teenagers. Source: Claire, M.K., Anthony, F. & Annemarie, W. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *The Medical Journal of Australia* 187(S7): S26-S30.

## METHODOLOGY

### Research Design

Research design is defined as a plan or strategy for a research project for the purpose of obtaining answers to research questions (Kothari, 2004). The method used to collect data for this study is a quantitative research technique. Data would be collected through primary data to collect information about the relationship between knowledge, community, and attitudes towards help-seeking intentions for mental illness. A set of questionnaires were distributed to the respondents. To obtain the research aim, data was collected and analyzed from respondents who are teenagers in Kelantan.

### Data Collection

#### 1. Primary Data

Primary data refers to data that is observed or collected directly through first-hand experiences. Primary data has been collected for this research by the use of questionnaires to collect data from respondents. The questionnaires were distributed to the target respondents, who are teenagers in Kelantan. Respondents are required to answer all the 30 questions which are stated in the questionnaires.

#### 2. Secondary data

In this study, it focuses more on electronically based resources to search for secondary data. The sources were the internet and University Malaysia Kelantan's library online database. These sources were used to search for relevant electronic articles and journals. Besides that, several reference books and journals were also referred to in UMK's library. The researcher would then have an in-depth understanding of the theoretical concepts. By using secondary data, researchers gain several advantages as it is effective.



## Sampling

The sampling method chosen was a simple random sampling in order to identify awareness of mental illness and help-seeking intentions among teenagers. In simple random sampling, every individual has an equal chance to be chosen as the sample from a larger population (Stephanie, 2014). The target respondents of our study were secondary students in Kelantan.

Table 1: Sampling Method for the survey

Representatives	Population	Proportionate sampling
Respondents at Kelantan	118,300	384

## Data Analysis

### 1. Reliability Test

Reliability test was performed by using Cronbach's alpha coefficient. Cronbach's Alpha test is used to see whether the multiples questions, like Likert Scale surveys, are reliable. It explained if the test designed is accurately measuring the variable of interest. According to the Rule of Thumb (2012), the values obtained are described below.

Table 2: Rules of Thumb on Cronbach's Alpha Coefficient Size

Cronbach's alpha ( $\alpha$ )	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 \geq \alpha \geq 0.8$	Good
$0.8 \geq \alpha \geq 0.7$	Acceptable
$0.7 \geq \alpha \geq 0.6$	Questionable
$0.6 \geq \alpha \geq 0.5$	Poor
$0.5 \geq \alpha$	Unacceptable

In general, the value with more than 0.7 is acceptable while the value with 0.6 and below is considered unacceptable and cannot proceed to the next step.

### 2. Descriptive Analysis

Researchers use descriptive analysis to analyze the data as it provides simple summaries about the sample and the measurement from the questionnaires. Frequency analysis is a part of a descriptive analysis that deals with the numbers of occurrences and analyzed measures of central tendency, dispersion, percentiles, etc. It is a valuable method for describing nominal and ordinal level data.

### 3. Pearson Correlation Analysis

In this study, researchers used correlation to test how strong the relationships are between the dependent and independent variables. Theoretically, the correlation could range between -1.0 and +1.0, the significance of p-value is equal to 0.05 is usually accepted as statistical significant. This indicates 95 percent out of 100 percent can be significant and that there is a correlation between two variables, meaning there is only a 5 percent chance that the relationship doesn't truly exist. The formula of Pearson Correlation is indicated as below.

$$r = \frac{\sum(x_i - \bar{x})(\sum y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2} \sqrt{\sum(y_i - \bar{y})^2}}, -1 \leq r \leq +1$$

Where,  $\bar{x}$  = sample mean of x  
 $\bar{y}$  = sample mean of y

The value of r always lies between -1 to 1. The higher the numbers of the value, the stronger the relationships. Negative values indicate a negative correlation, while positive values indicate a positive correlation.

## RESULTS

### Reliability Analysis

After the items had been altered, the Cronbach's Alpha values of the questionnaire had increased to the value of 0.826, which was perceived to be good reliability. Table 4.2 shows the result of reliability statistics after items were altered. The data was considered suitable for further analysis.

Table 3: Reliability Statistics after Item altered

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.826	0.834	26

### Descriptive Analysis

#### 1. Help-seeking Intentions

Table 4: Descriptive Statistics for Help-seeking Intentions

	SD	Frequency				Mean	Std. Deviation
		D	N	A	SA		
B1 I understand what mental illness is	12 3.1%	35 9.1%	80 20.8%	168 43.8%	89 23.2%	3.75	1.012
B2 I have knowledge about mental illness	33 8.6%	99 25.8%	116 30.2%	102 26.6%	34 8.9%	3.01	1.107
B3 If I had a problem, I would solve it by myself	51 13.3%	60 15.6%	68 17.7%	156 40.6%	49 12.8%	3.24	1.245
B4 The problem was too personal to tell anyone	36 9.4%	90 23.4%	97 25.3%	91 23.7%	70 18.2%	3.18	1.244
B5 I felt that no one or helping service could help	97 25.3%	92 24.0%	68 17.7%	94 24.5%	33 8.6%	2.67	1.317
B6 I will share my problem with my family or friends	24 6.3%	39 10.2%	61 15.9%	133 34.6%	127 33.1%	3.78	1.189
B7 If my friend having mental illness problem, I will help them	8 2.1%	19 4.9%	51 13.3%	157 40.9%	149 38.8%	4.09	.949
B8 I will share my problem with my counselling teacher	44 11.5%	91 23.7%	85 22.1%	93 24.2%	71 18.5%	3.15	1.288

Based on Table 4 above, it shows the frequency, mean range and standard deviation for the items that measure help-seeking intentions. There were eight (8) questions measured in this section. The highest mean of 4.09 for item B7 on the statement 'If my friend having mental illness problem, I will help them' with the highest percentage of 38.8% (n=149) for Strongly Agree and lowest percentage of 2.1% (n=8) for Strongly Disagree. Meanwhile, the lowest mean with 2.67 was for item B5 on the statement that 'I felt that no one or helping service could help'. For the B5 statement, the highest percentage of 25.3% (n=97) for Strongly Disagree and lowest percentage of 8.6% (n=33) for Strongly Agree. The mean values for the other six (6) items for B1, B2, B3, B4, B6, and B8 were 3.75, 3.01, 3.24, 3.18, 3.78 and 3.15 respectively.

## 2. Attitude

Table 5: Descriptive Statistics for Attitude

	SD	Frequency				Mean	Std. Deviation
		D	N	A	SA		
C1 Mental illness problem might be caused by the person's own bad character	29 7.6%	62 16.1%	72 18.8%	138 35.9%	83 21.6%	3.48	1.209
C2 I can be friend with people who have mental illness problem	76 19.8%	87 22.7%	75 19.5%	104 27.1%	42 10.9%	2.87	1.309
C3 I am not afraid of people who are suffering from mental illness	53 13.8%	88 22.9%	81 21.1%	102 26.6%	60 15.6%	3.07	1.293
C4 I am not afraid or ashamed of what other people would think about me if I having mental illness problem	70 18.2%	97 25.3%	81 21.1%	90 23.4%	46 12%	2.86	1.296
C5 I don't want people to know if I have mental illness problem	44 11.5%	61 15.9%	69 18.0%	114 29.7%	96 25.0%	3.41	1.323
C6 I do not want to burden someone else	16 4.2%	40 10.4%	49 12.8%	121 31.5%	158 41.1%	3.95	1.154

Table 5 shows the frequency, mean range and standard deviation for the items that measure attitude. There were six (6) questions measured in this section with the highest mean of 3.93 for item C6 on the statement 'I do not want to burden someone else' with the highest percentage of 41.1% (n=158) for Strongly Agree and lowest percentage of 4.2% (n=16) for Strongly Disagree while the lowest mean was C4 on the statement that 'I am not afraid or ashamed of what other people would think about me if I have mental illness problem' with mean 2.86 which this statement have the highest percentage of 25.3% (n=97) for Disagree and lowest percentage of 12% (n=46) for Strongly Agree. The mean values for the other four (4) items for C1, C2, C3, and C5 were 3.48, 2.87, 3.07 and 3.41 respectively.

## 3. Knowledge

Table 6: Descriptive Statistics for Knowledge

	SD	Frequency				Mean	Std. Deviation
		D	N	A	SA		
C7 I have some knowledge about mental health issues	23 6.0%	88 22.9%	76 19.8%	150 39.1%	47 12.2%	3.29	1.127
C8 I know where I can get sources of help	17 4.4%	73 19.0%	74 19.3%	154 40.1%	66 17.2%	3.47	1.114
C9 Mental illness problem might be caused by the way the person was raised	25 6.5%	34 8.9%	72 18.8%	145 37.8%	108 28.1%	3.72	1.155
C10 Difficulty identifying the symptoms of mental illness	20 5.2%	62 16.1%	111 28.9%	132 34.4%	59 15.4%	3.39	1.088
C11 Stressful circumstances in a person's life might cause the person having mental illness problem	11 2.9%	9 2.3%	35 9.1%	145 37.8%	184 47.9%	4.26	.927
C12 Positive attitude, good relationship, and a healthy lifestyle can help maintain mental health	16 4.2%	21 5.5%	40 10.4%	118 30.7%	189 49.2%	4.15	1.081

Table 6 shows the frequency, mean ranged and standard deviation for the items that measure knowledge which contains six (6) questions in this section. The highest mean of 4.62 in this section for item C11 on the statement 'Stressful circumstances in the person's life might cause the person having mental illness problem' with the highest percentage of 47.9% (n=184) for Strongly Agree and lowest percentage of 2.3% (n=9) for Disagree. In this section, the lowest mean was C7 on the statement that 'I have some knowledge about mental health issues' with mean 3.29 which this statement has the highest percentage of 39.1% (n=150) for Agree and lowest percentage of 6% (n=23) for Strongly Disagree. The mean values for the other four (4) items for C8, C9, C10, and C12 were 3.47, 3.72, 3.39 and 4.15 respectively.

#### 4. Community

Table 7: Descriptive Statistics for Community

	SD	Frequency				Mean	Std. Deviation
		D	N	A	SA		
C13 Social support or encouragement from community is needed	6 1.6%	12 3.1%	33 8.6%	133 34.6%	200 52.1%	4.33	.877
C14 Education and awareness towards mental illness that can lead to early detection	9 2.3%	16 4.2%	66 17.2%	152 39.6%	141 36.7%	4.04	.958
C15 Should perceiving the mental illness problem as serious issues	9 2.3%	12 3.1%	40 10.4%	156 40.6%	167 43.5%	4.20	.915
C16 Should have a positive attitude towards people who seek help	4 1.0%	8 2.1%	31 8.1%	149 38.8%	192 50.0%	4.35	.800
C17 Community are generally caring and sympathetic to people with mental illness problem	9 2.3%	64 16.7%	65 16.9%	126 32.8%	120 31.3%	3.74	1.138
C18 Most people in my community would treat a former of mental patient just as they treat anyone	33 8.6%	81 21.1%	88 22.9%	87 22.7%	95 24.7%	3.34	1.289

From the table above, it shows the frequency, mean range and standard deviation for the items that measure community. It contains six (6) questions measured in this section like the other section. For the highest mean of 4.35 in this section was item C16 on the statement 'Should have a positive attitude towards people who seek help' with the highest percentage of 50.0% (n=192) for Strongly Agree and lowest percentage of 1.0% (n=4) for Strongly Disagree. Lowest mean of 3.34 was C18 on the statement that 'Most people in my community would treat a former of mental patient just as they treat anyone' which this statement have the highest percentage of 24.7% (n=95) for Strongly Agree and lowest percentage of 8.6% (n=33) for Strongly Disagree. While the other mean values for the other four (4) items for C13, C14, C15 and C17 were 4.33, 4.04, 4.20 and 3.74 respectively.

#### Pearson Correlation Analysis

Table 8: Correlation between Dependent Variable and Independent Variables

		Correlations			
		DV-Help-seeking intentions			
		DV-Help-seeking intentions	IV-Attitude	IV-Knowledge	IV-Community
DV-Help-seeking intentions	Pearson Correlation	1	.542**	.556**	.369**
	Sig. (2-tailed)		.000	.000	.000
	N	384	384	384	384
IV-Attitude	Pearson Correlation	.542**	1	.497**	.224**
	Sig. (2-tailed)	.000		.000	.000
	N	384	384	384	384
IV-Knowledge	Pearson Correlation	.556**	.497**	1	.501**
	Sig. (2-tailed)	.000	.000		.000
	N	384	384	384	384
IV-Community	Pearson Correlation	.369**	.224**	.501**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	384	384	384	384

\*\* . Correlation is significant at the 0.01 level (2-tailed).

There is a moderate relationship between the dependent variable, help-seeking intentions and independent variable - attitude and knowledge with correlation value,  $r = 0.542$  and  $0.556$  respectively while the relationship of the dependent variable and independent variable - community is weak with a correlation value of  $0.369$ . These indicate that increasing knowledge and a

positive attitude may increase the chances of teenagers seeking help. A higher level of community awareness will not increase the chances of teenagers seeking help.

The relationship between both independent variables, attitude and knowledge is moderate, having a value correlation of 0.497. A positive attitude of teenagers towards mental health may increase the knowledge of teenagers as they may have the dedication of studying mental health and gain knowledge. Whereas, independent variables attitude and community is weak, correlation value,  $r = 0.224$ .

There is a moderate relationship between the independent variable community and knowledge as the correlation value,  $r = 0.501$ . Increased knowledge among individuals may increase the level of community awareness of mental health.

## **FINDINGS**

The respondents of this study were 384 teenagers in Kelantan which consisted of 144 male respondents and 240 female respondents. Most of the respondents' ages were around 16 to 17 years old. For the race of respondents, 297 of them were Malay, 57 were Chinese, 24 Indian and 6 were other races. The questionnaire also included a history of mental illness in the family. Only 55 respondents have a history of mental illness in their family and the rest (329) have no history of mental illness.

This study analysed three hypotheses based on data collection. The Pearson Correlation, or P-Value analysis, has been implemented by using Statistical Package for the Social Sciences (SPSS) system in this study to determine the coefficient of each Independent Variable (IV) and Dependent Variable (DV).

### ***Hypothesis 1***

The P-Value for attitudes on awareness of mental illness is 0.00 which is less than 0.05. If the P-Value is more than 0.5, it means the hypothesis is rejected because it indicates weak evidence against the hypothesis. The value of the correlation coefficient is 0.542. This shows the relationship between attitudes on awareness of mental illness and help-seeking intentions among teenagers. For the findings, we can see that our hypothesis was supported by the result that been carried on from the previous chapter. As a conclusion, attitudes on awareness of mental illness is important to make sure teenagers know how and where to seek help.

### ***Hypothesis 2***

P-Value for knowledge of mental illness is 0.00 and the correlation is 0.556. The P-Value is less than 0.5 and it means knowledge about mental illness has a significant relationship with help-seeking intentions among teenagers. For the findings, the result from previous chapters supported the hypothesis. It proves that knowledge about mental illness is important and teenagers know where to seek help.

### ***Hypothesis 3***

The P-Value for awareness of mental illness in the community is 0.00 which is less than 0.5. For the correlation coefficient, the value is 0.369. This shows a low relationship between awareness of mental illness in the community and help-seeking intentions among teenagers. Based on the result of the previous chapter, the hypothesis is supported. In conclusion, the community also plays an important role in educating teenagers about the awareness of mental illness.

## **RECOMMENDATIONS AND CONCLUSION**

In terms of research recommendation, the sample size in this study only covered 384 teenagers in Kelantan. Thus, a large sample data is recommended and preferred. This is because enlarged sample size and research area makes the result more significant. Ideally, this information should be verified and deepened by using quantitative methods to better define the awareness of mental illness and help-seeking intentions among teenagers in Kelantan. This research can be used for academic purpose and it may add to the body of knowledge in health care. The researcher finds that this current research will be valuable for university students who study the wellness industry. This research paper can be used as a future reference in order to complete the research. This would be an opportunity for the upcoming students as additional information for the study purpose in the future. This research can be improved in order to get more information on awareness of mental illness and help-seeking intentions among teenagers. In addition, qualitative methods can be conducted in future studies to obtain high levels of accuracy and reliability of the result. Qualitative research is primarily exploratory research so it can be collected through interviews and participation or observations, allowing the researcher to get more in-depth information.

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## Occupational Hazards, Body Mass Index and Lifestyle That Affect Lower Back Pain Among Young Adults in Kota Bharu, Kelantan

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### ABSTRACT

Lower back pain is one of the musculoskeletal problems that increases the consistency of visiting doctors. According to the National Institute of Neurological Disorders and Stroke (NINDS), lower back pain is the most common cause of job-related disabilities. *Objectives.* (1) To study the awareness of lower back pain among young adults based on several factors, (2) to identify whether the young adult understands the factors such as occupational hazards, body mass index, and lifestyle that can lead to lower back pain and (3) to investigate the relationship between occupational hazards, body mass index, and lifestyle towards lower back pain among young adult. *Methods and materials.* Pearson's Correlation method was used to determine the effect of the occupational hazards, body mass index and lifestyle towards lower back pain among young adults age 18 to 35 in Kota Bharu, Kelantan. *Findings.* The results from a survey conducted on 384 respondents in Kota Bharu, Kelantan provided the relationship between occupational hazards, body mass index, and lifestyle towards lower back pain. *Conclusion.* From three independent variables, the occupational hazards and body mass index affect lower back pain but lifestyle does not affect lower back pain.

**Keywords:** Low back pain, Occupational hazards, Body mass index, Lifestyle

### INTRODUCTION

Lower back pain is a musculoskeletal problem that increases the consistency of visits to the doctors. According to the National Institute of Neurological Disorders and Stroke (NINDS), lower back pain is the most common cause of job-related disability. In Malaysia, the prevalence of lower back pain was found to be 12% and it was rated as the fifth most common complaint in public and private primary healthcare clinics, respectively.

This study aims to investigate factors such as occupational hazards, body mass index, and lifestyle that influence lower back pain among young adults age 18 to 35 in Kota Bharu, Kelantan. In Malaysia, studies conducted on lower back pain were mainly examining its prevalence and care levels. There is limited evidence on the main risk factors that cause lower back pain, especially among adults age 18 to 35. Hence, we aimed to explore more about the risk factors that cause lower back pain among adults.

There are three objectives of this research:

1. To study the awareness of lower back pain among the young adult based on several factors
2. To identify whether young adults understand the factors such as occupational hazards, body mass index, and lifestyle that can lead to lower back pain.
3. To investigate the relationship between occupational hazard, body mass index, and lifestyle towards lower back pain among young adults.

### SIGNIFICANCE OF THE STUDY

#### *Young adulthood*

The research's goal is designed to help young adults prevent them from facing lower back pain and other chronic pains at an early stage.

#### *Students*

The research can be an intervention for students to reduce the risk of lower back pain in the future.

### **Staffs or officer**

The results of this research will give a chance to the communities in an organization to evaluate their work-related health status especially in relation to preventing lower back pain as well as increase their knowledge about the lower back pain.

### **Ministry of Health**

This research may support the Ministry of Health in terms of data and new information on lower back pain which will be helpful for them to distribute and spread it to the community. From this, it will give a chance to the community to receive facts and fast information, as well as a potential low treatment cost.

## **LITERATURE REVIEW**

### **Demographic**

As mentioned in the previous studies, age acted as an important characteristic that directly affects the problem of lower back pain. Other than age, gender is also listed as an important factor that could directly affect the lower back. The data collected by Diepenmaat et al., (2006) showed that the occurrence of the lower back, neck and arm pain or shoulder was 7.5%, 3.9%, and 11.5%, respectively, and mentioned that the lower back pain is higher among girls compared to boys. This research proved that the probability of getting lower back pain among females is higher than males.

### **Occupational Hazards**

One of the factors that contribute to lower back pain is occupational hazards. An unsuitable workplace design is also related to the occupational hazard that may cause lower back pain among young adults. However, the ideal basic ergonomics workplace design is the seat, keyboard, and screen in a straight line. This allows the lower back to be supported on the backrest, knees flexed at 90 degrees and feet flat on the floor (Morse et al., 2010). Not only that, prolonged activities prompt impaired oxygenation of muscle tissues and have been involved as a contributing factor for lower back pain (Mangrum, 2006).

### **Body Mass Index**

The relationships between weight and lower back pain may differ as people in creating nations may have a shorter time of presentation to exposure to obesity since the obesity epidemic generally started later in developing countries (Swinburn et al., 2011). Obesity may cause lower back pain through some mechanical assign regarding the spine, systematic chronic inflammation, and backbone degeneration (Samartzis et al., 2013).

### **Lifestyle**

Factors that typically cause lower back pain are sitting, poor posture, bending or twisting awkwardly, incorrect lifting technique and other strains. "Sitting, particularly prolonged sitting, is commonly accepted as a hazard factor in growing lower back pain" (Mangrum, 2006). In general, young adults often partake in activities that require long periods of sitting as a majority of jobs are performed while sitting. Not only that, stress and other emotional elements are accepted to assume a major role in lower back pain, especially chronic lower back pain (Jordan, 2013)

### **Research Hypothesis**

In this research study, there were three hypotheses that have been used to test the significance between the dependent variable and the independent variable.

H1: There is a significant relationship between lower back pain and occupational hazard.

H2: There is a significant relationship between lower back pain and body mass index.

H3: There is a significant relationship between lower back pain and lifestyle.



## Research Framework

A research framework has been constructed to investigate the connection between lower back pain with the three independent variables which are: occupational hazard, body mass index, and lifestyle.

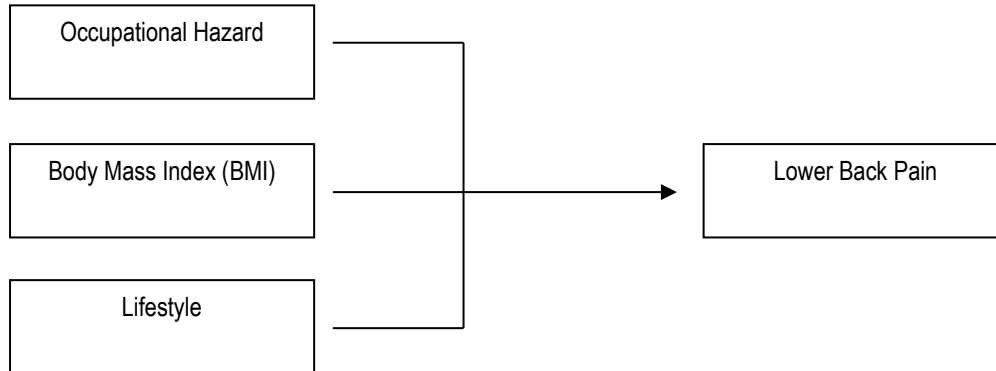


Figure 1: Research Framework of Occupational Hazard, Body Mass Index (BMI) and Lifestyle towards Lower Back Pain. Sources: A conceptual framework of functional capacity evaluation for occupational therapy in work rehabilitation (Gibson, L., & Strong, J., 2003).

## METHODOLOGY

### Research Design

This study used the quantitative method that allows for an easy gathering of information from the targeted respondents. The questionnaire focused more on the objective of this study which are the factors of lower back pain, the awareness among the young adults about lower back pain and the connection between occupational hazard, body mass index, and lifestyle towards the lower back pain.

### Data Collection & Sampling

In the first stage, secondary data were used to acquire information.

In the second stage, the data were obtained during fieldwork. A set of questionnaires were distributed to the population to collect the data. In this stage, the research used simple random sampling as the sampling method. 384 questionnaires were distributed around Kota Bharu, Kelantan among selected respondents which include students, office workers, and field workers.

In achieving reliable and valid samples for this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown below:

$$S = \frac{x^2 NP (1-P)}{d^2 (N-1) + x^2 P (1-P)}$$

n= sample size

N= population size

d<sup>2</sup>= the degree of accuracy expressed as proportion (0.05)

x<sup>2</sup>= chi-square of degree of freedom 1 and confidence 95% (3.841)

p= proportion of population (if unknown, 0.5)

## **Data Analysis**

There were three types of analysis used in this study; the frequency analysis, descriptive analysis and reliability analysis. The collected data were analysed using Statistical Package for the Social Science (SPSS).

## **FINDINGS**

### **Demographic Characteristic of the Subjects**

The number of respondents was 384 respondents, which comprised of male respondents (37.0%, 142 respondents), as well as female respondents (63.0%, 242 respondents).

Table 1: Frequency Analysis on Gender of Respondents

	Frequency	Percent %
Male	142	37.0
Female	242	63.0
Total	384	100.0

In regards to demographics, it consisted of gender, age, race, marital status, type of occupation, nature of work, weight and height.

### **Occupational Hazards**

Based on Table 2, it shows that the occupational hazards have a relationship with lower back pain. The correlation is significant at the 0.01 level for both of these factors. Furthermore, this factor has a positive correlation and the size of this factor is 0.622. This means that they have a moderate, positive correlation. In other words, when the factors of occupational hazards increase, it increases the occurrence of lower back pain.

### **Body Mass Index**

Based on Table 2, the body mass index has a relationship with lower back pain. The correlation is significant at the 0.01 level for both of these factors. Furthermore, this factor has a positive correlation and the size of this factor is 0.599. This means that they have a moderate positive correlation. In other words, when the factors of body mass index increase, it increases the occurrence of lower back pain.

### **Lifestyle**

The lifestyle had no relationship with lower back pain. The correlation is significant with 0.587 and this factor has a negative correlation, where Pearson's Correlation is -0.028. This means that when the factor of lifestyle is increased or decreased, it will not affect lower back pain. This is because if the person has lower back pain, he or she needs to go through their life as usual. The environment is the surroundings that can affect the person physically or socially. The working environment can affect a worker's productivity and satisfaction, but when they have lower back pain, they still need to do their work as usual even when the environment is not conducive.

Table 2: Pearson's Correlation Result among Low Back Pain and the three factors

			Occupational Hazards	Body Mass Index	Lifestyle
Low Back Pain	Pearson Correlation		0.622**	0.599**	-0.028
	Sig. (2-tailed)		0.000	0.000	0.587
	N		384	384	384

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## DISCUSSION AND RECOMMENDATION

This study found that young adults are either having lower back pain or are prone to develop lower back pain in their daily life situations. The results of this study found that lower back pain among young adults is high and efforts should be made by various parties to ensure that it is manageable and able to control the experience of having a quality lifestyle. The main objective of this study was to identify the relationship between the occupational hazards, body mass index (BMI) and lifestyle towards lower back pain (LBP) among young adults in Kota Bharu, Kelantan.

There are many recommendations that could help to improve young adults with lower back pain, as well as how to prevent it. As this research educates which factors cause lower back pain, it is recommended for the younger generation to keep an eye on their body mass index (BMI). Besides that, employers should play a vital role in ensuring the workplace is a safe and convenient environment to ensure that the employees are not physically or mentally pressured. Meanwhile, getting consultations from medical advisors is important to have an insight into the current health condition. When the slightest pressure or pain is being experienced, one can visit a doctor or have an x-ray taken in order to prevent further severe damages to the lower back area.

## CONCLUSION

In summary, the findings of this study showed that there is a significant relationship between occupational hazards and body mass index with lower back pain among young adults in Kota Bharu, Kelantan. This shows that the young adults in Kota Bharu, Kelantan are affected with lower back pain. These findings indicate that lower back pain is caused by occupational hazards and body mass index among young adults. Based on the result, we found that the highest number of respondents were from 18 to 23 years old and equal among the nature of work. Among three independent variables, the results show that only two of the factors from this research which are the occupational hazards and body mass index affected the dependent variable which is the lower back pain but another factor which is lifestyle did not. Two hypotheses out of three are acceptable.

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## Obesity Among Married Women in Pasar Siti Khadijah, Kota Bharu, Kelantan

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### ABSTRACT

Obesity is a medical condition that occurs when a person carries excess weight or body fat that might affect their health. The prevalence of overweight and obesity among adults (18 years and above) was 30.0% and 17.7% respectively in 2015. According to the article, "Prevalence of elevated body mass index and its associated demographic variable among adults in urban areas," the increase in BMI especially married women could possibly be associated with parity since childbearing and has been suggested to be an important contributor to the development of obesity. This study explored the problem experienced by the obese married women in relation to their diet, lifestyle and emotion. A qualitative study was conducted to explore the phenomenon of obesity among married women. An in-depth interview has been conducted on 6 married women at Pasar Siti Khadijah. The data obtained were analysed using content analysis method. The findings show that married women are aware of obesity, but they do not maintain a good nutritional diet. The reason given by them is their laziness to cook, busy and like to eat outside as it is more convenient. In this regard, this study suggests that a nutritionist is the best person to handle the obesity issue among married women. The competencies of a nutritionist could empower obese married women to a better and fulfilled life. The agencies that provide a nutritionist should ensure that they have a trained and highly skilled nutritionist in handling obesity issues as well as providing an effective and accountable intervention plan according to the needs of the obese married woman.

**Keywords:** *obesity, married woman, Body Mass Index, dietary*

### INTRODUCTION

The economic uncertainty and high cost of living have caused women to have their own careers. Due to busy work, married women do not have the time to take care of themselves and take care of their health. As a result, obesity rates among married women have increased. This problem-solving method is debated at various stages to find the best and most appropriate solution to those problems.

There are various definitions of obesity given by various parties and scholars based on the field of study. According to Mayo Clinic (2019), obesity is a complex disease involving an excessive amount of body fat. It is a medical problem that increases your risk of other diseases and health problems, such as heart disease, diabetes, high blood pressure and certain cancers. Moreover, based on WebMD obesity also means you have too much body fat. It is usually based on your body mass index (BMI) which is to compare your weight to your height. If your BMI is 25 to 29.9, you are overweight but not obese. A BMI of 30 or more is in the obese range (DerSarkissian, 2017). World Health Organization, 2019 defined that overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI).

Medicine Net defines obesity depending on what one reads. In general, overweight and obesity indicate a weight greater than what is healthy. Obesity is a chronic condition defined by an excess amount of body fat. A certain amount of body fat is necessary for storing energy, heat insulation, shock absorption, and other functions. The body mass index (BMI) for adult who has a BMI of 25-29.9 is overweight, and BMI over 30 is obese. Not only that, a person is morbidly obese if his or her BMI is over 40 (Balentine, 2019). Next, based on medicine health, the foods that we eat every day contribute to our well-being. Foods provide us the nutrients that we need for healthy bodies and the calories we need for energy. If we take in more calories than we burn it, the extra food turns to fat and is stored in our bodies. But if, we overeat regularly, we will gain weight, and we may become obese (Balentine, 2019).

Other than that, according to the World Health Organisation (WHO), the prevalence of childhood obesity has increased at an alarming rate globally in 2016; the number of overweight children under the age of five was estimated to be over 41 million. In 2010 study published in the International Journal of Environmental Research and Public Health cited genetics as the common non-modifiable cause of obesity, with a greater risk of obesity found in children of obese and overweight parents. Besides that, according to UM Specialist Centre (UMSC) paediatric endocrinology senior consultant Associate Prof Dr. Muhammad Yazid Jalaludin, children with at least one overweight parent are bound to have a four to fivefold greater chance of becoming obese adults. Based on the 2011 National Health and Morbidity Survey (NHMS), among Southeast Asian countries, Malaysia

topped the list with the highest population of obese adults, at 44.2 percent. In 2015, it shot up to 47.3 percent (New Straits Times, 2019).

Due to that issues and scenarios, a study was conducted to find the factors that increase the prevalence of obesity among married women. Accordingly, this article presents the findings of the study discussing issues related to dietary, lifestyle and emotions in helping to raise awareness of obesity.

There are three objectives of this research:

1. To explore the dietary factors that lead to obesity among married women in Pasar Siti Khadijah.
2. To explore the lifestyle factors that lead to obesity among married women in Pasar Siti Khadijah.
3. To explore the emotional factors that lead to obesity among married women in Pasar Siti Khadijah.

### **Significance of the Study**

This research is done specifically to study the factors that influence obesity among married women in Kota Bharu. As shown by the Institute for Children's Health and Human Development Eunice Kennedy Shriver, 2016, there are various factors contributing to obesity.

This study is significant to married women as this study would show us the relationship between obesity and married women. According to Sherina Mohd Sidik and Lekhraj Rampal (2009) it has been shown in many studies that the probability of obesity among women was higher than men as women have one of the potential routes for obesity development through the preservation of pregnancy weight.

### **LITERATURE REVIEW**

Dietary can be defined as the type and quantity of food available or consumed by an individual, group or population. Dietary may also be defined as a person's diet or dietary rules. The amount of food consumed by a person has a direct impact on his weight. When someone uses more calories than body burns, it will gain weight. When taking less calories or less than body burns, it leads to weight loss. If people use the same calories as the body burns, the weight will remain stable. Therefore, if one uses more calories than burns the body over time, its weight will increase and eventually become overweight or obese.

Obesity is a serious health problem in the industrialized world. Similar trends have also been observed in many developing countries (Shetty, Schmidhube, 2006). Energy-dense diets with refined carbohydrates and saturated fat and sedentary lifestyle are associated with the development of obesity (Stoekli R, Keller U 2004). According to the World Health Organization (WHO), there are currently more than 1 billion adults who are obese globally and is a major contributor to the global burden of chronic diseases and disability.

One reason for the inconsistent findings may owe to the traditional single nutrient-based approach in nutritional epidemiology, which is commonly used in largely nutritional epidemiological research (Newby, Tucker, 2004). This dominant approach of examining single nutrients or foods might not adequately account for complicated interactions and cumulative effects and might result in the drawing of erroneous associations between dietary factors and disease. Recently, however, the dietary pattern approach, which uses factor or cluster analysis to measure the overall diet, has been widely used to elucidate the relationships between diet and disease (Newby, Tucker, 2004) Dietary pattern analysis is useful because it provides a basis from which to make recommendations on eating practices such as healthy food choice for preventive disease.

An individual who consumed high calories food or consume more calories per day can lead to weight gain such as overweight and obesity. Foods that contain high sugar and fat are creating more chances of gaining weight and increase the risk of disease. Furthermore, Malaysian people like to eat rice, usually white rice. White rice has higher calories and contains fewer nutrients and fibre compared to brown rice. More than that, white rice is refined, high carbohydrate food where most of its fibre is removed. Consumption of high refined carbohydrate foods can also cause chronic disease and obesity.

The total food supply has increased during the last decades. When compared against the secular trends in obesity, an increase in food supply and a concomitant increase in total energy intake are likely to be one of the major drivers in the obesity epidemic. However, the role of dietary macronutrient composition, intake of specific food items or dietary patterns in the development of obesity is not clear.

During the last decade, a few narrative reviews have addressed the role of diet in the prevention of weight gain. Systematic reviews and meta-analyses have focused on specific issues, like the role of sugar-sweetened beverages. A critical examination of the evidence relating high fructose corn syrup and weight gain the results have been inconclusive. Moreover, we are not aware of any recent (last 5y) and broad systematic reviews examining the associations of dietary macronutrients, food intake and dietary patterns vs. change in weight or waist circumference (WC) in adult populations (Mikael, 2012)

Obesity can also be due to overeating. Overeating causes more excess of energy from food consumed than the energy expenditure. For example, late-night food, festival and holiday cause people to overeating. To maintain weight, the diet has to be balanced and calories need to be controlled. Adult women need to eat about 2000 calories per day. However, it also depends on the age, height, activity level, current weight and others more.

### Research Framework

The purpose of this study will be examining the factors that influence obesity among married women. This section explains the purposed theoretical framework consisting of factors of obesity which are dietary, lifestyle and emotion.

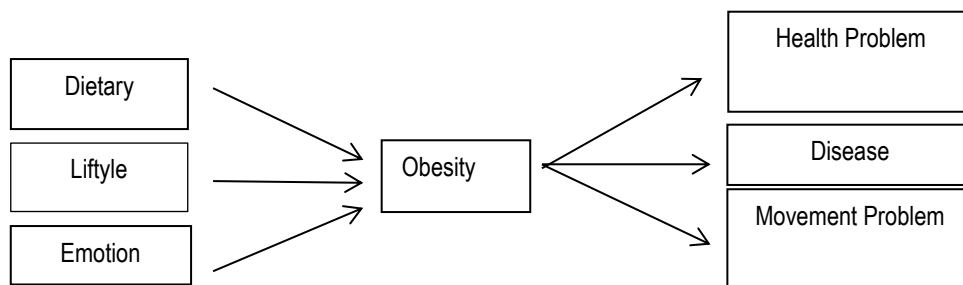


Figure 1: Conceptual Framework on Obesity among Married Women at Kota Bharu, Kelantan.

There are 3 factors of obesity among married women in Kota Bharu, Kelantan. The 3 factors are dietary, lifestyle and emotion. The outcomes of obesity are a health problem, disease and movement problem.

### METHODOLOGY

Content analysis is unique in a qualitative methodology (Downe, 1992), and it can be used in an inductive or a deductive way. Qualitative content analysis has its roots originally in social research. Despite this, none of the forms of content analysis are linked to any particular science. Consequently, there are no specific conceptions of meaning, and the concepts used are universal. In qualitative content analysis, data are presented in words and themes, which makes it possible to draw some interpretation of the results. The choice of analysis method depends on how deep within the analysis the researcher attempts to reflect the informants' statements about a subject. In turn, this affects the number of informants needed and in the way in which data are to be collected (Polit and Beck, 2006).

There are several types of non-probability sampling. In this study, researchers use purposive sampling. Purposive sampling is where participants were selected as a sample based on the researchers' knowledge of the study and population (Stephanie, 2015). In Siti Khadijah Market, there are about 2356 people in the market, which the building can accommodate 3243 small traders (Muhammad, 2013). The number of females is more than the number of males where 80% are women and their age is between 30-50 years old (Rozita, 2015)

In this study, the methods of data collection used by the researchers is qualitative. This research was conducted through interviews. Individuals to be selected as respondents are married women and classified as obese, where her BMI is equal to or more than 30. The researchers used data on self-reported weight and height to calculate the BMI for these purposes. For those who have both of these characteristics, they would be chosen as a respondents in this study. A total of 6 people has been selected as respondents. They were then involved in a face-to-face interview.

Face-to-face interview or personal interview consists of a structured questionnaire. In this study, researchers asked the same question for all respondents without changing the words and the questions were understood in the same way. If the respondents do not understand the question, researchers will use both language, English and Malay, to explain and clarify it

to get the correct answer. Researchers recorded and wrote down all the respondents' answers which were required for this study.

### **Data Analysis**

In this study, a face-to-face interview was done in Pasar Siti Khadijah. There is a total of 6 respondents involved where all of the respondents are married women. There was only one person who refused to do a face-to-face interview because of time constraints.

Do you eat healthy food every day?

Researchers asked the respondents whether they eat healthy food every day. 5 out of 6 of the respondents said no. Only one of the respondents said "it depends" where she eats both healthy foods and also unhealthy foods. All of the respondents understood and knew the meaning of healthy and unhealthy food. However, they still consume unhealthy food. Below are the results of the interview with the respondents involved in this study.

"No...I didn't want to eat healthily and I do not take care of my body... I work but when eat still getting fat and fatter" (Respondent 2).

"No...usually fast foods...healthy food depends on the portion, one bowl of rice, vegetables and a few proteins" (Respondent 1).

"Depends...usually healthy foods but also eat unhealthy foods such as McDonald, Pizza Hut or KFC" (Respondent 6).

"No... I like oily food...I will eat fried foods on breakfast, lunch and dinner" (Respondent 4).

"No...Rice, chicken curry and foods that are oily" (Respondent 3).

"No...I eat fast foods and instant noodles" (Respondent 5).

Obesity can be caused by an unhealthy diet. According to Pepita (2016), eating unhealthy foods such as high total intake of calories, high intake of sugar, high intake of fat and low intake of vegetables and fruits can cause obesity. As we can see, most of the respondents like to eat foods that are high in calories and fat. One of the respondents eats unhealthy food in the 3 main meal which is breakfast, lunch and dinner which are bad for health. This means that the calorie intake is higher than regular intake. More than that, although all of the respondents eat vegetables, the portion intake of the vegetables and fruits are low. Most of the respondents only eat 2 or 3 times of fruit every week.

According to Stella (2016), high caloric food is food that contains a large number of caloric macronutrients. A calorie is a unit of energy of macronutrients, such as carbohydrates, fats, protein and alcohol. If the individual body met its calories need, the excess calories are stored as fat in adipose tissues. Fast food usually is food that contains high calories and fat. For example, 1 slice of pizza equal to 150 calories, McDonald's simple single hamburger provides 250 calories and 8g of fat, McDonald's Double Quarter Pounder with Cheese contains 780 calories and 45g of fat, and a regular size of fries contains 340 calories. Therefore, the calorie in a set meal of fast food contains at least or excess 2000 calories. For women, the recommended total daily calorie intake is 2000 calories.

### **DISCUSSION & RECOMMENDATION**

According to the result of this study, the majority of respondents said that they have unhealthy dietary to influence obesity. They mostly eat unhealthy food every day such as fast food, junk food and oily food. This is the main reason that causes obesity. Studies have shown that over the past four decades, consumption of food consumed away from home has also increased significantly. It is known that eating out can lead to excess calories and increase the risk of obesity due to its large portion size and increased energy density (Ananya, 2019). Fast food will cause obesity easily because most fast foods contain large amounts of sugar, fat and carbohydrates and are low in minerals and vitamins. This means that you consume large amounts of unhealthy calories in the form of fast foods that lead to weight gain and eventually obesity. Most fast-food foods have exceeded their sugar and fat levels, which are directly linked to weight gain. Unhealthy fast food ingredients are getting worse with increasing portion sizes that have grown in line with the average body weight of the 70s to the present. Even if the portions were large, the person would still eat a full meal regardless of whether or not it was full. This means that people who eat most of the snacks cause weight loss (Melissa, 2017). Besides, most of the respondents like to eat fast food because they said fast food is tasty and more easy to get around Kota Bharu. Fast food is easy to find, convenient, requires little or no preparation, and is usually eaten on the go. Fast food is often the default choice. Not only it is easy to grab, but it is also delicious and cheap. Fast food joints also serve as a great place for teen hangouts (Namita, 2017). Popular fried foods include fish, fries, chicken strips and cheeseburgers, though you can eat anything. Many people like the taste of fried foods. However, these foods tend to be high in calories and trans fat. So, eating too much of them can negatively affect your health and cause obesity (Kayla, 2017). Therefore, according to the result of respondents from face to face interviews, we believe that eating fast food frequently will cause obesity.

## CONCLUSION

This research shows the obesity prevalence among married women in Pasar Siti Khadijah, Kota Bharu, Kelantan. The research shows most of obesity married women are caused by unhealthy dietary. They eat fast food and oily food frequently thus causing obesity. Besides, they eat a lot of fast food without the proper amount of exercise. In our opinion, women in Kota Bharu need a healthy dietary and lifestyle to prevent obesity. They need to eat healthy food frequently such as vegetables, fruits, and other food without much oily. They also need to decrease eating snacks frequently. Besides, they need to have regular exercises such as jogging, cycling and other light exercises. Not only that, the government can try to encourage them by organising some health talks or aerobic and marathon in the town. If the government can cooperate with people to do these activities, we believe that obesity among married women in Kota Bharu will be decreased.

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## Lower Back Pain Among Elderly at Kampung Parang Puting Kota Bharu, Kelantan

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### ABSTRACT

Lower Back Pain (LBP) is one of the major disabling health conditions among older adults aged 60 years or older. Most causes of LBP among older adults are non-specific and self-limiting where the seniors are prone to develop certain LBP pathologies and/or chronic LBP given their age-related physical and psychosocial changes. The qualitative study was conducted to identify how age, previous occupational and gender affects lower back pain among the elderly in Kampung Parang Puting, Kota Bharu. In-depth interviews have been conducted on six respondents. The data obtained were analysed using thematic analysis method. The findings show that the older adults suffered LBP because of their age, previous occupational and gender. The findings of this research can help the elderly especially in Kampung Parang Puting, Kota Bharu to be aware of the lower back pain, by knowing when and why do they encounter lower back pain.

**Keywords:** Lower Back Pain, Elderly, Age, Previous Occupational, Gender

### INTRODUCTION

Lower back pain (LBP) is a major health condition among older adults 60 years or older. Although most of the reasons for LBP are non-particular and self-prescribing among older adults, elderly people are prone to expanding positive LBP pathologies and continuous LBP due to their age-related physical and psychosocial changes. The purpose of this qualitative study was to understand more on lower back pain and to identify how age, previous occupational and gender affects lower back pain among the elderly especially in Kampung Parang Puting, Kota Bharu.

In this study, the researcher is focused on the elderly person. Elderly is referring to those aged 65 or older, where for the age of 65 to 74, they are considered as early elderly and for those aged over 75 as late elderly (Orimo et al., 2006; Ouchi et al., 2017; Tokuda & Hinohara, 2008). As people get older, the loss of bone strength due to osteoporosis can lead to fractures, while muscle elasticity and decrease in tone affecting the lower back.

Referring to the Annals of Internal Medicine (2017), LBP is the highest reason why patients visit the physician in the United State. Most Americans have experienced LBP once in their lifetime and about half of old adults were reported to suffer from LBP lasting for a minimum of a day within the past three months. LBP is conventionally treated on primary symptom period, potential factor, presence or absence of radicular symptoms, radiographic abnormalities and corresponding anatomical.

Acute LBP is referring to back injury that lasts within four weeks, while subacute LBP lasting between four to twelve weeks and chronic LBP lasts for longer than 12 weeks (Qaseem et al., 2017). According to the National Institute of Neurological Disorders and Stroke (2018), about 20 percent of patients stricken by acute LBP develop chronic LBP with continuous symptoms in one year. There are many cases of successful treatments that can relieve chronic LBP. However, in other cases, pain persists despite operation and medical treatment.

There are three objectives of this research:

1. To explore how age affects lower back pain among the elderly in Kampung Parang Puting, Kota Bharu.
2. To investigate how the previous occupational affects lower back pain among the elderly in Kampung Parang Puting, Kota Bharu.
3. To explain how gender affects lower back pain among the elderly in Kampung Parang Puting, Kota Bharu.

### Significance of the Study

This research is significant to help the elderly care about their health and to have awareness of subacute lower back pain. From this study, the factors that lead to subacute lower back pain among the elderly can be identified. The elderly may need to start caring about their health as subacute lower back pain can give rise to serious and chronic lower back pain.

Through this study, it can help the elderly, especially in PengkalanChepa to be more aware of this subacute lower back pain. They might not know when and why do they suffer from subacute lower back pain. So with this research, they can be exposed to the factors that affect subacute lower back pain.

The impact of this study on communities is to enhance their life experience so that they can live a life free from any back. The government can also help to spread and promote the importance of health and educate the communities regarding this issue.

## LITERATURE REVIEW

### **Age on Lower Back Pain**

There are several factors that lead to the development of subacute lower back pain such as previous occupational, gender and age. But, among these factors, age is the most common factor related to the subacute lower back pain among the elderly. For example, although subacute lower back pain might affect men and women of any age, older people (60-80 years of age) have been reported to be at increased risk for this pain.

Additionally, the increase in age is linked to a higher incidence of lower back pain subacute. The more rigorous forms of lower back pain perpetuate to increase with age (Dionne et al, 2006) and the overall prevalence increase until age 60 to 65 years old.

Due to the increase of age, some development of degenerative spinal in our body might change too. Lower back pain usually occurs between the age of 30-50. Jacobs et al. found that individuals aged 70-77 years old were at a more preponderant risk of developing lower back pain.

When we grow up, our bones are not as strong as when we are in the later stage of life. As people grow older, osteoporosis or loss of bone strength contributes to bruises, while at the same time decreasing muscle elasticity and tone. With age, the intervertebral disks begin to lose fluid and flexibility, reducing their ability to cushion the vertebrae. The peril of spinal stenosis additionally increases with age.

### **Previous Occupational on Lower Back**

Clinical guidelines for managing lower back pain are well established, but these provide limited guidance on the occupational aspects. In March 2000, the Faculty of Occupational Medicine had launched Occupational Health Guidelines for lower back pain. These are the first national guidelines for occupational health in the United Kingdom and, as we know, the first true evidence that are linked to guidelines for occupational health in the world for lower back pain.

Previous work with high physical demand increases the most risk, but sedentary work can also cause Musculoskeletal Disorders (MSDs), injuries or conditions that affect the body's soft tissues. MSDs often lead to stiffness, pain and decreased physical functioning. Having jobs that require heavy lifting, pushing or pulling, especially when the spine is twisted or vibrated will cause injury and lower back pain. However, inactive jobs or desk work can also contribute to lower back pain especially if those people have poor posture or sit for long hours in an office where his or her chair is without adequate back support.

An elderly person who has previous jobs with higher physical demands usually has a higher rate of reported lower back pain injuries, but most of these injuries are associated with normal activities such as bending and lifting. Various studies have shown that the main occupational risk factors with lower back pain are lifting, sustained posture, job organisation and poor working conditions (Al Dajah et al, 2013; Ghilan et al. 2013).

Occupational attributed to 37 percent of lower back pain. In fact, surveys of specific occupational types have shown that there are large variations in the incidence and prevalence of subacute lower back pain associated with specific sectors. Sven Schneider et al. found that occupational classifications with a lower than average incidence of back pain were highly qualified professionals, senior managers and manufacturers with a relatively lower level of manual labor.

Besides that, the variable practice of intense or heavy physical activity at work and homes were related to the incidence of subacute lower back pain (Malta et al, 2017). This is because heavy physical activity is not considered beneficial to the elderly's health, which will cause fatigue, muscle and joint overload, leading to a series of musculoskeletal problems (Ferreira et al, 2011).

### **Gender on Lower Back Pain**

Gender is also one of the factors that may cause lower back pain among the elderly. This may be due to the hormones where women are at a higher risk for lower back pain. Based on a 2016 study published in the April issue of quantitative imaging in medicine and surgery, it has been found that lower back pain was more prevalent in females than males. It is a common condition experienced by 70-80% of the population at some period of their life (Arab et al, 2013; Samani et al, 2014) with a higher prevalence in women and individuals between the ages of 40 and 80 (Hoy et al. 2012).

The global prevalence of subacute lower back pain among females is higher based on consistent evidence. Lawrence et al. reported on the basis of 2002 NHIS data the prevalence of specific rheumatic conditions. For this variation, there are also several theoretical and observational arguments. Some of the theories presented seem to be that females are more sensitive than males to painful stimuli and lower pain thresholds. There is another factor that could explain the differences in gender prevalence estimates of lower back pain. It is the physiological differences that are related to exercise performance.

Several experimental studies were conducted using different stimuli (Hoeger et al) to investigate gender differences in perception of pain. Most of these studies noted a non-significant gender and pain sensitivity distinctive pattern. There is no evidence, according to the current literature, that a gender-related difference in pain perception is relevant to lower back pain perception (Sheffer et al).

### **Theoretical Framework**

A theoretical framework has been conducted to investigate the connection between age, previous occupational, gender on Lower Back Pain (LBP) among the elderly in Kampung Parang Puting.

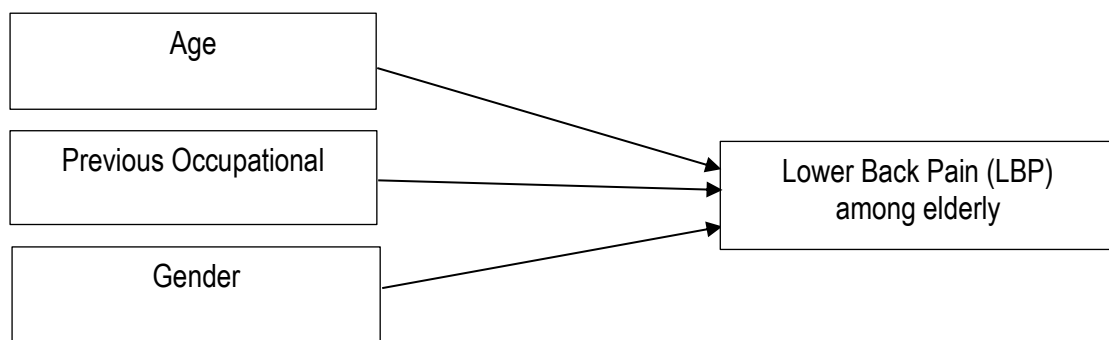


Figure 1: The theoretical framework of lower back pain among the elderly at Kampung Parang Puting, Kota Bharu, Kelantan.

## **METHODOLOGY**

### **Research Design**

This study used the qualitative method that used primary data as data resources. Primary data refers to the first-hand information which is obtained from individuals, groups or respondents, while secondary data is the information that is obtained from existing resources such as articles, journals, web pages and books. There are three data collection techniques available for a qualitative study but only interview methods were used for this research.

### **Data Collection**

The data collection used in this study is a structured interview. A structured interview is a quick and simple method and easy to manipulate if there is a need to change the question when there is a possible literacy or numeracy problem among the respondent.

### **Data Analysis**

To analyse these data, this study used the Thematic Analysis approach. Thematic analysis is a familiar independent and reliable qualitative approach. The researcher needs to transcribe the interview and get an overview through transcripts by reading it many times.

## **FINDINGS**

As many as six (6) respondents are interviewed for this research. The respondents that are interviewed are all ethnic group of Malay due to the place that the research took place. 'Kampung Parang Puting' is known as 'Kampung Melayu' in that area. As many as four (4) respondents are male and two (2) respondents are female. All the respondents are in the category of the elderly. Every respondent was given the same questions when interviewed. The informant was asked about questions regarding factors of lower back pain.

*Do you think lower back pain is caused by the age factor?*

Age is defined as the length of time someone has lived or there has been something existed, (Oxford Student Dictionary, 2016). All the informants are at the age of sixty and above which is considered as elderly.

From the interview, not every informant agreed to the question given. A couple of informants have different opinions on lower back pain while others mostly agreed to the question given. All the informants answered the questions rationally and they spoke based on experience. Below are parts of the conversation from the interview.

*"I don't know, maybe. I didn't suffer from back pain when I was young until I start looking after kids when I am older."* (Informant 1)

*"It is possible."* (Informant 2)

*"Yes, true because when I was young, I never feel any back pain. During my working time around the age of forty years old, I never encountered any back pain. The back pain only started when I reach sixty years old."* (Informant 3)

*"Yes, true. The age factor."* (Informant 4)

As many as four (4) out of six (6) respondents agreed to the question given. The majority showed that they didn't suffer from lower back pain when they were young and only starts suffering from lower back pain when they get older. While older adults can experience pain related to any of the conditions that also affect younger adults, individuals over 60 are more likely to suffer from pain related to degeneration of the joints in the spine.

*Does your jobs/previous occupational involved in high physical demand?*

Occupational is a specific activity with an observable performance that requires special skills from employees that are suitable for different individuals by using the ability, skills and sense, (Wilcock, 1998). Different people have different occupational that involves different physical demand.

Based on the interview, as many as four (4) informants admit that their job involves high physical demand. It is obvious that the informants did not have a nine to five job in a comfortable environment with fixed office hours. Besides, there are even informants that work more than one specific job or task in a day. Therefore, the physical demand would almost be two times comparing to others working only a single job. Below are parts of the conversation from the interview.

*Driving a truck is very tiring because the truck at that time still does not have power steering. While selling fish is not tiring since it does not use much energy. I just sit on my motor to sell fish.* (Informant 2)

*Of course. Repairman used a lot of energy.* (Informant 3)

*Yes, it have involved many because of weight lifting.* (Informant 4)

*Used a lot of energy last time. Washing clothes and getting water from the well.* (Informant 6)

Four (4) out of six (6) informants gave their opinion positively to the question given. The majority felt that lower back pain occurs because of their previous occupational that involves high physical demand. Occupational risk factors commonly thought to be associated with lower back pain include heavy physical work, a static work posture, repetitive bending, twisting, lifting and whole-body vibration.

## **DISCUSSION & RECOMMENDATION**

Lower back pain is one of the disabling fitness conditions among the elderly aged 60 years or older. The elderly are exposed to lower back pain because of their age-related physical and psychosocial changes. More than 70 percent of people in developed countries have lower back pain problems. Risk factors that may relate to this pain include heavy physical work, frequent bending, twisting or lifting, and prolonged static posture. Lower back pain is stronger in women compared with men due to the body composition

Based on the research, the majority of the informants agreed that age is one of the factors that contribute to lower back pain among the elderly. As a person grows older, they are more vulnerable to lower back pain but that doesn't mean a young adult is free from lower back pain. While older adults can experience pain related to any of the conditions that also affect younger adults, individuals over age 60 are more likely to suffer from pain related to degeneration of the joints in the spine. It is recommended that adults or older adults need to consume enough protein while they can or better yet to start at a younger age as it will decrease the risk of lower back pain in the future.

Besides, based on the interview among all the respondents, the majority states that their previous occupational involved a high physical demand. They believed it is one of the reasons they suffered from lower back pain. Occupational risk factors commonly thought to be associated with lower back pain include heavy physical work, a static work posture, repetitive bending, twisting, lifting and whole-body vibration. It is recommended that individuals must be made aware of the heavy activities at work as it might cause lower back pain in the future.

Based on the interview, a mix of answers was given when asked about gender in lower back pain. When asked about responsibilities among gender that could affect lower back pain, there was no obvious answer. According to one of the informants, men have greater responsibilities like working outside for the family therefore the men have a higher risk of lower back pain. Another informant stated that women have greater responsibilities as a housewife doing house chores 24/7. It is recommended that both men and women to be given enough rest in between work and after work and to make sure there is no gender bias occurs in any workplace or at home.

## CONCLUSION

In conclusion, this research identified a few factors that contributed to lower back pain among the elderly. Lower back pain might not be a serious problem in health but it can indeed make people suffer from enjoying a pain-free life. The government or the Non-Profit Organization (NGO) needs to raise awareness among the public on lower back pain. Even it is a minor health problem, it should not be ignored. Suffering from lower back pain reduces the mobility of a person from doing certain work. The young adults or teenagers have to be aware of the factors causing lower back pain so that it could help them to reduce the possibility of suffering from lower back pain in the future. Prevention is always better than cure.

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## Factors That Affect the Mental Health of Female Students in The Residence of Kemumin Hostel

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### ABSTRACT

The World Health Organization characterizes wellbeing as a condition of complete social prosperity physically and mentally and not only the absence of health-related problems. The objective of this study is to define the relationship between stress and mental health among the female students in the residence of Kemumin hostel and to define the relationship between unhealthy lifestyle and mental health among the female students. 640 students have been randomly selected as respondents for questionnaires conducted by the researcher and a descriptive analysis was done to analyze the data. The result of this study revealed that stress and unhealthy lifestyle among the female students in residence of Kemumin hostel. This study provided numerical data about the stress and unhealthy lifestyle among the female students in residence of Kemumin hostel. The findings of the data are essential in order to improve the mental health among the female students in residence of Kemumin hostel.

**Keywords:** *Stress, Unhealthy Lifestyle, Mental Health, Female Students.*

### INTRODUCTION

The World Health Organization defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1999). Mental well-being is a core component of optimal health and is a status that individuals can manage stress from daily living and make positive achievements pursuing public interest and contribute to the community (Manwell, 2015).

The dependent variable for this study is the university student's mental health. Poor mental health among medical students has been reported from various parts of Asia including India, Pakistan, Iran, Malaysia, China and Saudi Arabia. About one-third of medical students worldwide suffer from depression or depressive symptoms (Adhikari, 2017). Untreated depression can have a significant impact on students' quality of life, affect their educational experience and the skills they need to complete their degree, and can lead to decreased academic productivity, poorer exam results, absenteeism, social isolation, academic probation and withdrawal from university (Davies, 2016).

Depression is one of the most commonly experienced mental health problems in university students. The mean prevalence rate for depression in undergraduate students has been estimated as 30.6 % and there is evidence that students are more at risk of experiencing depression than peers who are not in higher education. Students typically fall within the 18–25 years age bracket: three-quarters of all lifetime cases of mental disorders have their onset by 24 years of age. The mean age of onset and high prevalence rates mean that either the student themselves or one of their friends are very likely to experience depression (Deb, 2015).

According to the WHO, a healthy lifestyle means to engage in regular physical activity, to refrain from smoking, to limit alcohol consumption, and to eat healthy food in order to prevent overweight. These behaviours should lead not only to better physical health but also foster mental well-being (WHO, 1999). Mental health is influenced not only by trait markers, general living conditions and major life events but also, as increasing evidence indicates, by simple everyday behaviours that can be altered by an individual (Julia, 2014).

This study aims to investigate the factors that influence the connection between stress, academic performance, unhealthy lifestyle and mental health among female students in the residence of Kemumin hostel. The target population of the study is the female students who stay on the second floor to the fourth floor of Kemumin hostel consisting of 234 female students.

There are three objectives of this research:

1. To investigate the relationship between stress and mental health among the female students in the residence of Kemumin hostel.
2. To identify the relationship between academic performance and mental health among the female students in the residence of Kemumin hostel.

3. To determine the relationship between unhealthy lifestyle and mental health among the female students in the residence of Kemumin hostel.

### **Significance of the Study**

#### **Researchers**

The findings can a reference to another research related to the connection between unhealthy lifestyle, academic performance, stress and mental health among female students. It will reveal how unhealthy lifestyle, academic performance, and stress can affect mental health among university students in Malaysia.

#### **Students**

This study lets the students know the significance of unhealthy lifestyle, academic performance and stress towards mental health. The students would be able to enhance their knowledge about an unhealthy lifestyle by practicing a healthy lifestyle, such as carry out physical activity, sufficient sleeping hours and improve healthy diet intake. Besides, the students are encouraged to do healthy activities such as exercise, avoiding cigarettes and drinking plenty of water to maintain mental health. Through this finding, students are able to have a skillful understanding of mental health.

#### **Woman**

The findings of this study can help women who want to improve their mental health. There is a simple method to recover mental health such as by saying something positive to yourself. Study have shown that when you believe in yourself it can have a strong effect on how you feel. For instance, instead of saying, "I'm such a loser, I won't get the job because I tanked in the interview," you can say, "I didn't do as well in the interview as I would have liked, but that doesn't mean I'm not going to get the job." Besides, exercise is a powerful medicine for depression, anxiety, and stress. The body will liberate mood-boosting and stress-relieving endorphins before and after you work out (Patricia,2015).

## **LITERATURE REVIEW**

### **Depression**

Compare to other youth who do not go to a university, the university students are at higher risk of severe psychological distress and mental issue based on age in the population. Among graduates, it can be related to future negative results and a range of problems including poor academic performance and increased the prevalence of depression (Louise, 2016).

A research conducted in Malaysia showed that the prevalence of moderate to extremely severe levels of depression, anxiety and stress among undergraduate students increased from 13.9% to 29.3%, 51.5% to 55.0% and 12.9% to 21.6%. the prevalence of depression and anxiety in public medical universities ranged from 10.4% to 43.8% and 43.7% to 69% respectively. However, it has been estimated that the prevalence of depression and anxiety among private medical students to be 19% to 60% and 29.4% to 60% respectively (Lukowski, 2016).

Stress is a physical and mental response to the regularly increasing demands of life. Youngsters from 12 to 25 years of age experience the ill effects from an insufficient level of psychological health, according to health surveys (Thapar et al., 2012). To some extent, it is a typical piece of medical education and can be a spark for specific people; but, not all students discover stress to be useful. For some students, stress triggers feelings of fear, inability, uselessness, outrage and coerce or guilt, and can be related to both mental and physical morbidities (Jawad, 2016).

### **Anxiety**

Poor psychological wellness among university students has been a reason for concern globally. A past efficient review showed that university students have higher rates of depression than the all-inclusive population. The predominance of anxiety or depression among health professions' students has additionally been accounted for to be higher than in the overall population (James, 2018).

Significant indicators for mental health are considered to be stress, anxiety and depression levels in the community. Furthermore, it leads to raise mental grimness with unwanted effects all through their professional lives, for the inability to recognize and address the emotional issue (Choon, 2015). Numerous studies featured psychological well- being issues in a youthful grown-up, particularly during their studies at college or university (Lukowski, 2016).



### **Lack of Sleep**

Most of the students are not getting enough sleep because they go to sleep and wake up for work or classes before endurable sleep is acquired. From the experiences, students may be particularly exposed to both external and internal factors that may hinder both the quantity and quality of sleep. In addition, students can sometimes take excess alcohol, caffeine, and use electronic media before going to bed which has been implicated in bad sleep patterns. Overall, most of the students acquire less than 8 hours of sleep per night. These stressors may influence the quantity and quality of sleep.

### **Diet Intake**

High intake of food rich in fat and carbohydrates, and with low intake of milk, fruits, and vegetables are the diet intake that's proven taken by university students. Especially in the young adult population, observations show that stress is a significant indicator of poor eating behaviors. Fat intake in relation to stress from human studies has been pointed out. It has been found that female and male students report eating less. Psychophysiological responses to stress may induce unhealthy eating. The relationship between food intake and stress is self- efficacy and is a potential mediating factor to consider.

### **Research Hypothesis**

In this study, there were three hypotheses related to identifying the relationship between stress, academic performance, unhealthy lifestyle and mental health among the female students in the residence of Kemumin hostel.

H1: There is a significant relationship between stress and the risks of mental health.

H2: There is a significant relationship between academic performance and the risks of mental health.

H3: There is a significant relationship between an unhealthy lifestyle and the risks of mental health.

### **Research Framework**

A research framework has been conducted to investigate the relationship between stress, academic performance, unhealthy lifestyle and the effects of mental health among female students in the residence of Kemumin hostel. The independent variables are stress, academic performance, and an unhealthy lifestyle. The dependent variable is the effects of mental health among female students in the residence of Kemumin hostel.

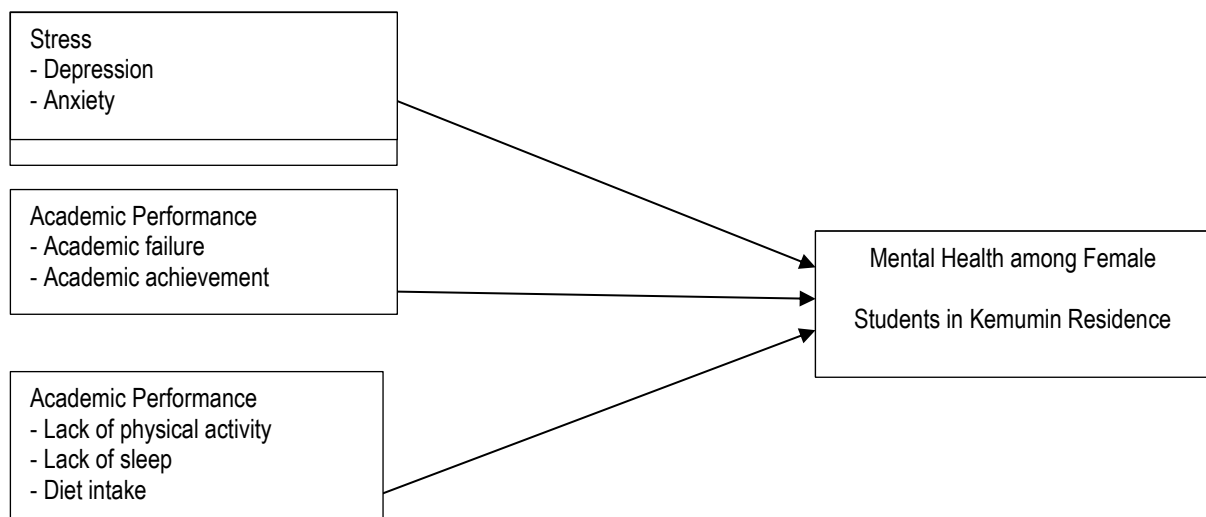


Figure 1: Research framework of a variable in the effects of mental health among female students in the residence of Kemumin hostel.

## METHODOLOGY

### **Research Design**

This study used the quantitative method in which a questionnaire was distributed to 240 female students. Female students in the residence of Kemumin hostel were asked to answer the research objectives.

### **Data Collection**

The data collection used in this study was in the form of questionnaires. The total number of female students in residence Kemumin is 640. However, the questionnaire was assigned randomly to 240 female students as the respondents in accordance to Krejcie & Morgan (1970) table.

The questionnaires were divided into 5 sections which are Section A, B, C, D and E. For Section A, the questionnaire provides general information about the demographics such as qualification level, age and marital status. For the Section B, C, D and E, the questions elaborated more on the dependent and independent variables which include the Four-Effect Model which are (i) Mental Health, (ii) Stress, (iii) Academic Performance and (iv) Unhealthy lifestyle that will be examined in the survey. There would be four types of scales, namely nominal, ordinal, interval and ratio scale.

### **Sampling**

The sampling method used in this study was the probability sampling which is simple random sampling. The research used this method because every member of the population have equal and known chances of being the subject of the sample.

In achieving a reliable and valid sample of this study, the equation from Krejcie & Morgan (1970) was used to determine the sample size. The formula is shown below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### **Data Analysis**

There were three types of data analysis used in this study: the frequency analysis, descriptive analysis and reliability analysis. The data obtained were analysed by using the Statistical Package for Social Science (SPSS).

## FINDINGS

### Frequency Analysis

#### Demographic Profile

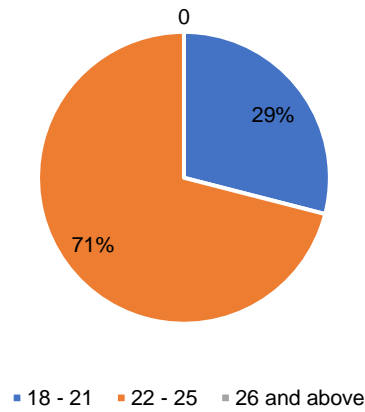


Figure 1.1: Respondents by Age

Figure 1.1 shows the distribution of respondents according to age. It illustrates that the highest percentage of respondents (71.25%) were aged 22 – 25 years old. There were no respondents for the age of 26 and above. Meanwhile, respondents at 18 – 21 years old occupies 28.75%.

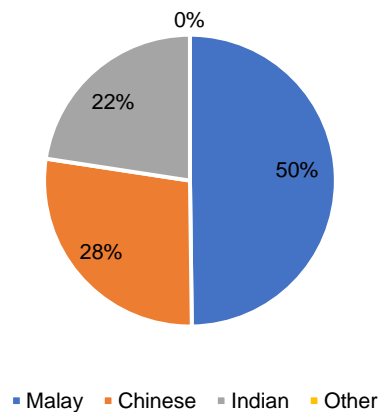


Figure 1.2: Respondents by Race

Figure 1.2 shows respondents according to race. It illustrates that the highest percentage came from Malay which is 49.6%, followed by Chinese with a percentage of 27.5%, Indian with 22.5% and the least number of percentages about 0.41% were from the others.

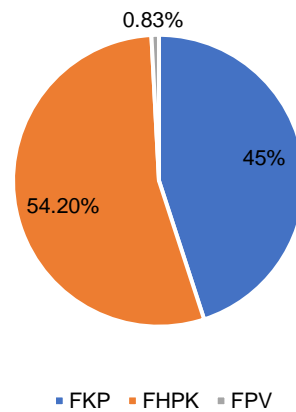


Figure 1.3: Respondents according to Faculty

Figure 1.3 shows the respondents according to the Faculty in University Malaysia Kelantan, City Campus. It illustrates that the highest percentage of respondents are 130 students which are from FHPK (54.20%). FPV was the lowest at only 0.83% while FKP shows the second-highest number of percentages with 45% or 108 students as the respondents.

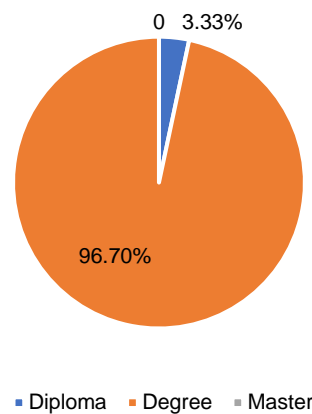


Figure 1.4: Respondents according to Qualification Level

Figure 1.4 shows the respondents according to their qualification level. It illustrates that 96.7% of the respondents are a bachelor's degree students. Meanwhile, there were only 8 students with diploma (3.33%) and no Master students as the respondents.

## Stress

### Descriptive analysis for stress

Table 2.1: Total Frequency, Mean and Standard Deviation of Stress (n=240)

Items	Frequency				Mean	Std. Deviation
	Never	Seldom	Some of the time	Most of the time		
1. I was very anxious, worried or scared about a lot of things in my life.	41 (17.1)	63 (26.3)	81 (33.8)	55 (22.9)	1.62	1.019
2. I was scared that I would lose control, go crazy, or die.	68 (28.3)	73 (30.4)	62 (25.8)	37 (15.4)	1.28	1.040
3. I felt dizzy, my head was spinning, or felt like I was going to faint.	62 (25.8)	86 (35.8)	55 (22.9)	37 (15.4)	1.27	1.015
4. Feeling down, depressed, or hopeless.	59 (24.6)	73 (30.4)	65 (27.1)	43 (17.9)	1.38	1.044
5. Feeling bad about yourself - or that you are a failure or have let yourself or your family down.	55 (22.9)	86 (35.8)	62 (25.8)	37 (15.4)	1.33	.997

Table 2.1 shows the mean values for one of the independent variables, stress. As shown from the table above, the highest mean score is 1.62, which is 'I was very anxious, worried or scared about a lot of things in my life' and it showed that most female students in residence Kemumin hostel worried about a lot of things in life. Meanwhile, the lowest mean score is 1.27 which is 'I felt dizzy, my head was spinning', or felt like 'I was going to faint'.

Table 2.2: The Pearson Correlation Result between Stress and Mental Health

	Stress
Mental Health (DV)	0.696**

According to table 2.2, the positive value of Pearson Correlation is 0.696\*\* and it shows that the relationship between stress and mental health is moderately positive. Based on the significant value of  $P > 0.05$ , this shows that stress is related to the risks of mental health among the female students in the residence of Kemumin hostel. It shows that the dependent variable is influenced by independent variables (stress). Thus, the correlation between stress and mental health is highly significant. Therefore, there is a connection between stress and risks of mental health.

### Unhealthy Lifestyle

Table 3.1: Total Mean Score and Standard Deviation of Unhealthy Lifestyle (n=240)

Items	Frequency				Mean	Std. Deviation
	Never	Seldom	Some of the time	Most of the time		
1. Do you exercise regularly?	36 (15.0)	103 (42.9)	70 (29.2)	31 (12.9)	1.40	0.895
2. Trouble falling or staying asleep, or sleeping too much?	22 (9.2)	101 (42.1)	73 (30.4)	44 (18.3)	1.57	0.892
3. Poor appetite or overeating?	69 (28.8)	90 (37.5)	55 (22.9)	26 (10.8)	1.15	0.963
4. Drink more than 2L water per day?	21 (8.8)	110 (45.8)	62 (25.8)	47 (19.6)	1.56	0.903
4. Eat fruit and vegetable on an average day?	15 (6.3)	111 (46.3)	62 (25.8)	52 (21.7)	1.62	0.891

Table 3.1 shows the mean values for one of the independent variables, an unhealthy lifestyle. As shown from the table above, the highest mean score is 1.62, which is to eat fruit and vegetable on an average day and it is showed that most female students in residence Kemumin hostel have a balance diet intake in their daily life. Meanwhile, the lowest mean score is 1.15 which is poor appetite or overeating and it showed that students have a great appetite on a normal day.

Table 3.2: The Pearson Correlation Result between Unhealthy Lifestyle and Mental Health

	Unhealthy Lifestyle
Mental Health (DV)	0.218**

\*\* Correlation is significant at the 0.01 level (2-tailed).

According to table 3.2, the positive value of Pearson Correlation is 0.218\*\* shows that the relationship between unhealthy lifestyle and mental health is positive. Based on the results significant value of  $P > 0.05$ , this shows that an unhealthy lifestyle is related to the risks of mental health among the female students in the residence of Kemumin hostel. It shows that the dependent variables were influenced by independent variables (unhealthy lifestyle). Thus, the correlation between an unhealthy lifestyle and mental health is highly significant. Therefore, an unhealthy lifestyle is related to the risks of mental health among the female students in the residence of Kemumin hostel UMK, Padang Tembak.

### DISCUSSION & RECOMMENDATION

The main objective of this study is to identify the relationship between stress, academic performance, and mental health among the female students in the residence of Kemumin hostel. Based on findings, the researcher agreed that stress, academic performance and unhealthy lifestyle does affect the mental health of female students in the residence of Kemumin hostel.

As for a future recommendation, the type of respondents can be changed from female students to students including genders. This can help us to compare which gender having more problems with their mental health. Moreover, the sample size could be widened in future research to emphasize the topic of mental health among university students.

### CONCLUSION

The aim of this study was to determine factors that affect the mental health among the female students in the residence of Kemumin hostel. In this study, mental health was influenced by stress, academic performance, and an unhealthy lifestyle. This study revealed that the dependent variables were influenced by the independent variables whereby the correlation between stress, academic performance, unhealthy lifestyle and mental health is highly significant. In conclusion, the finding of this study proved that there is a connection between stress, academic performance, unhealthy lifestyle and the risks of mental health among the female students in the residence of Kemumin hostel.

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## The Factors of Physical Activities Affecting UMK Athlete's Performance

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### ABSTRACT

The study was conducted to determine the factors of physical activities affecting UMK athlete's performance. The main objectives of this study were to determine the effect on athlete's performance by mental disorder, temperature and altitude. The population of this research comprised of all players participating in different sports activities at UMK. A complete list of all registered players was taken from student welfare (HEP) UMK. The data collection for this study was done via an online questionnaire involving 73 players. The data were tabulated and analysed by using percentages and mean average as a statistical tool. The study concluded that Psychological and environmental factor negatively affects the sports performance of a player in UMK.

**Keywords:** *environment, psychological, athlete performance*

### INTRODUCTION

Sport is a game, competition, or activity requiring physical effort and skill that is played or done according to rules, for enjoyment or as a job (Cambridge Dictionary, 2009). Most of the athletes face some problems during their exercise and tournament.

Anxiety is one of the mental illness or mental disorder that is faced by every athlete during their sporting time. According to NCAA (2017), during competition, a lot of these student-athletes could have problem focusing; or they'll cognizance at the negative as opposed to the high quality. Many athletes may have anxiety of feeling embarrassed in public when they got injured and at the same time affect their performance during competition or training sessions.

According to the National Institute of Mental Health, depression is a common and serious mood disorder. It causes severe symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. Collegiate athletes have a higher tendency to develop this mood disorder as a result of negative stressors impacting them daily due to the combination of academics and athletics (Proctor &Boan-Lenzo, 2010).

Environment factors also play an important role in the athlete's performance. Environment factors include temperature and altitude. In recent years, educators and psychologists dramatically use mental skills and techniques to improve the performance of athletes and the control and mitigation of environmental factors in the negative shape (Neil, 2006). So, the purpose of this study is to know whether the factors affect athletes or not.

There are two objectives of this research:

1. To determine whether mental disorder affects UMK athlete's performance.
2. To analyse whether environment UMK athlete's performance.

### Significance of the Study

This study is related to the factors of physical activities affecting UMK athlete's performance. Through this study, the readers will be able to know the effect on an athlete's performance by mental disorder, temperature and altitude. The findings of this study may be very helpful to assess the athlete's knowledge on the effects of psychological factors and environmental factors in connection to their sports participation. In this way, they will be able to cope with any circumstances which lead to the occurrence of psychological factors and environmental factors. Similarly, through this study, the UMK, researcher and athletes will be able to educate the inexperienced players with special reference to psychological factors and environmental factors in sports. Moreover, the recommendations of the study will be helpful to achieve better results in sports.



## LITERATURE REVIEW

### **Psychological Factors**

#### **Anxiety**

Anxiety disorders affect student-athletes at a higher rate than most other disorders due to the unique demands of these individuals (Goldman, 2014). One in three adolescents in the United States meets the criteria for an anxiety disorder, making this a prevalent issue in the athletic department. Symptoms of anxiety are often worse under stress, which can be induced by the collegiate athletic environment (Goldman, 2014). Student-athletes are in an environment with different expectations than general students, and may present an anxiety problem differently than a non-athlete; they could be functioning below their normal behaviour, but still not meet the criteria for an anxiety disorder as outlined in the Diagnostic Manual used by licensed professionals (Goldman, 2014). Anxiety disorders can be associated with athletic experiences, which should be taken into consideration when diagnosing and treating a student-athlete with a potential anxiety disorder (Goldman, 2014).

Brand et al. (2013) investigated psychological symptoms in elite student-athletes compared to non-athletes aged 12–15 years. Higher anxiety and depressive symptom frequencies for female compared to male students regardless of their athletic status. Next, anxiety and depressive symptoms were higher in the student-athletes compared to their non-athletic friends. Further, Nixdorf et al. (2016) found higher levels of depressive symptoms in athletes participating in individual sports compared to team sports.

#### **Depression**

According to the National Institute of Mental Health, depression is a common but serious mood disorder. It causes severe symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. Collegiate athletes have a higher tendency to develop this mood disorder as a result of negative stressors impacting them daily due to the combination of academics and athletics (Proctor & Boan-Lenzo, 2010).

According to Davis H, Liotti M, Ngan E, et al., not only does failing in competition increase the susceptibility to depression but also viewing a past personal athletic failure can induce a depressed state. After a loss, there was a significant increase in depressed mood, anger, and decreased vigor, whereas, after a win, athlete mood remained more positive (Jones MV, Sheffield D).

#### **Temperature**

Temperature is an objective measurement of how hot or cold an object is. It can be measured with a thermometer or a calorimeter. It is a means of determining the internal energy contained within a given system. (Jones, Andrew Zimmerman, 2019)

As an athlete exerts energy when exercising in hot environments, his or her core temperature will rise greater than if the individual was exercising at a moderate temperature. This effect may be a possible explanation for decreased athletic performance when environmental temperatures continue to rise, due primarily to excessive fluid loss and impaired thermoregulation in extreme environments (Siegel & Laursen, 2012). In warm environments, exercising induces a rise in core temperature, sweating rate, and progressive dehydration (Özgünen et al., 2010).

However, playing in dry, hot weather does not present the added problem of humidity. In hot and humid conditions, the ability of the body to extract heat through sweating is impaired because sweat cannot evaporate off the body. Hot and humid environments are characterized by temperatures greater than 18°C and when the amount of water vapor in the air exceeds the ability of water to be evaporated from land surfaces back into the atmosphere (Hue, 2011). This may hinder the body's ability to thermoregulate, especially in endurance events.

Just as the hot environment can negatively impact performance, exercising in the cold environment has been found to influence performance as well. One major concern of exercising in the cold is the effect cold air has on the pulmonary system. Exercised induced bronchospasm can lead to a higher ventilation rate due to the constriction of the airways as a result of the dry and cold air being breathed in. This leads to a higher exertion and a decrease in performance (Lindberg, Malm, Hammarström, Oksa, & Tonkonogi, 2012). Unlike in warm environments, heart rate decreases in cold weather, due to the body's attempt to retain heat through vasoconstriction (Lindberg et al., 2012). The nerve conduction decreases which in turn decreases the electrical impulses at the sinoatrial node, the heart's pacemaker (Wilmore, Costill, & Kenney, 2008).

### **Altitude**

High altitude can significantly influence the performance of an aerobic athlete. Although the amount of oxygen available does not change as altitude increases, the partial pressure of the oxygen (PO<sub>2</sub>) decreases. Normal PO<sub>2</sub> at sea level is 159 mmHg, climbing up to 2,000m the PO<sub>2</sub> drops to 125 mmHg, and at 4,000m it drops even farther to 97 mmHg. This drop in the partial pressure of oxygen creates a hypobaric hypoxic environment. A hypobaric environment has reduced barometric pressure, while a hypoxic environment shows a compromised delivery of oxygen to the tissues.

Physiologically, a hypoxic environment causes a decrease in the pressure gradient across cell membranes, making it harder for the tissues of the body to take up and utilize oxygen (Wilmore et al., 2008). A lack of oxygen throughout the body leads to physiological changes that have been shown to decrease prolonged athletic performance.

### **Research Hypothesis**

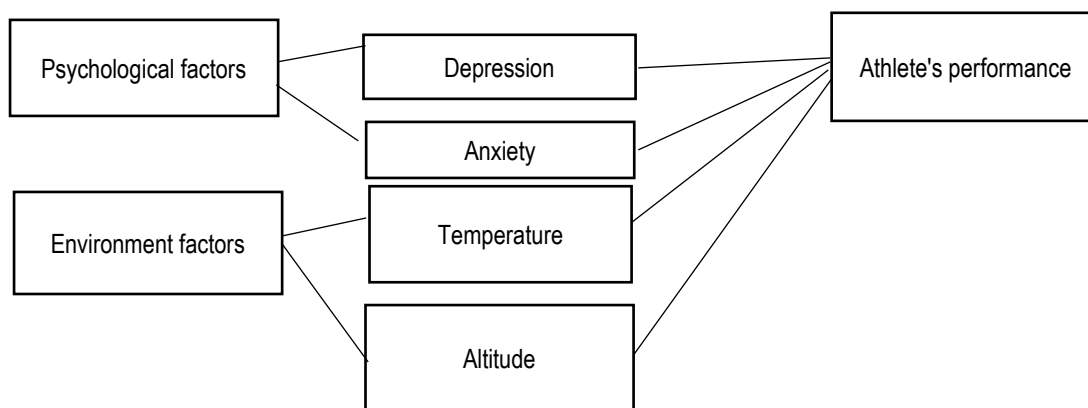
In this study, there were two hypotheses

H1: There is no significant relationship between depression and anxiety with an athlete's performance

H2: There is no significant relationship between temperature and altitude with an athlete's performance.

### **Research Framework**

The following model illustrates the factors of physical activates that affect athlete of University Malaysia Kelantan.



Source: (Khan Mamun, S. 2019)

## **METHODOLOGY**

### **Research Design**

According to Kumar (2011), a research design is a plan that guides researchers to collect and analyses the data with the purpose to obtain the answer for the research questions posited. It refers to the overall steps taken to explain the research problem in a scientific way to ensure the data are reliable and has a good fit for valid interpretations. Therefore, the study used a survey method which is under the quantitative method data collection.

### **Data Collection**

The study aims athletes of three campuses of University Malaysia Kelantan. For the data collection, 73 persons would be selected based on the data and the physical activity that they participate in. The selection was done through convenient sampling. A questionnaire is a tool that is used for data collection. A total of 73 questionnaires were prepared and it was distributed to the athletes and all information about the factors will be gathered through the questionnaires.

The questions were about how the independent variable, psychological factors, environmental factors are affecting the dependent variable, the athlete performances. There are three sections in the questionnaire and the first section requires the respondents to answers the questions about their demographic background. The continuous section is related to the psychological physiological factors and the final part is about environmental factors. Questionnaires were distributed through Google form to two other campuses, University Malaysia Kelantan Jeli and University Malaysia Kelantan Bachok. For University Malaysia Kelantan Campus Kota, the researcher distributed the questionnaire directly among the athletes.

### Sampling

The study used the non-probability technique because the samples are not selected at random. Convenient sampling was applied in this study because it is impossible to include everyone at one time and thus selecting any available respondents to answer the questionnaire.

The population athletes in 3 UMK campuses are 87 persons. In this case, 73 samples were selected from 87 athletes determined based on the Krejcie & Morgan formula shown below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There was three data analysis used in this study: frequency analysis, descriptive analysis and reliability analysis. The data obtained were analysed by using Statistical Package for Social Science (SPSS).

## FINDINGS

Table 1: Frequency Distribution of psychological factors That Affect Athlete Performance

QUESTION NUMBER	PSYCHOLOGICAL FACTORS	DISAGREE	UNCERTAINTY	AGREE
1	The pressure can make my performance better.	23	7	43
2	I have trouble relaxing and hard to sit still before the exercise or tournament start	27	15	31
3	I become annoyed and irritable during the tournament or exercise	11	21	41
4	I have negative thought patterns during tournaments, exercise or training.	12	19	42
5	I feel down or depressed after watching opponent the tournament and training	32	25	16
6	After the tournament, training or exercise, I had trouble sleeping at night.	53	11	9
MEAN		26.33	16.33	30.33

Based on Table 1, there is a significant relationship between depression and anxiety with an athlete's performance because the mean of Agree is 30.33 and uncertainty is 16.33 and the mean of disagree is 26.33 (30.33>16.33 & 26.33) while null hypothesis stating that there is no relationship between depression and anxiety with athlete's performance. So, hypothesis No.1 is rejected.

Table 2: Frequency Distribution of environment Factors That Affect Athlete Performance

QUESTION NUMBER	ENVIRONMENT FACTOR	DISAGREE	UNCERTAINTY	AGREE
1	The hot temperature affects me during tournaments, training or exercise.	16	8	49
2	The sudden change of temperature will cause me sick during tournaments, exercise or training.	16	20	37
3	The cold temperature affects me during tournaments, training or exercise.	15	22	36
4	The change in temperature affects my focus and concentrate on exercise or tournament.	22	12	39
5	The high Altitude affects me during my tournament, exercise or training.	22	9	42
6	high altitude makes me fatigue or lose energy easily	17	19	37
Mean		18	15	40

Based on Table 2, there is a significant relationship between temperature and altitude with an athlete's performance because the mean of Agree is 40 and uncertainty is 15 and the mean of disagree is 18(40>15&18) while the null hypothesis stating that there is no between temperature and altitude with athlete's performance. So, hypothesis No.2 is rejected.

## DISCUSSIONS& RECOMMENDATIONS

In Table 1, Question1 showed 43 athletes agree that when the pressure higher, the performance gets better. According to Mottram, 2005, While moderate levels of anxiety about an approaching competition can actually improve skills and abilities, too much may comprise performance.

Following Question 3, (I become annoyed and irritable during the tournament or exercise) 41 athletes agreed. This is because anxiety may also be exacerbated from other sources such as feeling underprepared, the size or type of audiences, fighting to maintain or win a position, or receiving negative criticism (Walker &Nordin-Bates, 2010).

For Question 4, (I have a negative thought patterns during tournaments, exercise or training) 42 athletes agreed on this statement. Anxiety among an athlete is a feeling of perceived imbalance in his or her abilities and the demands placed upon them (Craft, Magyar, Becker, & Feltz,2003). According to Davis H, Liotti M, Ngan E, et al., not only does failing in competition increase the susceptibility to depression but also viewing a past personal athletic failure can induce a depressed state. This result was proven in Question 5 (I feel down or depressed after watching the opponent in the tournament and training) where 16 athletes agreed on this statement.

As for the results from Table 2, Question1 showed that 49 athletes agreed that the hot temperature affects them during tournaments, training or exercise. The effect of hot temperatures caused an athlete to show a decrease in performance by about 2-3% in order to account for a possibly dangerous rise in core temperature (Dugas, 2010).

Following Question 3 (the cold temperature affects me during tournament, training or exercise), 36 athletes assume they have been affected. Exercise-induced bronchospasm can lead to a higher ventilation rate due to the constriction of the airways as a result of the dry and cold air being breathed in. This leads to a higher exertion and a decrease in performance (Lindberg, Malm, Hammarström, Oksa, &Tonkonogi, 2012). According to Derby & deWeber, 2010, The athlete will immediately experience an increase in ventilation, heart rate and cardiac output in order to make up for the decrease in utilized oxygen This results in the athlete fatiguing earlier because the athlete has to work harder to get enough oxygen to the working muscles to achieve non-altitude results.

Acute Mountain Sickness (AMS) is the most common form of HAI and involves the onset of headache and one of the following other symptoms: insomnia, dizziness or light-headedness, nausea or vomiting, fatigue or weakness, and anorexia (DaRosa, Jotwani, & Valentine, 2012). These symptoms usually disappear within three days (Derby & deWeber, 2010), but if a team arrives at a high-altitude destination without allowing the proper time for athletes to acclimate, altitude sickness may debilitate performance or prevent athletes from playing altogether. This statement has been proven in Question 6 where 37 athletes agreed on this statement.

On the basis of the findings, the study recommended that;

1. Different awareness program may be conducted about anxiety and depression and their effects on performance
2. Athlete may be kept aware of different psychological factors affecting their performance
3. Both the player and coaching staff have to understand and prepare for the adverse environmental factors that might hinder an athlete's ability to perform at peak shape.
4. Having proper equipment and gear, acclimatizing to the conditions by training in comparable conditions, and understanding how the environment will affect the athletes provide a crucial advantage to athletes hoping to compete at their best.

## CONCLUSION

In conclusion, the athlete is an important asset for UMK because they bring UMK's name to different states or countries. Therefore, UMK have to be taking good care of their athlete by increasing their performance, avoid injuries and maintain study knowledge. UMK can allocate a budget for new facilities and professional coaches to help them.

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## The Relationship Between Physical Activity and Sleep Deprivation Towards Mood Among Universiti Malaysia Kelantan City Campus Students

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### ABSTRACT

From suicide to self-harm and sleeping disorders to absence from lectures and exams, such behaviours seem to be increasingly common in universities. Mental illness needs to be defined before delving into the issue. Nowadays, students lack physical activities and deprived of sleep, which may affect their mood. A quantitative study was conducted to examine the effect of physical activities and sleep deprivation on moods among students of Universiti Malaysia Kelantan City Campus. In this study, questionnaires were distributed to 357 respondents. Cronbach's Alpha and Pearson Correlation was used to analyse the data collected. The findings show that physical activity and sleep deprivation have a significant relationship with mood. The findings of the research can create awareness among the students of Universiti Malaysia Kelantan City Campus about mood and mental health.

**Keywords:** *Physical Activities, Sleep Deprivation, Mood*

### INTRODUCTION

Physical activity has a big impact on our mood. People can feel depressed and have anxiety symptoms for those who do not exercise regularly. A study was conducted when physical activity was implemented for previous depression and stressful life (Yoshi, Inada, Nakara et al, 2010). The physical activity is beneficial to mental health and can be positively proportional (Asztalos, Bourdeaudhuij et al, 2010). When our body is in good condition, it enables us to keep our minds in good quality and with a clearer mindset.

Sleep deprivation is based on the amount of loss of sleep depending on individuals. If an individual has enough sleep, it will prevent them to get angry easily (Sawni, & Breuner, 2017). This is because getting enough amount of sleep every time makes our thoughts fresh in order to prevent issues with anger and impulsivity due to mood.

89 percent of Malaysians suffer from more than one sleep problem. Around 46 percent of them woke up in the middle of the night, while just under a third say they feel tired and un-rested in the morning (32%), feel sleepy or have fallen asleep during the day (32%), and snore (29%) respectively (Chin, 2018).

More recently, it is stated that "physical activity affects the emotional distress on students of Universiti Putra Malaysia" (International of E-Journal of Advances in Social Sciences, 2016). Moreover, the International Journal of Collaborative Research on Internet Medicine & Public Medicine, 2015 mentioned that "there is a considerable amount of stress, anxiety and depression by sleep deprivation which affect the students of Universiti Putra Malaysia". This is why the students of Universiti Malaysia Kelantan City Campus were chosen for this study based on previous studies mentioned.

There are two objectives of this research:

- i. To examine the effect of physical activity towards mood among Universiti Malaysia Kelantan City Campus's students.
- ii. To examine the effect of sleep deprivation on mood among Universiti Malaysia Kelantan City Campus's students.

### Significance of the Study

This study will benefit the society, government, organization and in particular, Universiti Malaysia Kelantan. This study focuses on two types of factors; physical activity and sleep deprivation. This study will prove the relationship between physical activities and sleep deprivation towards mood among the students of Universiti Malaysia Kelantan City Campus.

## LITERATURE REVIEW

### Theory of Physical Activity

Physical activity is an exercise generally used in different circumstances that associates with using whole-body energy. Exercise can be defined as a physical activity perpetual bodily kinetics, structured, orchestrated and done to boost or manage one or more factors of physical fitness. Physical fitness meanwhile, is a set of characteristics that people have or accomplish describing the capability to enforce physical activity (Caspersen, Powell & Christenson, 1985).

Physical activity is a bodily flux that is composed of the deflation of skeletal muscle and increment of energy consumption. Regular activity prevents the risk of premature death and impairment from a range of conditions such as colon cancer, diabetes, coronary heart disease and osteoporosis (US Dep Health Human Service, 1996).

### Theory of Sleep Deprivation

Sleep deprivation occurs when the amount of time a person sleeps is lesser than the basic requirement of around 7-8 hours for adults (Colten & Altevogt, 2006) and about 9 hours for adolescents (Carskadon, Acebo & Jenni, 2004). Oswald (1969) performed an experiment on sleep as a time for rebuilding and adjustment of the body and brain. Restorative theories of sleep (Oswald, 1970) showed that the reversal in sleep found after deprivation was because of build-ups of some unidentified substances which relate to energy consumption.

Sleep deprivation has a harmful effect on human. For example, the individual will lose motor function in their mood and cognitive. Evidence revealed that the mean level of functioning for sleep-deprived individuals is around the ninth percentile of non-sleep deprived individuals (Pilcher & Huffcutt, 1996)

### Theory of Mood

Mood is an emotion or feeling that affects our daily life or daily events (Morris, 1989). Moods are different with emotion, where it has a wider effect on one's opinion, behaviour, and judgments instead of a specific target (Kelley & Hoffman, 1997; Martin & Clore, 2013). This shows that one's mood reflects the surroundings, and not particularly directed at anyone or anything (Frijda, 1994, pg.60). In other definitions, mood is our daily emotion either with a positive or negative mindset. While emotions are usually triggered by clear reasons (e.g., some events), moods have diffuse or combined causes. Consequently, we are often unable to determine the cause of a particular mood (Ekman, 1994). Although moods will last in limited time, they tend to have a relatively long-term character. A person can feel sad or cheerful for either a few hours or even for several days (Beedie, Terry & Lane, 2015).

### Research Hypothesis

Below are the hypotheses of the study:

- i. H1a - There is a relationship between levels of physical activity towards mood among students of Universiti Malaysia Kelantan City Campus
- ii. H1a - There is a relationship between sleep deprivations towards mood among students of Universiti Malaysia Kelantan City Campus

### Research Framework

The theoretical framework shows that the independent variable can relate to the dependent variable. The independent variable of this study consists of two factors, which are physical activity and sleep deprivation. These factors are associated with mood which is the dependent variable of the study. Through this theoretical framework, a clear concept of the study can be defined and hypotheses can be generated and tested.



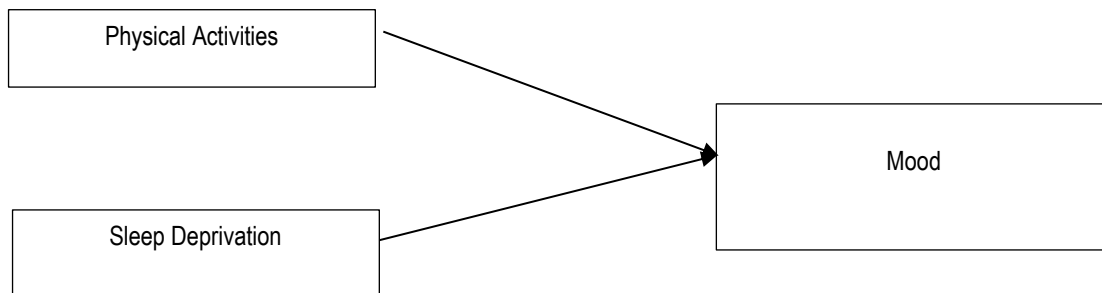


Figure 2.2: Theoretical Framework showing the relationship of physical activity and sleep deprivation towards mood among students of Universiti Malaysia Kelantan City Campus.

## METHODOLOGY

### Research Design

A quantitative study was conducted to examine the relationship between physical activity and sleep deprivation towards mood among students of Universiti Malaysia Kelantan City Campus. A descriptive study was used where it collects all the related information from the group subjects to automatically identify, factually and accurately the specialized characteristics of interest or conditions that presently exist (Baumgartner, & Hensly, 2006). Descriptive studies have been routine in human health performance as well as in education and social behaviour science and were selected to be used for our data collection. Normally, the dependent variable and the independent variable would be tested based on the questionnaire that was distributed to the respondents. The method of our study will use descriptive and correlation design.

### Data Collection

A total of 357 self-administered questionnaires were distributed among respondents in Taman Bendahara, Pengkalan Chepa, Kota Bharu, Kelantan for this study. In order to get the correct and right information data, the respondents would be briefed prior to answering the questionnaire.

### Sampling

The sampling method used in this study was simple random sampling and the analysis was done via Cronbach's Alpha, Independent Sample T-test and Pearson Correlation Coefficient.

In achieving a reliable and valid sample of this study, the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown below:

$$S = \frac{\chi^2 N p (1 - p)}{e^2 (N - 1) + \chi^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$\chi^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

## Data Analysis

### FINDINGS

There were 375 respondents involved in this study among students of 8 programs from FHPK and FKP, University Malaysia Kelantan. The distribution of the respondents in terms of their demographics were analysed using descriptive statistics involving frequency and percentage. The results are shown in Table 1.

Table 1: The distribution of the respondent's background

No.	Background	Characteristics	Frequency (n=357)	Percentage (%)
1.	Gender	Male	112	31.4
		Female	245	68.6
2.	Age	Under 20 years	43	12.0
		21-25 years	298	83.5
		26-30 years	16	4.5
3.	Status	Single	338	94.7
		Married	19	5.3
		Others	0	0
4.	Race	Malay	223	62.5
		Indian	62	17.4
		Chinese	64	17.9
		Others	8	2.2
5.	Course	SAW	67	18.8
		SAP	48	13.4
		SAK	44	12.3
		SAH	51	14.3
		SAL	54	15.1
		SAE	13	3.6
		SAR	41	11.5
		SAB	39	10.9

The analysis of respondents according to gender stated that female respondents are higher than male respondents. In 357 respondents, 245 (68%) are the female respondents while 112 (31.4 %) are the male respondents. According to the age characteristic, there are three stages of age groups: under 20 years, 21 – 25 years and 26 – 30 years. The majority of respondents are from the age of 21 – 25 years old which are 298 (83.5%) respondents compared to under 20 years, 43 (12.0%) respondents and 26 – 30 years, 16 (4.5%) respondents. According to the respondent's marital status, the single respondents are higher than the married respondents. The result shows that 338 (94.7%) respondents are single and 19 (5.3%) respondents are married. When it comes to the race dimension, it obviously revealed that the majority respondents are Malay, 223 (62.5%) among the UMK students compared to the Indian, 62 (17.4%) respondents, Chinese, 64 (17.9%) respondents while the other 8 (2.2%) respondents were from other races. The demographic analysis of respondent according to the programs they are studying, revealed that the SAW students are the highest contributors which is 67 (18.8 %) and followed by SAL, 54 (15.1%) respondents, SAH, 51 (14.3%) respondents, SAP, 48 (13.4%) respondents, SAK, 44 (12.3%) respondents, SAR, 41 (11.5%) respondents, SAB, 39 (10.9%) respondents and SAE, with 13 (3.6%).

**Table 2: Total Mean Score and Standard Deviation of Physical Activity (n=357)**

Factors	Mean	Standard Deviation
Maintain a healthy body	4.1036	0.82986
Help me mind off	3.8824	0.84975
Physical challenges	3.7563	0.86732
Enjoy physical exercise	3.8263	0.82318
Improve body shape	4.0644	0.79943
Help me fitter than others	3.9748	0.79105
To reduce stress	3.8123	0.82180
Improve existing skill	3.8880	0.85709
Total of Physical Activity	3.9135	0.02694

Table 2 shows the total mean score and standard deviation of physical activity. There are 8 questions in the physical activity subscale. For maintaining a healthy body (PA 1), the mean score is 4.1036 and the standard deviation is 0.82986. The mean for help me mind off (PA 2) is 3.8824 while the standard deviation is 0.84975. For physical challenges (PA 3), the mean score is 3.7563 and the standard deviation is 0.86732. The mean score for enjoying physical exercise (PA 4) is 3.8263 and the standard deviation is 0.82318 meanwhile the mean score for improving body shape (PA 5) is 4.0644 and the standard deviation is 0.79943. For helping me fitter than others (PA 6) stated that the mean score is 3.9748 and the standard deviation is 0.79105 while for reducing stress (PA 7) the mean score is 3.8123 and the standard deviation is 0.82180. For improving existing skill (PA 8) the mean score is 3.8880 and the standard deviation is 0.85709. The total Physical Activity stated that the total mean score is 3.9135 and the standard deviation is 0.02694. The total mean score shows that the level of physical activity among the respondents is high.

**Table 3: Total Mean Score and Standard Deviation of Sleep Deprivation (n=357)**

Factors	Mean	Standard Deviation
Affects my mood	4.0955	0.87975
Feel sleepy	3.7927	0.88473
Trouble getting up in the morning	3.4454	1.07341
Often yawn	3.5966	0.90242
Not enough sleep will start an argument	3.4678	1.01517
Sleep longer	3.6639	0.93566
Don't feel like going to class	3.4230	1.08246
Oversleep	3.4146	1.08183
Total of Sleep Deprivation	3.7124	0.90956

Table 3 shows the total mean score and standard deviation of sleep deprivation. There were 8 questions in the sleep deprivation subscale. For the affect my mood (SD 1) the mean score is 4.0955 and the standard deviation is 0.87975. The mean score for feel sleepy (SD 2) is 3.7927 and the standard deviation stated is 0.88473. Meanwhile, the mean score for trouble getting up in the morning (SD 3) is 3.4454 and the standard deviation is 1.07341. For often yawn (SD 4), the mean score is 3.5966 and the standard deviation is 0.90242 while not enough sleep will start an argument (SD 5) the mean score is 3.4678 and the standard deviation is 1.01517. The mean score for sleep longer (SD 6) is 3.6639 while the standard deviation is 0.93566. The mean score for don't feel like going to class (SD 7) is 3.4230 and the standard deviation is 1.08246 while for the oversleep (SD 8), the mean score is 3.4146 and the standard deviation is 1.08183. The total mean score shows that the level of sleep deprivation among the respondents is high.

Table 4: The Mean Score and Standard Deviation of Mood (n=357)

Factors	Mean	Standard Deviation
Often reach angrily	3.5126	1.00447
More talkative	3.7283	0.88153
Easily distracted by things	3.7087	0.90209
Feel irritable	3.3922	1.05348
More energy as usual	3.8263	0.83671
More self-confident	3.8431	0.86961
More active	3.8095	0.89795
More social	3.9076	0.90868
Total of Mood	3.7160	0.07254

Table 4 above shows the total mean score and standard deviation of mood. There were 8 questions on the mood subscale. For the often react angrily (M 1), the mean score is 3.5126 and the standard deviation is 1.00447. For more talkative (M 2), the mean score is 3.7283 while the standard deviation is 0.88153. For easily distracted by things (M 3), the mean score is 3.7087 and the standard deviation is 0.90209. The mean score for feel irritable (M 4) is 3.3922 and the standard deviation is 1.05348. For more energy as usual (M 5), the mean score is 3.8263 and the standard deviation is 0.83671 meanwhile the mean score for more self-confident (M 6) is 3.8431 and the standard deviation is 0.86961. For more active (M 7), the mean score is 3.8095 and the standard deviation is 0.89795 and the mean score for more social (M 8) is 3.9076 and the standard deviation is 0.90868. Since the mean score for mean is 3.7160, it means that the level of mood among the respondents is high.

Table 5: Reliability Statistic for Physical Activity, Sleep Deprivation and Mood

	N of Item	Cronbach's Alpha
Physical Activities	8	0.866
Sleep Deprivation	8	0.826
Mood	8	0.840

Table 5 shows the result of Reliability Statistic for Physical Activity, Sleep Deprivation and Mood. There are eight items for each variable. The result of Cronbach's alpha for physical activity is 0.866, sleep deprivation is 0.826 and mood is 0.840. This showed that the Cronbach's alpha for every variable is higher than 0.8 which indicated that the internal consistency reliability was very good. All of the questions were highly reliable for the study. Most of the questions of each variable were accepted for the study indicated by the reliability test. This shows that the respondents can understand the questions clearly. In addition, reliability estimates show the amount of measurement error in a test. Put simply, this interpretation of reliability is the correlation of test with itself (Kline, 1994). However, a high coefficient alpha does not always mean a high degree of internal consistency. This is because alpha is also affected by the length of the test. If the test length is too short, the value of alpha is reduced (Streiner, 2003).

Table 6 (i): Correlation coefficient for physical activities and mood

		Physical Activity	Mood
Physical Activity	Pearson Correlation	1	0.561**
	Sig. (2-tailed)		0.000
	N	357	357
Mood	Pearson Correlation	0.561**	1
	Sig. (2-tailed)	0.000	
	N	357	357

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 6 (ii): Correlation coefficient for sleep deprivation and mood

		Sleep deprivation	Mood
Sleep Deprivation	Pearson Correlation	1	0.577**
	Sig. (2-tailed)		0.000
	N	357	357
Mood	Pearson Correlation	0.577**	1
	Sig. (2-tailed)	0.000	
	N	357	357

\*\* . Correlation is significant at the 0.01 level (2-tailed).

In Table 6, the p-values both correlation between physical activity and mood was as well as between sleep deprivation and mood was 0.000. The results were less than the significance level of 0.05, which indicated that the correlation coefficient was significant. The correlation between physical activity and mood was a positive 0.561. On the other hand, the correlation between sleep deprivation and mood was a positive 0.577. There was a moderate correlation relationship between the variables which at the range of 0.50 to 0.70. Therefore, it can be concluded that there was a significance and moderate correlation relationship between physical activity and mood, and also between sleep deprivation and mood.

## DISCUSSION & RECOMMENDATION

Based on the results from Table 6, there is a significant relationship between physical activities and sleep deprivation towards mood.

In the previous study, the positive effects of exercise on mood, although similar in magnitude have been shown to persist significantly longer than that of quiet rest. The hypothesis showed that exercise for 30 minutes would improve mood well-being (Raglin & Morgan, 2005). In addition, the majority of both professional health and exercise had given benefits to the improvement of mood states (Byrne, 2015). According to Byrne, the mood state is generally influenced by exercise. Physical activity has been followed by a more positive mood and less clearly by less negative mood (Wigers, & elt., 1996).

Besides that, sleep deprivation causes chronic insomnia that increases the development of mood disorders like depression and anxiety for an individual. Sleep deprivation lowers the emotional activation, thus enhance the whole sensitivity to emotional stimuli (Simon, Oren, Sharon et al, 2015).

The following are a few thoughts to be considered for the future study of the relationship of physical activity and sleep deprivation towards mood. Future research may increase the scope of the study by investigating this topic on a bigger population and sample and not only at Universiti Malaysia Kelantan City's Campus to enhance the significance. In addition, other variables of factors that influence mood may also be included in future research. It is also suggested that future studies may want to improve the current questionnaires to suit the variables. However, there are still many other varieties of data collection methods that can could be used for future study.

## CONCLUSION

In this study, physical activity and sleep deprivation were represented as the independent variables and mood was represented as the dependent variable. The results of Cronbach's Alpha showed that there is a significant relationship between physical activity and mood; as well as between sleep deprivation and mood. In conclusion, the findings of this study have proven that there is a relationship between physical activity and sleep deprivation towards mood among students of Universiti Malaysia Kelantan.

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## Acceptance of Childhood Vaccination among Parents in Baling, Kedah

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### ABSTRACT

Parents have the main role to make decision for vaccinating their child. Majority of children receive their vaccines on time. However, nearly 20 million worldwide still missed out – pushing them at risk of serious disease, disability and ill health. A cross-sectional study was carried out in July-August 2019 in Baling, Kedah to determine the acceptance of childhood vaccination for their children among parents there. This research used convenience sampling method. Data then has been analyzed using SPSS version 25.0. The response rate was 100%. Majority of the respondents were female (61.5%), Malay race (48.2%), mean age of 36.24 years old, SPM educated (31.0%), work as government officer (42.4%) and had income level in the range of RM1,000-RM3,000 (42.4%). The socio-economics characteristics (education, occupation status and income level), perceived benefits and barrier and external cues to action can caused the acceptance of childhood vaccination. The highest reason of parents' who reject the vaccination was "Did not think the vaccine was save/concern about side effects" (45.5%). 93.0% parents accept the childhood vaccination for their children.

**Keywords:** *Vaccination acceptance, Perceived benefits, Cues to Action*

### INTRODUCTION

The immune system functions to defense against infectious organisms and other invaders. This system is made up from cells, tissues and organs that works together to protect body. One of the important cells is white blood cell or in other word is leukocytes. Leukocytes come with two basic types that combine to seek out and destroy disease causing organisms or substances (Yamini, 2015). According to WHO (2018), a vaccine is a biological preparation to protect body from particular disease. Vaccines contain one special agent that resembles a disease-causing microorganism. That agent is usually made from weakened or killed forms of the microbe, its toxins or one of its surface proteins. By taking vaccine, the agent in the body will stimulates the body's immune system to tell and recognize the agent as foreign and destroys it, then make a reminder about it, so that the immune system will easily recognize and destroy any of the same microorganisms.

People that rejected vaccination have irrational fears concern to vaccine safety, emotion reaction about the effect and religious beliefs (Spier et al, 2001). Hesitancy is one of the major factors in public's attitude toward vaccination. Most hesitant people are well-informed about vaccination (Smith and Marshall, 2010). Vaccines are safe and have their own licenses and approvals. Scientists are constantly observing and monitoring information from sources for any signs of the vaccines that may cause destruction (WHO, 2018).

Body immunity can be improved by taking a vaccination injection. Thus, immunization is a proven tool that shows it can be a prevention of some of the deadliest childhood diseases. There are a lot of vaccines for child such as hepatitis B vaccine at birth, the diphtheria, tetanus, pertussis, hepatitis B and polio (OPV) vaccine at 2, 4, 6 and 18 months. Upon reaching 5 years of age; measles vaccine, mumps and rubella vaccine at 12 months and 5 years, and oral rotavirus vaccination at 2 and 4 months (Burghouts, 2017).

In Malaysia, the initial National Immunization Programme (NIP) was established in 1950s with the missions of protecting the child population from vaccine-preventable diseases, reducing endemic cases, as well as reducing the morbidity and mortality rates associating with vaccine-preventable disease. Childhood vaccination prevents 2 million deaths per year worldwide and is widely considered to be 'overwhelmingly good' by the scientific community (Jheeta & Newell, 2008).

Research performed by Panting et al. (2018) revealed several reasons on vaccine-hesitant parents who did not vaccinate their children, such as being worried about side effect (2.4 percent), having distrust towards vaccine (2.1 percent), and being doubtful about the halal status of vaccine (1.3 percent). According to McKee et al. (2016), these reasons vary broadly between parents, but encompass in 4 overarching categories. The 4 categories are religious reasons, personal beliefs or philosophical reasons, safety concerns, and desire for more information from healthcare providers.

According to Ministry of Health Malaysia (2014), childhood immunization coverage that recorded in 2013, B.C.G immunization coverage of infants, DPT – HIB immunization of infants (3<sup>rd</sup> dose), Polio and Hepatitis B immunization coverage of infants are 98.59 percent, 96.92 percent, 96.87 percent and 96.32 percent respectively. MMR immunization coverage of children age 1 to < 2 years is 95.25 percent while HPV immunization coverage of girls aged 13 years is 94.33 percent. It is known that childhood vaccination should be carried out on children as many benefits of preventing diseases with a vaccine far outweigh the risk.

This study is to know the reasons among parents in Baling, Kedah on childhood vaccination according to Health Belief Model and other reasons to reject vaccination. It has become popular these days to express vaccine rejection in Malaysia through social media. Vaccination is an important step that parents can take for their children, therefore the reasons for rejection are attempted to find out. Through this research of acceptance of childhood vaccination among parents in Baling, Kedah, the results explained the possible reasons for acceptance of vaccination.

There are three objectives of this research:

1. To determine the prevalence of acceptance to childhood vaccination among parents in Baling, Kedah.
2. To identify the relationship between socio-economic characteristic (income, education and occupation) with the acceptance of childhood vaccination among parents in Baling, Kedah.
3. To determine the significant difference in vaccination perceived benefits and barrier between parents who accept the childhood vaccination and parents who reject the childhood vaccination in Baling, Kedah.
4. To determine the significant difference in vaccination external cues to action between parents who accept the childhood vaccination and parents who reject the childhood vaccination in Baling, Kedah.

### **Significance of the Study**

#### **Parents**

The findings of this study will provide a clarification for the parents who want to know about the childhood vaccine acceptance that will give benefits to their children. It will help the parents to have better understanding about the factors that cause acceptance of childhood vaccination which are external cues, perceived benefit or barrier and socio-economic.

#### **Health Minister of Malaysia and World Health Organization (WHO)**

The findings of the study allow the health promotion practitioners to explain further about the factors of childhood vaccine acceptance among parents in Baling, Kedah. The findings may allow health promotion practitioners to determine what are the factors that cause the parents accept childhood vaccination. Therefore, this study helps the health promotion practitioners to promote the benefits of vaccination among the parents by using more evidence-based study effectively.

#### **Future Research**

Future researchers who intend to research about childhood vaccine acceptance among parents can use this study for their further research. The researchers will experience the benefits from the research. The researcher also can use this research as a guideline or supportive information for other related researches.

## **LITERATURE REVIEW**

### **Vaccination**

According to WHO (2017), vaccination can be defined as a biological preparation that improves immunity to a particular disease such as measles, polio, tetanus, diphtheria, and pertussis (whooping cough). A vaccine typically contains an agent that resembles a disease-causing microorganism, and is frequently made from weakened or killed forms of toxins, microbe,



or one of its surface proteins. The agent stimulates the body's immune system to distinguish the agent as foreign, destroy it, and "remember" it, so that the immune system can more easily identify and destroy any of these microorganisms that it later encounters.

Vaccines are the most current prophylactic public health tools. With the help of vaccines, prevention of infectious disease spread and, in recital with other measures, even eradication has become possible (Hoper, et al., 2015). According to Omer (2009), vaccines is among the most available tools for preventing infectious diseases and their complication and sequelae.

### **Acceptance of Childhood Vaccination**

As noted by Damjanovic (2018), parental decision on child vaccination is a specific case of health-related decision that is highly involving in term of affect and expectation. When discussing vaccination and immunization, the emphasis is on its purposefulness, potential side effects, and efficacy of vaccination.

Evidence for an association between perceived efficacy and child vaccination is mixed. Parents reported not trusting that the vaccine was effective as a reason against vaccination in four studies. Two found that parents vaccinated their child to protect them from the illness and another cited the belief of the effectiveness of the vaccine (Smith et al., 2017).

In 2019, WHO stated that "the majority of people who get disease have been vaccinated" as common misconception about immunization. This is another argument regularly found in anti-vaccine literature, the consequence being that this proves the vaccines are not effective. In fact, it is true that in an outbreak those who have been vaccinated often outnumber those who have not even with vaccines such as measles, which we know to be about 98% effective when used as recommended.

According to Ebrahim (2014), in detailed article addressing this issue, vaccination fulfils all objectives of Al-Maqasid Al-Shariah. When linking vaccination with the preservation of religion, he mentioned that this can be achieved since vaccination acts as preventive measure that promotes the wellbeing of a Muslim. Hence, when the physical and health aspects of a Muslim is taken care of, he can successfully perform his daily obligatory act of worship.

### **Socioeconomics Factors**

Socioeconomic is a combined term of economic and sociological that measures a person's career or job experience. It is also defined as the economic and social position of an individual or a family in relation with the income, occupation, and education (Mclaren, 2007). Moreover, socioeconomic factors are divided into three different categories which include, household income, earners' education, and occupation. Equally, socioeconomic status can be divided into three levels of high, middle, and low to describe the three positions that a family or an individual may fall into (Mackenbach, et al., 2008). When assigning a family or an individual into one of these three categories; the three variables stated earlier which include income, education, and occupation would be assessed (Galobardes et al., 2006).

Income brings up the payment that people receive in their career or business under certain organization (Baadsgaard & Quitzau, 2011). Income can be categorized into unemployed worker's assets and compensations such as social security, trusts, interests or dividends, royalties, pensions, alimony, or other forms governmental, public, or family financial assistance (Montes & Halterman, 2008). Income also plays a major part to make parents take decision in involving finance, sometimes the parent's low income will make them less care about children vaccination. It can thus be suggested that the reasons why parents with low household income have less priority for vaccination, may include transportation problem, finance problem and many more (Fox-Rushby, 2004). This plants a perception for the parents to not show priority for vaccinating the children (Welsh et al., 2010). On the other hand, families with high income would normally show concerns about the children's health and they will follow everything and vaccinate their children according to the month because the facilities are affordable for the high-income parents (Ponnet, 2014).

Education by the same token acts as a big factor in income. Median money on hand rises by all of each laid on the line of education (Best & Kahn, 2016). Education in society can be divided into two which are the educated populace and uneducated populace. Education is a passing or sharing of knowledge from one person down to another which can exist in the form of knowledge of skills (Freed, et al., 2009). Education plays a major role in spreading information which are mostly relevant and recent. The idea and knowledge about vaccination are also explored deeply through education (Yudin, 2010). It is possible, therefore, that the educated parents would normally understand how crucial vaccination is for their children. They also possess

the knowledge about vaccination and why it is crucial for the new-borns and infants (Bruner, 2009). Meanwhile, the parents who had little to no access of education may not give much priority to vaccinate children. This is because the parents do not understand the value of vaccines and the benefit that come with it (Lester & Costley, 2010).

Occupation is an individual's profession that have many types of works and is something you are employed in doing so, but not necessarily a job that is done for work or money (Landrum et al, 2010). There are a number of scales and ranks of occupation involved that divides them into different categories. The categories range from unskilled to skilled labour and to a higher professional level. Occupation also involves the level of education and the income that results from it (Roberts, 2013). Occupation is also a major factor in vaccination that is divided by two categories such as professional and unprofessional. In general, therefore, it seems that professional parents normally have high education experience, high levelled career; however, the reason underside is that these parents are very busy with their career and some tend to not make time to vaccinate their children (Luy et al., 2011). The parents with a nonprofessional career tend to make time for their children and spend more time with their family. They also understand the importance of vaccination to which they will make sure their children get them (Katan, 2009).

### **Perceived Benefits and Barrier**

Perceived benefits talk about one's understandings in efficacy of an advised action to reduce the risk or hazard of a certain impingement (Karen, et al., 2008). People trust that certain actions will suppress the susceptibility to health problems or decline its seriousness (Chen, et al., 2011). However, there is a possibility that people may engage in that behaviour nonetheless of the objective facts regarding the effectiveness of the action (Mirelman, et al., 2014). Furthermore, vaccine-accepting respondents have all stated that they are open to accept vaccination due to the perceived benefits of vaccines, which focuses on either preventing diseases or curing them among children (Geoboo, 2014).

Perceived barrier also focuses on one's stand "of the tangible and psychological costs of the advised action" (Karen, et al., 2008). Perceived barriers mention that an individual's appraisal of the barrier is related to behavioural change (Wallace, et al., 2006). Every individual will perceive the status of health as frightening and believes that a specific action would successfully bring down the threat and barriers that may stop engagement in "health-promoting behaviour" (Reiter, et al., 2009). Within the perceived benefits, one must outweigh the perceived barriers as a mean to change one's behaviour (Serpell & Green, 2006). There are multiple perceived barriers that are taken into action, which include the perceived inconvenience, expense, danger that may rise from side effects of a medical procedure, and discomfort. This includes pain and emotional upset which engage the behaviour (Klein, et al., 2010).

### **Prevent Disease**

The National Vaccine Advisory Committee has invited more parents to give consent in having their children vaccinated and have more healthy children in the country (Modlin, et al., 2004). Besides that, reports from vaccine-accepting physicians and scientists show many positive reactions such as healing of chronic skin rashes, susceptibility to various infectious disease such as, measles, scarlet fever and whooping cough because the vaccine fights off the infection. The body has a supply of cells that help to recognize and supply antibodies (Mayr, 2004).

This finding has important implications for developing working children's body to have natural defenses to help them keep safe and also the immune system can fight off any infections (Plotkin, 2008). Vaccines aid the development of a person's immunity by imitating an infection, but this "imitation" does not create any illnesses. Plus, after the injection, the vaccine often does not show the benefits immediately. It will often take some time to act up but will eventually help children to maintain a good health (Jones & Cunningham, 2004).

### **Side Effect**

Vaccination is also known to cause one or more side effects on the children. The side effects caused by the vaccination are most slight such as redness and swelling. This usually lasts for only a few days and will eventually fade away (Mrozek-Budzyn, et al., 2010). Sometimes, there are cases when children go through critical side effects after vaccination, such as severe allergic reaction. This rarity of side effects would make doctors and clinical staff find the illness difficult to deal with children in that condition (Quaglio, et al., 2002).

In addition, the parents should pay extra attention to their children after vaccination for a few days until they are stable and well (Kiguli, et al., 2011). Many mothers have even claimed that children could lose their lives because of vaccination. Thoughts around the weakness and vulnerability to vaccine's side effects and disease may also be the culprit behind the idea that young and sick children are not strong enough to handle vaccination, is still wide (Dondji, et al., 2005).

### **External Cues to Action**

The health belief model postulates that a cue, or trigger, is crucial for promoting engagement in health-promoting behaviours (Carpenter & Christopher, 2010). Cues to action can be both internal and external. Physiological cues such as pain or symptoms are some examples of internal cues to action (Irvine, et al., 2013). External cues, on the other hand is derived from events or information from medium such as the media, or health care provider that promote engagement in health-related behaviours (Nowrouzi-Kia & McGeer, 2004). The intensity of cues needed to quicken the action varies from individual to another by perceived susceptibility, seriousness, benefits, and barriers (Schmid et al., 2017). For example, by the external cues about the vaccination, information will spread to each parent.

### **Media**

Media is a tool that are used to broadcast, publish, and the inclusion of the internet regarded collectively (Baym et al., 2004). Furthermore, media also have many varieties such as television, radio, and the newspaper of which the public can get information easily (Miller, 2008). The media also can influence the society, especially parents about the vaccination. Many parents tend to believe all the information that flows from the media without any proper credibility check (Neiger et al., 2011). It should be clear that not all information given by the media is true and sometimes the media may even spread fake or unreliable news to the public. With this, people need to be aware of what they are watching and listening, and should check its credibility or source (Sorlin, 2013). However, there are cases where fake news about vaccination are able to persuade parents to have negative perception towards vaccination and avoid providing it to the children. Eventually, this may lead to a drastic reduction of vaccination which may have dangerous consequences (Yoo, et al., 2010).

### **Information from Close People**

The information from close others such as family, friends and colleagues are defined as the data and knowledge we gain from people we often see, talk and believe (Kumashiro & Sedikides, 2005). By that information, the parents always think negatively about vaccination and by believing so, the parents will not give important attention to vaccination.

The information about vaccine is normally given by these close relational people will be perceived as truth and believable because some may think that they can be relied on (Derlega, et al., 2008). People in the inner circle can all be related to this issue of information transfer. Thus, some family carry the tradition by generation to avoid vaccination as they are influenced by their parents and would teach their kids the same (Kelly, et al., 2011). Parents must not entirely believe the people around them all the time and should not take their words for granted as they may not be right every time (Bently & Metcalf, 2007).

### **Information from Health Care Provider**

Health care providers are the people that have professional expertise and knowledge in the field of health (Reiss, et al., 2005). The health care providers may also be a public or community health experts who work for the common good of the society (Lockley et al, 2007).

Parents who do not have any knowledge about vaccines can seek aid from the health care provider who will help and guide them to why children need to be vaccinated (Ylitalo et al., 2013). These health care providers would also notify the parents of advantage and disadvantage of vaccination (Visser et al., 2014). In the end, the health care provider also will guide the parents with beneficial information, by that the number of parents vaccinate will increase (Opel et al, 2013).

### **Research Hypothesis**

H1: There is a relationship between socio-economic characteristic (income, education and occupation) with the acceptance of childhood vaccination among parents in Baling, Kedah.

H2: There is a significant difference in vaccination perceived benefits and barrier between parents who accept the childhood vaccination and parents who reject the childhood vaccination in Baling, Kedah.

H3: There is a significant difference in vaccination external cues to action between parents who accept the childhood vaccination and parents who reject the childhood vaccination in Baling, Kedah.

### Research Framework

Parent's acceptance of the vaccination to children is influenced by several factors. Factors that contribute to the acceptance are socio-economic ones which include income of the family, parent's education and parent's occupation. Next factor is perceived benefits or perceived barrier which covers prevention from diseases and also side effect of the vaccination. Lastly, external cues that involve media, information from close others and information that is received from health care provider. Figure 1 shows all factors that influenced the acceptance of the childhood vaccination.

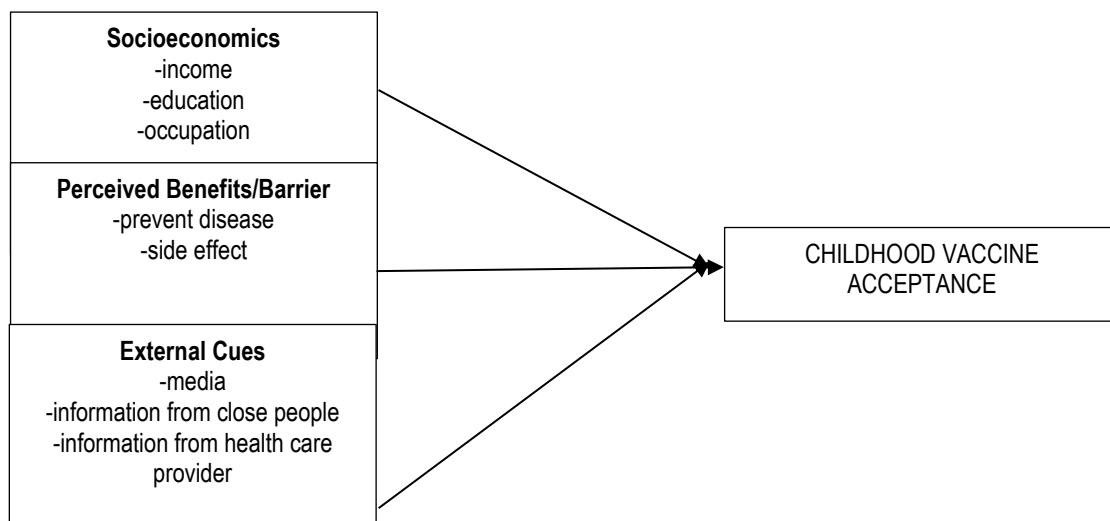


Figure 1: Research framework of the acceptance of childhood vaccination

## METHODOLOGY

### Research Design

The design of the study was a cross sectional study with quantitative research.

### Data Collection

This research was held in Baling, Kedah. Questionnaires were distributed in school area, residential areas, hospital and clinics in Baling, Kedah. Explanation was given to the respondents after they agreed to answer the questionnaires. There was no forcing on the parents to answer. The questionnaires were collected after the respondents have done filling them up.

## Sampling

This research used purposive and convenient sampling methods. Public Health Malaysia (2015) showed that Kedah was rated as the highest ranking for vaccine rejection cases. Therefore, purposive sampling method was used in order to choose sampling area. Same sampling method was used to choose a region in Kedah which is Baling as the highest vaccine rejection cases was reported in Baling, Kedah.

By using Krejcie and Morgan for sample size, there were 384 respondents answered the questionnaire. The distributed questionnaire was using convenient sampling method. The reason researchers used this sampling method was to collect the information from parents in Baling, Kedah who are conveniently available to provide it. This involves picking up any available set of respondents convenient for researcher to use.

## Data Analysis

The data analysis was performed by using computerized data analysis package known as SPSS 25.0. The data analysis was divided into two which are descriptive analysis and bivariate analysis. The data analysis conducted was used to gather data, assessment, and analysed to form some sort of finding or conclusion.

Simple summaries were provided about the sample and the measures. Thus, in this study the researchers used mean, frequency, standard deviation and percentage as descriptive analysis. The bivariate analysis used was the Chi-squared test and independent sample t-test.

The Chi-Square Test is also known as  $\chi^2$ . This test is to observe the statistical significance of the observations under study. Hence, the chi-Square test is a statistical technique used by researchers to examine the differences between categorical variables in the same population.

Independent sample t-test was used in this study to associate the means of two independent group. It was used to determine whether or not there is statistical evidence that related population means are significantly different. If the Sig (2-tailed) value is less than 0.05, there is a statistically significant difference between the two settings.

## FINDINGS

Table 1 shows the characteristics of socio-demographics of the respondents. It shows that the majority of the respondents were female (61.5%) and mean of age was 36.45 years old. The races are Malay, Chinese, Indian and others. The majority respondents were Malay with 185 respondents answering the survey which represents 48.2% and 48 respondents for other races which represents 12.5% that come by the race of Siam, Iban, Murut, Melanau, Bajau, Kadazan, Sikh, Indonesian, and Batak. The highest number of respondents were SPM educated by 119 respondents (31.0%) and work as government officers with 121 persons (31.5%) while the highest income salary range is at RM1001-RM3000 by 163 people (42.4%).

Table 2 shows the percentage of vaccination acceptance status by 384 respondents. The parents who accept the vaccination was 357 respondents (93.0%). There are 27 respondents which 7.0% of respondents reject the vaccination for their children.

The reasons of rejection of childhood vaccination among parents in Baling, Kedah is shown in Table 3. Most parents chose "Did not think the vaccine was safe/concern about side effects". The percentage of rejection is 45.5% because most parents worry about the possible side effects that may be faced by their babies. By thinking that, they take decisions to reject the vaccination for their babies.

Table 4 shows relationship between socio-economic characteristics and acceptance of childhood vaccination. For education level, occupation status and income level, since the *P*-value is greater than 0.05, the null hypothesis was not rejected. It shows that, there is not enough evidence to suggest an association between education level and childhood vaccination acceptance. Based on the results, we can state that, no association was found between education level and childhood vaccination acceptance [ $X^2(df)= 3.127(1)$ , *P*=0.077], occupation status and childhood vaccination acceptance [ $X^2(df)= 0.741(1)$ , *P*=0.389] and income level with childhood vaccination acceptance [ $X^2(df)= 1.020 (1)$ , *P*=0.312].

Mean difference of vaccination perceived benefits and barrier in vaccination reject group and vaccination accept group (n=384) was shown in Table 5. Since *P*-value is less than 0.05, we can reject the null hypothesis, and conclude that based on the results, it shows that, there was a significant difference in mean vaccination perceived benefits and barrier between parents who reject childhood vaccination and parents who accept childhood vaccination ( $t_{df} = -3.75_{382}$ , *P*<0.001). The average mean of vaccination perceived benefits for parents who accept childhood vaccination was 0.34 higher than the mean of vaccination perceived benefits for parents who reject the childhood vaccination.

Mean difference of vaccination external cues in vaccination reject group and vaccination accept group (n=384) was shown in Table 6. Since *P*-value is less than 0.05, we can reject the null hypothesis, and conclude that the mean vaccination external cues for parents who reject childhood vaccination and parents who accept childhood vaccination is significantly different. Based on the results, it shows that, there was a significant difference in mean vaccination external cues between parents who reject childhood vaccination and parents who accept childhood vaccination ( $t_{df} = -6.77_{382}$ , *P*<0.001). The average mean of vaccination external cues for parents who accept childhood vaccination was 0.77 higher than the mean of vaccination external cues for parents who reject the childhood vaccination.

## DISCUSSION & RECOMMENDATION

Through this study, it was found that socioeconomic characteristics were not significant with childhood vaccination acceptance. Based from Department of Statistics, ethnics group with highest number is Malay (118,207 people) when compared to the other races (Indian= 5,319, Chinese= 4,731 and others=1,804) and age group with the highest number is 15-64 years old as compared to other age groups. Many respondents are government officers because the most distributed questionnaires were spread at government sector are such as hospital, clinic, and school.

Previous study done by Alshammari et al., (2018) stated that the majority of the respondents were aware of childhood vaccination (78.9%). Other 7% rejected the vaccination for their children. They have a lot of reason for their rejections and the top reason is "Did not think the vaccine was safe/concerned about side effects". Most parents chose "Did not think the vaccine was safe/concern about side effects". The percentage of it is 45.5% because most parents worry about the possible side effects that may be faced by their babies. By that, they take decisions to reject the vaccination for their babies. With the same reason, Bardenheier et al. (2004), conducted experiments on vaccination that causes serious side effects. Most parents who delayed vaccines for their children is due to the reports of fever as a side effect of vaccines and the largest proportion of parents are not trusting the benefits of vaccine given. Among the patients who were not vaccinated, doubts about efficacy of influenza vaccine and fear of its side effects became the reasons for them to avoid the vaccination.

"Someone else told that vaccination was not safe" was the second top reason of vaccine rejection (25.0%). Study by Smith et al. (2006), found that vaccination is not safe all the time. This is further proven with the report made by the parents who had previously vaccinated their children that caused some allergic problem in the skin. Some parents suggest that vaccine is not safe because children have to go through 8 injections of vaccines on different stages of age and that this is not safe for the children to go through the process.

The next top reason was "other beliefs/traditional medicine" (13.6%). A study in 2015 by Browne et al. stated that one of the reasons of rejection toward vaccine is parents believed in Complementary and Alternative Medicine (CAM) or in other word is traditional medicine (25.3%). Parents become more sceptical of vaccine's benefits over children and affected with misconceptions about vaccination. Next, based on the persons who are actively engaged in CAM such as homeopaths, this group of people have negative attitude towards vaccination and also influence people to go against the use of vaccines. Different with another study by Burghouts et al. (2017) found that mothers who believe in traditional healers are not influenced in decision making regarding the acceptance of vaccination for children. This study revealed that mothers believe more in the benefits of vaccination in term of medical than influenced by traditional healers.

"Had a bad experience with previous vaccinator/health clinic" shows 9.1% was the next reason for the parents to reject the vaccination. According to Dube et al. (2015), rejection of vaccine due to the previous experience of relative's pain after shots and spread assumptions that vaccine is not safe. Past experience from family and others become widespread and influence other people to refuse vaccination. Another study by Heyerdahl et al. (2018), people who refused vaccination si due to the experience of family members that became ill after vaccinated. Negative experience of adverse effects is worsen by lack of knowledge that influenced society as barriers of vaccination.

According to an investigation by Ophori et al. (2014), the greatest challenge in the acceptance of vaccination in Nigeria is religious belief. Muslims in north Nigeria have low immunity and lack of knowledge about vaccination. Christians have 24.2% immunization coverage compared to 8.8% Muslims. Thus, this study proved that the stronger Islamic influence, the higher the vaccine rejection. In a different study, Lee et al. (2011) found that rejection of vaccination is due to the belief of the use of aborted foetal tissue in the production of some vaccines. Muslims refuse to accept any vaccination after discovering it may contain product made from pork. Muslims also have the same sceptical with traditional medicine believers that vaccine are unneeded and unnecessary.

Seasonal vaccination did not vary across racial/ethnic groups or by education level, but was associated with gender, age and urbanicity ( $P$ -value=0.478) (Ezequiel, et al., 2011). The other study shows the significantly associated ( $P= 0.241$ ) from 2000 respondents between the occupation status with the influenza vaccination. Some categories of occupation non-compliance with vaccination were inadequate available time, uncertainty about vaccine efficacy, and fear to injection (Song et al, 2016). According to Larson, et al. (2016), there was not enough evidence to suggest an association between the income level and vaccine confidence ( $P=0.425$ ). They suggest that vaccination could be buffered by perceived importance, implying that people are willing to take a risk given an effective guard against disease.

The finding provides evidence that the respondents may receive both perceived benefits and barrier by taking the vaccination. Some parents take it positively even when their children after vaccine experienced several side effects such as fever, swelling, redness and many others. The parents give more importance to their children's health by preventing the chronic disease in the future. Besides that, some of the parents who reject the vaccination may be due to inability to go through the side effects of the vaccination. This finding was reliable as it is similar with the results in previous studies stated by Gerend et al. (2014), Ma et al (2007) and Juroskova (2011).

As highlighted by Gerend et al. (2014), the perceived benefits and barriers ( $P= 0.01$ ) was significantly different between women's perceived barriers and increase of interest in receiving the HPV vaccine. Thus, parents of son often reported not vaccinating their son because of the perceived lack of direct benefits. Plus, some parents missed the opportunity to vaccinate their children for some reasons. Study by Ma et al. (2007) found that participants who had gained screening were more likely to perceive themselves to be at high risk for HBV infection compared to participants who had not been screened. Some women are mainly concerned about vaccine protection, whereas other cite perceived lack of need or practical concerns related to attain the vaccine. In addition, Juraskova et al., (2011) concluded that overall HBM predicted vaccination intention ( $P<0.001$ ) and behaviour ( $P=0.002$ ). However, only barriers ( $P=0.029$ ) and benefits ( $P=0.001$ ) independently predicted HPV vaccination intention.

The study by Stuckemann (2019) showed that there was a significant difference in heuristic cues with acceptance in vaccination ( $P<0.001$ ). Researchers have studied the effect of external cues resulting the acceptance of vaccination. This relationship shows that people are exposed to social media tend to trust more the information in text. Thus, this proved the assumption of people's perception of credibility could be affected by social media and trusted people around.

The research study by Brown et al. (2015) found that there were no significant associations between HPV knowledge and influence of influential women ( $P=0.003$ ). Based on this study, parents and family members are indirectly related to influence the acceptance of vaccination. Therefore, parents and family members are considered the closest and can be trusted until they can influence others in term of acceptance of vaccination. However, in a different study, Juraskova, et al. (2011) found a significant association for cues to action with vaccination acceptance ( $P$ -value= 0.167).

Ideally, this information should be demonstrated and deepened using qualitative methods to get the better information or other reasons. These qualitative methods can give opportunity to researcher to give advice directly to respondents who have rejected the childhood vaccination and improve future interventions. In addition, qualitative methods can be conducted in future study to obtain high level of reliability of the result. This research can be used for academic purposes and it may increase to the body of knowledge in health care sector. This current findings of research will be valuable for the university students who study wellness or health care industry. This research paper also can be used as a future reference for future research. This research would be an opportunity to the parents and future researchers to use it as the additional information for the study purpose. From this study, researchers hope for future research will report no parents will reject childhood vaccination anymore. Last recommendation from researches is, may government take part in giving consciousness about childhood vaccination to parents in Malaysia.

## CONCLUSION

This study determined the acceptance of childhood vaccination among parents in Baling, Kedah. The findings are being concluded. Majority respondents were female (61.5%) answered the questionnaire and the average mean of age is 36.45 years old. The socio-economics characteristics which are education, occupation and income were found to have not enough evidence to suggest an association between education level and childhood vaccination acceptance. There was no relationship between socio-economic characteristics (income, education and occupation) with the acceptance of childhood vaccination among parents in Baling, Kedah. There was significant difference in perceived benefits and barrier between parents who accept the childhood vaccination and parents who reject the childhood vaccination. There also was significant difference in external cues to action between parents who accept the childhood vaccination and parents who reject the childhood vaccination.

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## APPENDIX

Table 1: Characteristics of Respondents

Variables	Mean (SD)	Frequency (n=384)	Percentage (%)
Gender			
• Male		148	38.5
• Female		236	61.5
Age	36.24 (10.367)		
Race			
• Malay		185	48.2
• Chinese		63	16.4
• Indian		88	22.9
• Others		48	12.5
Education level			
• No schooling completed		20	5.2
• SPM		119	31.0
• STPM/Matriculation		54	14.1
• Diploma		60	15.6
• Bachelor		90	23.4
• Master		31	8.1
• PhD		10	2.6
Occupational status			
• Not working		88	22.9
• Self-employed		78	20.3
• Government officers		121	31.5
• Private sector		84	21.9
• Pensioner		13	3.4
Household Income			
• <RM1000		118	30.7
• RM1001-RM3000		163	42.4
• RM3001-RM5000		80	20.8
• >RM5001		23	6.0

Table 2: Percentage of vaccination acceptance status

Vaccination Status	Frequency (n=384)	Percentage (%)
Accept	357	93.0
Reject	27	7.0

Table 3: Percentage of respondents who rejects according to the reason

Reason of Rejection	Frequency	Percentage (%)
Did not think the vaccine was safe/concerned about side effects	20	45.5
Someone else told that the vaccine was not safe	11	25.0
Other beliefs/traditional medicine	6	13.6
Had a bad experience with previous vaccinator/health clinic	4	9.1
Religious reasons	3	6.8

Table 4: Relationship between socio-economic characteristics and acceptance of childhood vaccination

Variables	Acceptance of Vaccination		$\chi^2$	df	p-value
	Reject n (%)	Accept n (%)			
Education Level					
• Low	18 (9.3)	175 (90.7)	3.127	1	0.077
• High	9 (4.7)	182 (95.3)			
Occupation Status					
• Unemployed	9 (8.9)	92 (91.1)	0.741	1	0.389
• Employed	18 (6.4)	265 (93.6)			
Income					
• Low	22 (7.8)	259 (92.2)	1.020	1	0.312
• High	5 (4.9)	98 (95.1)			

Table 5: Mean difference of vaccination perceived benefits and barrier in vaccination reject group and vaccination accept group (n=384)

Variable	Vaccination Acceptation		t-value	df	P-value
	Reject Mean (SD)	Accept Mean (SD)			
Vaccination perceived benefit and barrier	3.03 (0.59)	3.37 (0.45)	-3.75	382	0.000*

\*P<0.001

Table 6: Mean difference of vaccination external cues in vaccination reject group and vaccination accept group (n=384)

Variable	Vaccination Acceptation		t-value	df	P-value
	Reject Mean (SD)	Accept Mean (SD)			
Vaccination external cues	3.16 (0.66)	3.93 (0.57)	-6.77	382	0.000*

\*P<0.001

## Association between Service Quality, Reputation, Physical Environmental Quality and Spa Loyalty among Spa Customers in Kota Bharu, Kelantan

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### ABSTRACT

This research aims to study about the association between service quality, reputation, physical environmental quality and spa loyalty among spa customers in Kota Bharu, Kelantan. The method or technique used for this study is quantitative research method. The population and sample of this study is 384. Non-probability sampling and convenience sampling were used in this study due to the time, cost and human resources constraints. A survey is being conducted to collect all the data required. Both the primary data and secondary data are used in this study. Statistical Product and Service Solution (SPSS) is being used to analyse the data collected. Descriptive statistical analysis is conducted to measure the mean value and standard deviation of the data collected. Pearson's Correlation Coefficient is employed to determine if there is an association between the variables. Among the three variables, reputation contributes the greatest influence towards spa customer loyalty with the result of ( $r = 0.692$ ,  $p < 0.001$ ), followed by physical environmental quality ( $r = 0.647$ ,  $p < 0.001$ ), and lastly service quality ( $r = 0.634$ ,  $p < 0.001$ ). These findings show that there is a significant relationship between service quality, reputation, physical environmental quality and spa customer loyalty. As a conclusion, the three hypotheses in this study are supported.

**Keywords:** Service Quality, Reputation, Physical Environmental Quality, Customer Loyalty, Spa

### INTRODUCTION

The concern and attractiveness of spa services are dramatically increasing due to the surging of income and education level worldwide (Yusoff, 2010). In consequence, the global spa providers with developed service packages seize and make use of the market feasibility of spa development. Simultaneously, the spas worldwide which provide aroma bathing, traditional massages, and body treatments acquired from centuries-old practice also acknowledged the potential of branding themselves as spas.

According to International Spa Association (2010), spas refers to the spot dedicated to overall well-being through a series of professional services that promote the recharging of brain, body and soul. The word 'spa' is an Acronym derived from the Latin Souls Per Aqua which means heal by water. In ancient times, spa is known as healing through water which include hot springs. It is then modified accordingly throughout the years where now there is specific places to heal and preventing people from body aches. Spas have been widely recommended by many medical consultants or specialists (Koh et al., 2010).

Spa market is considered to be the backbone of health and wellness development in Malaysia. It assumes a significant job in the advancement of Malaysia's economy. Simultaneously, spa industry in Malaysia is experiencing an intensified competition due to the booming of the new entrants to the market. The providers in this service industry must be managed in such a way to retain old customers and acquire new customers by satisfying their increasingly complicated demands. The purpose of this research is to investigate the issues surrounding the influencing factors and its impact on spa customer loyalty.

Our study is based on spa whereby it comprises eight sections to provide the reader an overview of the study. This research is to improve the overall service quality including the quality of physical environment (Yusoff, 2010). The concern and attractiveness of spa services are dramatically increasing due to the surging of income and education level worldwide (Yusoff, 2010). The spa service providers are struggling to offer the market high-quality, personalised, and exclusive massage and body treatment services in order to retain customer. Next, the research problem was determined in terms of the interventions used to address the impact of perceived service quality, reputation and physical environmental quality towards customer loyalty.

### RESEARCH OBJECTIVES

There are three objectives of this research:

- I. To determine the association between service quality and spa loyalty among spa customers in Kota Bharu, Kelantan.

- II. To determine the association between reputation and spa loyalty among spa customers in Kota Bharu, Kelantan.
- III. To determine the association between physical environmental quality and spa loyalty among spa customers in Kota Bharu, Kelantan.

## **SIGNIFICANCE OF THE STUDY**

### **Provide New Perspectives on Spas**

A new perspective on the influencing factors towards the spa customer loyalty is highlighted in this study. The public misunderstand about the spa concept. They thought that spa centre is served as some improper exercises. This research paper is conducted to correct the public misapprehension on spas. The society has to change their mind set and understand the actual concept of a spa centre.

### **Set up Branding of Spa**

This study is precisely executed with appropriate profiling of a spa, which meets the criteria of a spa. The findings of this study can be used further in order to improve service performance and service quality and stimulate customer retention rate.

### **Spa Management and Academic Purpose**

The findings of this study can help the spa manager to know about the antecedents of customer perception which may either badly affect or well contribute to the customer revisit intention and customer loyalty. For instance, service quality may be a crucial factor which contribute to the customer loyalty and hence the service providers can improve their overall service quality from the every related aspects. As for physical environmental quality, it helps the service providers to gain a better understanding about the ways to set up an environment or ambience which meets customers' requirements. While for reputation, the service providers are able to know if their image is good and how was the perception of customers. Customer loyalty has been taken as the central issue in many firms as it plays an important role in generating revenue over the long haul (Heskett, 2002; Sasser et al., 1997).

## **LITERATURE REVIEW**

Literature review explained the dependent variable and independent variables in detail. In Malaysia, the growth includes spas of various types with its own business model, including day spas, hotel or resort spas, and destination spas (Tabacchi, 2010). This study intends to analyse the overall impacts of apparent esteem measurements on fulfilment and trust and the effect of fulfilment and trust on loyalty (Anuwichanont & Mechinda, 2009).

### **Spa Customer Loyalty**

Spa customer loyalty can be referred as an assessment of customers' behavioural intentions towards a singular spa business (Anuwichanont & Mechinda, 2009). The spa centre with strong customer loyalty can help to differentiate itself within this intensified business environment. It is much cost-saving to retain the existing customers than it is to acquire new ones (Anuwichanont & Mechinda, 2009). Next, positive feedback on past service experiences are more likely to be received from the loyal customer as compared to the fresh customers. In consequence, this will lead to a result for word-of-mouth advertising with no additional charges to the spa owner (Chen & Chen, 2010).

Other than that, a strong customer loyalty can help assure their relationship with company especially when the customer is encountered with increasingly attractive competitive offers, or the provider's own limitations. A number of studies suggest that customer loyalty evolved around both the behavioural attribute and attitudinal attribute (Julander et al., 1997; Kandampully & Suhartanto, 2000).

The assessment of the dimension of customer loyalty in a spa setting is especially not easy as the buy of a spa item is considered as an uncommon purchase (Leisen Pollack, 2009). It occurs infrequently instead of a keep-going basis. It can also be covert behaviour as reflected in intention to revisit in the future (Jaiswal & Niraj, 2011).

## **Service Quality**

Service quality can be alluded as the result of the assessment that customers make in analysing between their desires towards a service offered and their view of the manner in which the service has been done (Lehtinen, 1983; Parasuraman et al., 1988). It gives a three-dimensional view of service quality. According to Zeithaml (1988), the service quality can be assessed by studying the customer's perceptions on the received service. Comparison can be made between customer's expectations and the perceived quality. Many researchers have developed and discussed the service quality models. The administration quality has been a developing issue for numerous organizations to centre and real zone of consideration regarding obtain a particular preferred standpoint in the market (Zeithaml, 1988).

## **Reputation**

According to Fombrun and Rindova (1996), it was expressed that reputation depends on a lot of by and large held convictions around an organization's capacity and ability to fulfil the interests of different partners. Reputation is served as a critical factor in the overall assessment of service quality. According to Van Riel and Fombrun (2007), a remarkable contribution towards organization reputation is done. They conquer any hindrance of different points of view on organization reputation and fabricate Reputation Institute and the journal to pronounce perplexities between image, reputation and identity. Reputation can be referred as the perception of a company that general public holds in their mind. Brodie et al. (2009) states that a company reputation is acquired from a customer's overall purchasing experience. That is, the perceived service quality has an impact on company image and reputation status. Reputation or company image hence influences a customer's evaluation on service quality, satisfaction and loyalty (Ryu et al., 2012).

## **Physical Environmental Quality**

Researchers have determined the essential elements of the physical environment, for example, décor and artefacts, spatial format, and ambient conditions that are particularly fitting to the service industry in numerous hypothetical and experimental examinations (Nguyen & Leblanc, 2002; Wakefield & Blodgett, 1996). These three elements have been over and over connected in most research identified with the physical environment. They are considered as the most reasonable characteristics of the physical environment for customer conduct contemplate in service settings (Nguyen & Leblanc, 2002; Wakefield & Blodgett, 1996).

First component is décor and artefacts. According to Wakefield and Blodgett (1996), décor and artefacts conduce to the pleasing of the physical surroundings. Customers are probably going to assess the structure of the inside plans of a spa including the nature of the materials utilized in development, work of art, and embellishment. Customers' assessments of the physical environmental quality and whole stylish impression are affected by different parts of inside plans just as artefacts (Bitner, 1992).

Second component is spatial layout. The physical environment in service settings can be referred to the place where the service provider fulfil customers' specific needs and wants, thus appropriate spatial layout of the physical surroundings is extremely important (Bitner, 1992). Spatial layout focuses on the game plan of articles, for example, furniture and gear, as per the necessities of the service delivery process (Nguyen & Leblanc, 2002).

Last component is ambient conditions. Ambient conditions are intangible background features. It gives an intuitive impact on client perceptions and reactions to the physical surroundings (Nguyen & Leblanc, 2002). Wonderful aroma, decent music, agreeable temperature, low clamour level, and fitting lighting, all orchestrating with different components in a spa, may prompt a good customer loyalty.

## **RELATIONSHIP BETWEEN SERVICE QUALITY, REPUTATION, PHYSICAL ENVIRONMENTAL QUALITY AND CUSTOMER LOYALTY**

According to Zeithaml et al. (1990), it is said that service quality is served as the dominant factor which affects customer loyalty. Some researchers made comparison on the prescient strength of service quality with different indicators of customer loyalty, for example, price, value and cleanliness. In consequence, they found that service quality gives the strongest effect on customer loyalty intentions among all the predictors (Bloemer et al., 2009).

On the other hand, signalling theory gives a framework to show the observational connection among reputation and customer loyalty (Brodie et al., 2009). A study that made use of signalling theory to an online environment found that reputation plays a

crucial role for customers while ascertaining the service quality of an online retailer (Chen & Dubinsky, 2003; Kwon & Lennon, 2009). Along these lines, a positive reputation emerges to stimulate customer loyalty to the service providers.

Physical environmental quality could be another factor that influences spa customer loyalty. Heung and Gu (2012) revealed that spa atmospherics, namely: facility aesthetics, ambience, spatial layout, employee factors, and the view from the window have a significant influence on customer satisfaction and customers' revisit intentions. Similarly, Ryu et al. (2010) indicated that physical environment including appealing inside structure, wonderful music, colour and lighting is a noteworthy indicator of customer loyalty.

### Research Hypothesis

In this study, there were three hypotheses.

H1: There is an association between service quality and spa loyalty among spa customers in Kota Bharu, Kelantan.

H2: There is an association between reputation and spa loyalty among spa customers in Kota Bharu, Kelantan.

H3: There is an association between physical environmental quality and spa loyalty among spa customers in Kota Bharu, Kelantan.

### Research Framework

A research framework was designed to determine the association between service quality, reputation, physical environmental quality and spa customer loyalty in Kota Bharu, Kelantan.

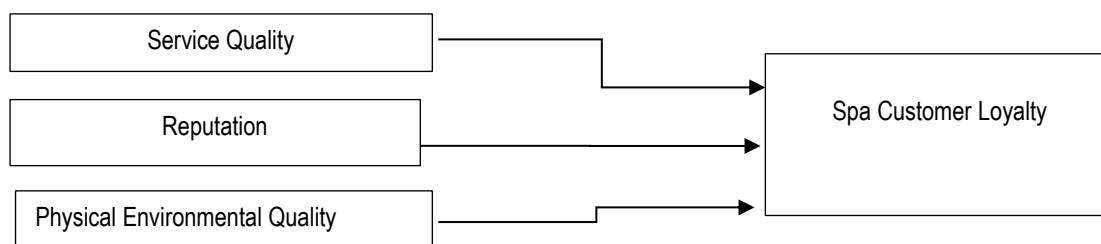


Figure 1: Research framework of Factors Influencing Spa Customer Loyalty

Source: *The role of conceptual frameworks in epidemiological analysis*

(Victoria, C. G., Huttly, S. R., Fuchs, S. C., & Olinto, M. T., 1997)

## METHODOLOGY

### Research Design

The data collection method in this study is quantitative approach. This study used the quantitative method that generates statistics through the use of large-scale survey research, using method such as questionnaires or structured interviews (Kumar et al., 2013). A well-structured questionnaire was designed and distributed to acquire the data on customer loyalty towards the spa centres in Kota Bharu.

### Data Collection

Both the primary data and secondary data were used in this study. Primary data can be referred as an original source where it is being collected from first hand-experience. The data generated from the survey is categorized as the primary source for our study. The collecting of secondary data is much more cost-effective as compared to the primary data. We made use of the existing data. For instance, we took the data available in Internet while conducting literature review.



## Sampling

A convenience sample comprising 384 adults was selected. A convenience sample was described as the use of readily accessible persons in a study (LoBiondo-Wood & Haber, 2014). It will be so much easier to select a sample to be studied rather than attempting to do research for the entire population in Kota Bharu area. Non-probability sampling and convenience sampling were used in this study due to the time, cost and human resources constraints. The researcher finds it easy to acquire participants, yet the danger of getting bias is higher than in a random sample, because each member of the population does not have an equal chance of being included in the sample. Obtained results might not be generalizable to the entire population.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula will be shown as below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

## Data Analysis

The data collected from questionnaires were compiled, sorted, analyzed, classified and coded into a coding sheet. Pilot test was conducted before the questionnaires being distributed to 20 respondents. Next, it was then being analysed by using a computerized data analysis package known as Statistical Package for Social Science (SPSS) 19.0. Descriptive analysis was used to describe the biographic information of the respondents. Moreover, a series of Pearson Correlation Coefficient was performed to identify the significant relationship among the variables in this study. There were three data types of data analysis used in this study, that were frequency analysis, descriptive analysis and reliability analysis.

## FINDINGS

Table 4.2.1: Distribution of Respondents According to Demographic Characteristics

Respondent's details	Frequency (n = 384)	Percentage (%)
Gender		
Male	77	20.1
Female	307	79.9
Age Group		
18 - 24	140	36.5
25 - 34	168	43.8
35 - 44	49	12.8
45 - 54	19	4.9

<b>Respondent's details</b>	<b>Frequency</b> (n = 384)	<b>Percentage</b> (%)
55 and above	8	2.1
<b>Race</b>		
Malay	148	38.5
Chinese	145	37.8
Indian	60	15.6
Others	31	8.1
<b>Marital Status</b>		
Single	225	58.6
Married	154	40.1
Divorced	5	1.3
<b>Occupation</b>		
Employed	164	42.7
Unemployed	54	14.1
Self-employed	58	15.1
Retiree	8	2.1
Student	100	26.0
<b>Education Level</b>		
SPM	177	46.1
Diploma/Matriculation/STPM	97	25.3
Degree	101	26.3
Master	9	2.3
<b>Income</b>		
≤ RM 1, 000	129	33.6
RM 1, 100 – RM 2, 000	114	29.7
RM 2, 100 – RM 3, 000	71	18.5
RM 3, 100 – RM 4, 000	36	9.4
≥ RM 4, 100	34	8.9
<b>Frequency of spa products or services consumption</b>		
1 time	190	49.5
2 times	140	36.5
3 times	38	9.9
4 times	10	2.6

<b>Respondent's details</b>	<b>Frequency</b> (n = 384)	<b>Percentage</b> (%)
More than 4 times	6	1.6

Referring to the Table 4.2.1, majority of the spa customers in Kota Bharu are female as the percentage of female customers is about 80 percent. According to Camillo (2015), females undergo greater levels of pressure due to the needs to balance between work and family. But, it has been a growth in the number of male visitors over the last few years, though there has not been a big alteration in the male or female ratio (Prantik et al., 2013). As regard to the gender of the spa visitors, most spas still have more female than male consumers.

In terms of age, majority of the spa guests are between 25 – 34 years old (43.8 percent), followed by the group of ages 18 – 24. According to Roque and Felicen (2017), young adults are more likely to have sustainable vocation and family.

In the context of race, it is about 38.5 percent of the respondents are Malay. The second highest customer group goes to the Chinese people (37.8 percent), followed by the Indian respondents (15.6 percent), and the minority belongs to the group of others (8.1 percent). According to Department of Statistics Malaysia (2019), the population of bumiputera in Kelantan is stated as the highest, 1,762.9 thousand, accounting for 93 percent.

Out of 384 respondents, there is about 58.6 percent of the respondents are single. While those who are married accounting for 40.1 percent. Malaysia: Employed Persons (Marital Status), 1982-2017 - knoema.com (2018) proposed that single population in Kelantan increased from 98.6 thousand in 1998 to 211.1 thousand in 2017 growing at an average annual rate of 4.41 percent.

Of the respondents, the highest group of the spa customers goes to the full time workers. Students (26 percent) and self-employed (15.1 percent) are the next highest groups. 7 thousand employed in 2018 was growing at an average annual rate of 3.35 percent (Malaysia: Employed Persons by Employment status, 1982-2017 - knoema.com, 2018).

In respect of education level, it is approximately 48 percent of the respondents had completed a high school degree. 26 percent of the respondents had completed bachelor degree or higher. According to Deputy Education Minister, Teo Nie Ching, the government is currently reforming the Education Act to make it compulsory for students to complete their schooling from Year One till Form Five (SPM).

Most of their income is ranged from RM 1, 000 to RM 3, 000. It is about half of the respondents will visit spa at least once in a month. As Y.B.M. Kelantan prince Dato 'Tengku Mohamad Rizam said that there was a total of 58,000 people in Kelantan are categorized as poor and their income ranged from RM 1, 800 to RM 2, 500 since 2012.

The next highest refers to those who visit spa twice monthly. This findings can be explained as great majority of the respondents are of low income earners. According to Trihas and Konstantarou (2016), the main reason of these people to visit a spa is for relaxation. The other reasons mentioned are physical health enhancement, beauty and anti-aging treatments, nosiness as well as mental health improvement.

Table 4.2.6: Average Mean of Independent Variables and Dependent Variable

<b>Variables</b>	<b>n</b>	<b>Mean</b>	<b>Standard Deviation</b>
Customer Loyalty	384	3.42	0. 591
Service Quality	384	4.23	0. 787
Reputation	384	4.25	0.683
Physical Environmental Quality	384	4.12	0.832

Table 4.2.6 presents the average mean value of independent variables (service quality, reputation, physical environmental quality) and dependent variable (customer loyalty). As shown in the table, the mean values of all independent variables has reached about 4. This means that respondents strongly agree with that three variables which contribute to the factors

influencing customer loyalty in spa at Kota Bharu area. Among the three independent variables, reputation gained the greatest mean value (4.25), followed by the service quality (4.23) and physical environmental quality (4.12).

Table 4.3.1: Pearson Correlation between Service Quality and Spa Customer Loyalty

Variables		Service Quality	Spa Customer Loyalty
<b>Service Quality</b>	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	384	384
<b>Customer Loyalty</b>	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	384	384

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 4.3.1 shows the correlation analysis between service quality and customer loyalty in spa. It reveals that, there is a significant relationship between service quality and spa customer loyalty with the result of ( $r = 0.634$ ,  $p < 0.001$ ). As for the significant level of this variable, it also shows a positive outcome with the value less than 0.001. Therefore, H1 is accepted.

The positive value of Pearson Correlation 0.634\*\* indicates that the relationship between service quality and customer loyalty is in positive level. It means 63.4 percent of the dependent variable (spa customer loyalty) is influenced by the independent variable (service quality), the result of this hypothesis is supported. Hence, the correlation between service quality and customer loyalty is highly significant. As regard to the result, the researchers assume that service quality is among the factors which influencing customer loyalty in spa.

Table 4.3.2: Pearson Correlation between Reputation and Spa Customer Loyalty

Variables		Reputation	Spa Customer Loyalty
<b>Reputation</b>	Pearson Correlation	1	.692**
	Sig. (2-tailed)		.000
	N	384	384
<b>Customer Loyalty</b>	Pearson Correlation	.692**	1
	Sig. (2-tailed)	.000	
	N	384	384

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 4.3.2 depicts the correlation analysis between reputation and customer loyalty in spa at Kota Bharu. According to the table above, it shows that there is a significant relationship between reputation and spa customer loyalty with the result of ( $r = 0.692$ ,  $p < 0.001$ ). As regard to the significant level of this variable, a positive outcome can be concluded as the value is less than 0.001. Thus, H2 is supported.

The positive value of Pearson Correlation 0.692\*\* signifies that the relationship between reputation and spa customer loyalty is of positive level. It implies that 69.2 percent of the independent variable (reputation) gives contribution on the dependent variable (spa customer loyalty). The result of p-value equal to 0.000 suggests that the correlation between reputation and customer loyalty is highly significant. Hence, undoubtedly, reputation can be served as one of the important factors which influences customer loyalty in spa.

Table 4.3.3: Pearson Correlation between Physical Environmental Quality and Spa Customer Loyalty

Variables		Physical Quality	Environmental	Spa Loyalty	Customer
<b>Physical Quality</b>	Pearson Correlation	1		.647**	
	Sig. (2-tailed)			.000	
	N	384		384	
<b>Customer Loyalty</b>	Pearson Correlation	.647**		1	
	Sig. (2-tailed)	.000			
	N	384		384	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 4.3.3 exhibits the result of correlation analysis between physical environmental quality and customer loyalty in spa at Kota Bharu. According to the analysis, a significant relationship between physical environmental quality and spa customer loyalty is pointed out with the result of ( $r = 0.647$ ,  $p < 0.001$ ). In response to the significant level of the variable, a positive outcome can be concluded with the value of less than 0.001. Hence, H3 is accepted.

The positive value of Pearson Correlation 0.647\*\* evinces that the relationship between physical environmental quality and customer loyalty is of positive level. It denotes that 64.7 percent of the independent variable (physical environmental quality) makes an influence on the dependent variable (spa customer loyalty). A significant correlation between physical environmental quality and customer loyalty can be answered in response to the result of p-value less than 0.001. Hence, clearly, physical environmental quality is one of the important factors which influences customer loyalty in spa.

Table 4.4: Research Findings and Supporting Journals

Variables	Research Findings	Supporting Journals
Service Quality <b>VS</b> Spa Customer Loyalty	$r = 0.634$ , $p < 0.001$	a. Gracia et al. (2011)
	-Supported-	b. Mosahab et al. (2010)
		c. Lee (2013)
Reputation <b>VS</b> Spa Customer Loyalty	$r = 0.692$ , $p < 0.001$	a. Gul (2014)
	-Supported-	b. Leaniz & Rodriguez (2016)
		c. Walsh (2009)
Physical Environmental Quality <b>VS</b> Spa Customer Loyalty	$r = 0.647$ , $p < 0.001$	a. Seo (2015)
	-Supported-	b. Ryu & Han (2012)
		c. Thongkern (2016)

The first research objective is to determine the association between service quality and spa loyalty among spa customers in Kota Bharu, Kelantan. Eventually, this research objective was met and the findings showed that there is a significant relationship between service quality and spa customer loyalty with the result of ( $r = 0.634$ ,  $p < 0.001$ ). This findings is supported by previous studies. For instance, high quality of services is proven to be the most significantly influencing factor towards customer loyalty in spa, and that service quality is still essential to improve customer retention as well as to maintain

competitiveness according to Lee (2013). Mosahab et al. (2010) claimed that service quality has a correlation with customer loyalty, and approximately 45 percent of loyalty changes can be explicated by service quality variations.

The next research objective is to determine the association between reputation and spa loyalty among spa customers in Kota Bharu, Kelantan. After all, this research objective was reached according to the findings which indicates a significant association between reputation and spa customer loyalty with the result of ( $r = 0.692$ ,  $p < 0.001$ ). This research outcome corresponds with some of the past studies. For example, Walsh et al. (2009) proposed that reputation is a significant predictor of customer loyalty. It demonstrates a strong impact on customer loyalty. Furthermore, Leaniz and Rodriguez (2016) said that spas that are managed to improve their reputation will be in a better position to gain customer loyalty.

The third research objective is to determine the association between physical environmental quality and spa loyalty among spa customers in Kota Bharu, Kelantan. On a final note, this research objective was achieved in response to the outcome where it signifies a correlation between physical environmental quality and spa customer loyalty with the result of ( $r = 0.647$ ,  $p < 0.001$ ). As a reference, Seo (2015) also suggested a significant impact of physical environmental quality on spa customer loyalty. From the findings it emerges as follows; customer loyalty, which is highly influenced by quality of physical environment, has a high positive impact on customers' retention as well as word of mouth in spa.

## **DISCUSSION & RECOMMENDATION**

The study provides initial empirical evidence of spa customer loyalty towards the service quality, reputation and physical environmental quality of the spas in Kota Bharu, Kelantan. The spas in Kota Bharu can use the current findings as to develop their strategies in enhancing their quality of services, and thus improving customer loyalty level. The current findings can be served as a reference to review and determine what policies and strategies should be employed in order to achieve higher spa loyalty. Spas provide various types of services, especially the hotel spa, hence, future researchers can try doing their study based on different services in different geographical areas and measure other variables to gain new knowledge or findings.

Besides that, the future researchers are suggested to broaden the sample size in further study as there are only 384 respondents in the present research. The larger the sample size, the more the result can represent the population. Every spa centre differs from each other in their way of delivering services, building reputation and managing physical environmental quality. Hence, the future researchers are recommended to conduct a similar research in other states of Malaysia and enlarge the sample size as to generate more information from a different and larger population.

Next, future researchers can consider to use different data collection methods such as observation and interview. When it comes to interview, there are various methods in interviewing such as face to face interview, telephone interview or even Computer Assisted Personal Interview (CAPI) to collect feedbacks from respondents.

## **CONCLUSION**

This study determined the association between service quality, reputation, physical environmental quality and spa loyalty among spa customers in Kota Bharu, Kelantan. The findings of this study concluded about the gender of the spa visitors, whereby female are more than male consumers. Factors of age, race, and marital status did not influence the spa customer loyalty to visit spa. Out of 384 respondents, there is about 58.6 percent of the respondents are single. Other than that, the highest group of the spa customers goes to spa is full time employee. However, respondent who completed a high school degree and earns low household income will influence the frequency of visiting to a spa. Other reasons mentioned on spa customer revisit are for physical health enhancement, beauty and anti-aging treatments, nosiness as well as mental health improvement.

Effective marketing strategies are crucial for the spa and wellness centres as the competition in the spa industry is getting fierce. Managers have to manage their services in a professional way. Both executives and researchers have the opportunity to underscore on the issues of service quality observations and loyalty of clients in reacting to the rising sovereignty of services in the spa industry. Studying customer perceptions on service experiences is always an indispensable step in order to succeed and sustain within the service industry (Al-alak & Alnawas, 2010; Kelley & Turley, 2001; Rust & Oliver, 1993). Throughout the research, the researchers analysed the data collected from the respondents. Reliability test, descriptive statistics, and Pearson Correlation are all the methods used in order to measure the validity and outcomes of the study. In a nutshell, it can be said that all the data are analysed successfully. The researchers proposed that all the hypotheses in this study are supported.

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## Quality of Life of Women with Dysmenorrhea in Kota Bharu, Kelantan

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### ABSTRACT

Dysmenorrhea is a common problem, yet it is rarely taken into consideration when assessing adolescents' health and life experiences. The high prevalence of dysmenorrhea among adolescents especially in the early years of their reproductive life, influences their daily activities including school absenteeism, and is thus a public health problem (Fridman & Della, 2012). A descriptive cross-sectional study was carried out in Feb-Oct 2019 in Kota Bharu, Kelantan, Malaysia to determine the prevalence of dysmenorrhea and the quality of life among women from the view of physical functioning, emotional well-being and bodily pain. A total of 384 women have been selected by using purposive sampling technique and convenience sampling selection method. Data was collected using Short form 36 (SF 36) questionnaire. Data was analyzed by using SPSS version 25.0. The response rate was 100%. Age of respondents were between 15 to 46 years old with the mean age of  $24.67 \pm 6.294$  years. Results indicated that 76.3 % respondents are having dysmenorrhea. Generally, majority of respondents who are having dysmenorrhea are young adults who are 23 years old. Bivariate chi-square analysis indicated that social demographics are significantly associated with dysmenorrhea including age, race and marital status. Bivariate chi-square analysis also indicated that social economic is not significantly associated with dysmenorrhea including education level, occupational status and income level. Independent sample t-test showed that there is significant difference in quality of life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea. Women with dysmenorrhea have low quality of life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health). Risk factors of age, race, and marital status will influence the occurrence of dysmenorrhea. Meanwhile risk factors of educational level, occupational status and income level did not influence the occurrence of dysmenorrhea. This study indicates that the occurrence of dysmenorrhea will influence their quality of life regarding in eight domains.

**Keywords:** *Dysmenorrhea and Quality of Life*

### INTRODUCTION

Feminine cycle is a characteristic wonder which is a significant pointer of ladies' wellbeing, reflecting as it does their endocrine capacity. Dysmenorrhea is a typical issue, yet it is once in a while contemplated when surveying young people's wellbeing and educational encounters. The high predominance of dysmenorrhea among youths particularly in the early long periods of their conceptive life, impacts their day by day exercises including school non-appearance, and is along these lines a general medical issue (Fridman & Della, 2012).

Dysmenorrhea is gotten from the Greek words 'dys' which means troublesome, excruciating or strange, 'meno' which means month, and 'rrhea' which means stream. The term dysmenorrhea alludes to difficult feminine cycle. Dysmenorrhea is an issue works like torment in the lower stomach area that transmits to upper midriff, midsection and thighs and some of the time is joined by fundamental manifestations like sickness, retching, looseness of the bowels, cerebral pain and tipsiness (Beckman, 2004).

Period is a characteristic occasion as a piece of the ordinary procedure of conceptive life in females. Because of the present stationary way of life and absence of activity, dysmenorrhea is turning into the present copying issue all through the world which makes uneasiness for ladies' every day following day exercises and may bring about missing work or school, failure to take an interest in games or different exercises. A deliberate survey of concentrates in creating nations performed has uncovered that around 25-half of grown-up ladies and about 75% of teenagers experience torment during period, with 05-20% revealing extreme dysmenorrhea or torment (Harlow, Campbell & Rao, 2008).

There are two sorts of dysmenorrhea. Essential dysmenorrhea is the agony related to ovulation cycles, without obvious injuries that influence the regenerative organs. Essential dysmenorrhea is identified with myometrium withdrawals incited by prostaglandins (Pgs) beginning in secretory endometrium, which results in uterine ischemia and torment (Harel, 2002).

This study aims to investigate the association between social demographics and social economic characteristics with the occurrence of dysmenorrhea among women in Kota Bharu, Kelantan. This study also aims to determine the significant difference in quality of life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea.

There are three objectives of this research:

1. To identify the prevalence of dysmenorrhea among women in Kota Bharu, Kelantan.
2. To identify the social demographic and social economic characteristics among women with dysmenorrhea in Kota Bharu, Kelantan.
3. To determine the association between social demographic and social economic characteristics with the occurrence of dysmenorrhea among women in Kota Bharu, Kelantan.
4. To determine the significant difference in quality of life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea.

### **Significance of the Study**

#### **Ministry of Health**

This study can be referred to help women from the age of 11 years until 45 years old to prevent their quality of their life from being affected.

#### **Government**

Government can use this study to spread the knowledge that can be gained from this study to every social class of the society in Malaysia. It is because government is the most important association to the society. The results from this study can be used by the government to give the awareness to all the women about the dysmenorrhea which can affect the quality of women life.

#### **Health Care Provider**

This study will help the health care provider to help the women who are having the dysmenorrhea to prevent their quality of their life from being affected. Health care professional can gain lots of information about dysmenorrhea, so health care professional can answer all of the questions that will be asked about the dysmenorrhea. Health care provider will give advice, explain, and educate women about the effects of dysmenorrhea to the quality of women life. Then, health care provider can provide the knowledge about how to treat the dysmenorrhea among the society.

#### **Society**

This study might increase the level of awareness about dysmenorrhea among the society. Society will know about the signs of the dysmenorrhea and also can recognise the types of dysmenorrhea. Then, society also can gain the knowledge about the habits which can lead an adolescent who is in the early age of menarche to have the dysmenorrhea.

## **LITERATURE REVIEW**

### **Dysmenorrhea**

Dysmenorrhea is the painful cramp during the menstrual. Menstrual is the normal psychological process for women which will happen every month. Usually this process will lead to the discomfort and also affecting women's daily movements or activities. There are some of the women who will face the dysmenorrhoea routinely in every month but there are some of them who only faced the dysmenorrhoea at the early ages of menarche. Dysmenorrhea is the most common gynaecologic problem which happens in any types of ages and races for all women said especially in the reproductive ages (Michelle & Cynthia, 2006). Next, dysmenorrhoea also can lead to the pelvic pain (Bope, Laeth & Edward, 2004).

### **Symptoms of Dysmenorrhea**

There are a few dysmenorrhea symptoms. This symptom was different due to the types of the dysmenorrhea. For the primary dysmenorrhea, the cramps will start during or before the menstrual. Usually, the pain will last about 1 until 3 days during the menstrual. Next, they will also be facing nausea, vomiting, fatigue and also diarrhoea. Women who have the primary

dysmenorrhea will feel the pain at their lower abdomen and they also can feel it in their hips, lower back and thigh during their menstrual (Windham, 2018).

Next, for the secondary dysmenorrhea, women will feel the cramps few days before the period started and it will last longer than normal menstrual cycle. Women who have the secondary dysmenorrhea will feel the heaviness at their lower abdomen and back pain. They also will have the symptoms like heavy or irregular periods bleeding in-between periods and they feel painful and bleeding after having sex (Fariha, 2013). Concerning the sites of pain, two-thirds of the analysed sample, the pain mostly happens in the lower abdomen and back. This result is by Rabiepoor (2017) who recorded that 87.6% of teenagers who participated in the study have menstrual pain in the lower abdomen and back. Another study by Pumford, (2012) reported 84% of studied girls have menstrual pain in the stomach and lower back.

### **Age**

An investigation in Mangalore, India which included 560 female medicinal understudies, found 87% predominance of dysmenorrhea (Shrotriya, 2012). Another investigation in Gwalior, India includes 970 pre-adult young ladies of age 15 to 20 years concentrating in the higher optional schools (pre-college universities) announced a commonness of 71.96% whereby these pre-adult young ladies experience various physical and enthusiastic side effects related with dysmenorrhea (Agarwal and Agarwal, 2010).

It was seen as 72.4% among college understudies from India, (Unsal, Ayranci, 2010) and 70% from Italy (Rigon, Sanctis, Bernasuni, 2012). These varieties might be because of contrasts between the objective populaces, way of life, or due to nonappearance of an institutionalized all around acknowledged strategy for characterizing dysmenorrhea. (Chia Lai, Cheung Kwong, 2013) It was accounted for that 21.7% of the Iranian matured ladies 16 - 56 years experienced serious torment. The reasons for disparities might be ascribed to more youthful period of members in the present examination or because of various utilized scales. (Travallae, Jffres 2010).

The most elevated number of ladies having dysmenorrhea, 57%, was seen at the age of 14 (Patel & Tanksale, 2006). Dysmenorrhea is known to cause physical and social handicaps bringing about school or class nonappearance and repressing games and school exercises. A cross-sectional examination directed in an open auxiliary school in Selangor included 300 female understudies (12 to 17 years of age) found a 62.3% commonness of dysmenorrhea and noted to be altogether higher in the center puberty (15 to 17 years of age) age bunch with a general 38% school nonappearance (Liliwati, 2007).

### **Ethnicity**

An aggregate of 292 female college understudies took part in this investigation of Premenstrual Symptoms and Dysmenorrhea Associated with Daily Routine Activities among Female Undergraduate Medical Students at Melaka, and reaction rate was 83.43%. 41.8% were Malays, 34.2% were Chinese and 24% were Indians (Htoo, Nan, & Htay 2017). Here, it demonstrates that distinctive ethnicity has influenced their state of ways of life and personal satisfaction. As per Cho and Lam (2016), an examination towards Chinese pre-adult young ladies that had been led demonstrated essentially lower scores in the areas of social working, and physical job contrasted and ladies who did not report dysmenorrhea. An enormous cross-sectional investigation which included 16 open auxiliary schools in country areas of Kelantan found that dysmenorrhea was accounted for in 76.0% of the members (Wong, 2011).

### **Marital Status**

A Nepali report among youthful, unmarried, non-smoker female restorative college understudies matured 18-20 years showed a positive connection between mental pressure (upheld by stress scores) and dysmenorrhea (Pramanik, Shrestha, Sherpa and Adhikari, 2010). Additionally, Chinese 8 investigations demonstrated a noteworthy relationship among stress and the occurrence of dysmenorrhea, which is considerably more grounded among ladies with a background marked by dysmenorrhea (Wang, 2004).

In Brazil, a predominance of 86% was noted for dysmenorrhea in female undergrad wellbeing understudies at a foundation of advanced education (Brito, Marques and Alves, 2012). In the interim, in a Mexican report enlisting prescription, nursing, sustenance, dentistry, drug store and brain science understudies, the dysmenorrhea pervasiveness was 62.4% and the torment that these ladies endure can be serious, crippling and bring about transient truancy (Ortiz, 2010).

## **Education**

From the studies of Ohde, Tokuda, Takahashi, Yanai, Hinohara and Fukui (2008) and Patel, Tanksale and Sahasrabhojane (2006), stated that years of education and dysmenorrhea has no significant associations. However, the result from study of Habibi et al. (2015) has stated that as years of formal education increased, severity of primary dysmenorrhea was significantly lower, as years of education increased, women are more able to handle with dysmenorrhea. Results from the current study showed that peer-led self-care education is effective at helping health behaviours and reducing pain in primary dysmenorrhea girls (Crotty, Prendergast, Battersby, Rowett, Graves & Leach, 2009).

Data differs from the results showed that as the higher the education level, adolescent girls will be having proper education about menstruation in order to prevent and reduce the risk of menstrual problems (Chan, Yiu, Yuen, Sahota, Chung, 2009). This could be related to the fact that those female girls who had previously received health education would have more effective care and thereby a greater ability to alleviate symptoms of dysmenorrhea. Previous experience of menstrual health education also impacts the condition of dysmenorrhea and its treatment, and it usually affects menstruation attitude.

## **Occupation**

Based on the study of Lebel (2008), it claimed that each profession has its own specific and common stressful factors, whereby different occupations will have dissimilar occupational stress intensities. Stress is a main occupational risk for all individuals who work in human services. Careers with safety-sensitive will give great impact on individual's health condition, working during unusual hours also will affect the sleep-wake cycles and attentiveness.

The findings of the current study showed that occupational pressure would increase the risk of intense dysmenorrhea so the prevalence of dysmenorrhea among working women was high (Lebel, 2008). This might have a connection with the study from Kordi, Mohamadirizi and Shakeri (2013), of which the study stated that women with occupational stress will increase the severity of dysmenorrhea. The findings revealed a positive relationship between occupation and dysmenorrhea. Moreover, as women enter the work environment and contend with social stressors, they are gradually feeling physical and mental stresses. Working women have a higher dysmenorrhea prevalence compared to non-working women (Chung, Kim, Jung, Lee, Jeon, Park, & Kim, 2014).

## **Income level**

According to Hailemeskel, Demissie, and Assefa (2016) and Solomon, Asrate and Nigussie (2016) stated that students with high monthly income have higher risk of primary dysmenorrhea as compared with students who have low monthly income. Moreover, Akhavanakbari and Ahangar (2010) reported that there was significant association between dysmenorrhea and economic situation, but they did not describe "economic situation" and they also gave no report of the direction of association.

In comparison, Ohde et al. (2008) reported that there was no correlation between monthly income and primary dysmenorrhea severity and that there was no significant association between dysmenorrhea and household income that was consistent with the results of a cohort study among Japanese women. Hence, the association between dysmenorrhea and income level will need further research.

## **Quality of Life (QoL) Of Women With Dysmenorrhea**

The World Health Organization (WHO, 1998) describes quality of life (QoL) as the perception or fulfilment of a person towards their position in life in the background of the community and value systems in which they live and include their goals, interests, aspirations and standards. There are eight domains that will be used to measure the quality of life which consist of physical functioning (PF), role physical (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role-emotional (RE), and mental health (MH) (Lins & Carvalho, 2016).

### **Physical Functioning (PF)**

Physical functioning can be defined as the capability to manage a diversity of activities varying from self-care to more challenging activities that can boost the degrees of movement, stamina, endurance and strength (Michelle & Michelle 2016). A research conducted in Australia revealed that women with dysmenorrhoea have a lower score in the domain of physical functioning than women without dysmenorrhea (Nur, Sancu, Moore & Grover, 2013). Another study in India involving 311 medical students also showed students with dysmenorrhea have lower scores in the domains (physical functioning, role-physical, bodily pain, general health perception, and vitality) (Shewte & Sirpurkar, 2016). Based on the study in Taiwan that

comprises of 417 students also revealed that adolescents or female with dysmenorrhoea had the lowest quality of life scores in the domain of physical functioning.

### **Role Physical (RP)**

Role physical (RP) was how an individual can accomplish or perform their physical activities to maintain health. The role physical actually can reduce the development of the disease. For example, the role physical that can be trained by an individual daily were cycling, walking and running (Fitness Australia, 2018). A study in Turkey showed lower scores for indicators of QoL in role physical (36.6%) and general health (40.2%) among females with dysmenorrhea (Alaettin, Unal, Mustafa, Gul & Elif, 2010). Another study in Georgia also revealed women with dysmenorrhea scored significantly lower in the domains of role-physical and bodily pain (Gagua & Tkeshelashvili, 2012). Similarly to the previous study that had been carried out in Australia also recorded that women with dysmenorrhoea have a lower role physical score in quality of life than women without dysmenorrhea (Nur, Sancu, Moore & Grover, 2013).

### **Bodily Pain (BP)**

International Association for the Study of Pain (IASP) defined pain as a practical characterization of that individual experience (Cohen, Quintner & Van Rysewyk, 2018). Pain also is a commonly recognizable bodily experience that helps to diagnose further problems of the disease (Cohen, Quintner & Van Rysewyk, 2018). Medical Outcomes Study (MOS) defined bodily pain as an intensity of pain/extent of pain disrupting with routine work (William, 2006). A study in Hong Kong involving 235 females reported the lowest score in the domain of bodily pain among teenagers with dysmenorrhea (Choo & Lam, 2018). Another study in Georgia obtained a high prevalence of young girls among the population of Tbilisi with dysmenorrhoea, who reported that their daily living was affected by pain (67.0%) (Gagua & Tkeshelashvili, 2012). Results proved that adolescents with dysmenorrhoea who had the lowest quality of life scores in the bodily pain domain will give effect on academic achievements, school attendances, daily activities and social life (Chan & Chen, 2009).

### **General Health (GH)**

The World Health Organization (WHO, 2006) defined general health as an evaluation of individual health from the perspective of physical, mental, and social well-being. Health also leads to the state of physical health and whole emotional which encourages people to maintain health (Christian Nordqvist, 2017). A study that had been conducted among university students in Turkey indicated the lower score in general health (35.6%), bodily pain (42.6%) and physical functioning (48.5%) (Cakir, Karakas & Okten, 2007). Another cross-sectional and descriptive study that had been conducted in Spain showed the lowest score in the domain of general health among female nursing students of the Faculty of Nursing of Ciudad Real (Fernández-Martínez, Onieva-Zafra, & Parra-Fernández, 2019).

### **Vitality (VT)**

Self-determination theory comes from the origin of the concept of vitality is based on the Ryan and Deci (2000). According to Seydi and Ahmet (2013), subjective vitality as a representation of both organismic and psychological wellness and therefore expect it to be influenced by both psychological and bodily factors and as a determinant of mental positive energy (Sarıçam, 2016). A study of the prevalence of dysmenorrhea from Alaettin, Unal, Mustafa, Gul and Elif (2010) stated that the score for SF-36 domains that was been received which consists of physical functioning, role-physical, bodily pain, general health perception, and vitality were significantly lower in students with dysmenorrhea. The score from all the domains of SF-36 will decrease when the severity of dysmenorrhea increased, showing the consistency with the study by Heba, Osman, Amira and El (2016).

### **Social Functioning (SF)**

Social functioning was defined as individual communication with their surroundings (Farlex & Partners, 2009). Medical Dictionary (2009) defined social functioning as the ability of an individual to communicate and achieve their role in an environment such as work, social activities, and the bond between family, friends and other people. According to Cho and Lam (2018), a study towards Chinese adolescent girls that had been conducted showed significantly lower scores in the domains of social functioning, and physical role compared with women who do not report dysmenorrhea. Another study in Hong Kong also showed lower scores in quality of life among female students with dysmenorrhea in social functioning (Chia, Cheung, Kwong & Leung, 2013)

## **Role Emotional (RE)**

According to Horberg, Oveis and Keltner (2011), emotion is a mental state that related to feelings, perception, behavioural responses and a degree of pleasure or displeasure. An emotion also led to feelings such as pleasure, happiness, love, anxiety, anger, or hatred towards someone or something (Gendron, 2010). Research on 623 university students from Turkey recorded significantly lower scores in students with dysmenorrhea from many of the SF-36 domains (role psychological, body pain, general health perception and vitality) (Alaettin, Unal, Mustafa, Gul & Elif, 2010). The research in Taiwan involving 417 female students found that dysmenorrhea affects the mood of the participants (74.8%), daily activities (73.1%), academic performance (64.6%) and social life (50.1%) (Wong, 2018).

## **Mental Health (MT)**

Mental health (MH) is described by the World Health Organization (WHO, 2014) as a state of well-being in which individuals are able to conceive, realize their potential, cope with the daily stresses of life, work productively and also contribute to their society. Mental health also is related to mood evaluation and rating of the latest health compared with 1 year ago. A research by Shewte and Sirpurkar (2016) recorded that dysmenorrhea affects the quality of life in the aspect of mental health among adolescents. In a survey of 400 women between the ages of 14 and 20, the levels of anxiety and depression in women with dysmenorrhea were found to be higher (Gagua & Tkeshelashvili, 2013). Another research investigating the association between personality traits and dysmenorrhea in 49 women found that dysmenorrhea was associated with higher rates of neuroticism-anxiety and depression (Liang, Zhang, Li, Chu, Qin & Lou, 2012).

## **Research Hypothesis**

In this study, there were four hypotheses:

H1: Women with dysmenorrhea to have lower quality of life as compared to women with non-dysmenorrhea.

H2: There are significant associations between social demographic characteristics (age, marital status, and ethnicity) with the occurrence of dysmenorrhea.

H3: There are significant associations between social economic characteristics (education, income, occupational) with the occurrence of dysmenorrhea.

H4: There is statistically significant difference in Quality of Life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea.

## **Research Framework**

A research framework was constructed to determine the prevalence of dysmenorrhea and the level of the quality of life (QoL) among women with dysmenorrhoea in Kota Bharu, Kelantan. In this study, it is also to investigate the connection between sociodemographic characteristics (age, race and marital status) and socioeconomic characteristic (education, occupation and income level) and the occurrence of dysmenorrhea. Moreover, the study also determines the significant difference in Quality of Life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea.

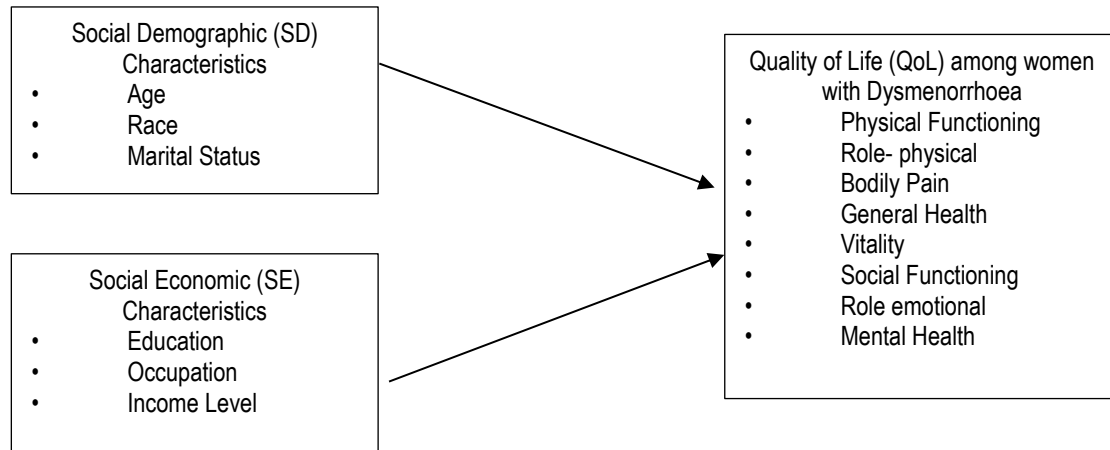


Figure 1: Research framework of Quality of life of women with Dysmenorrhoea in Kota Bharu, Kelantan.

Source: *The role of conceptual frameworks in epidemiological analysis* (Victora, C. G., Huttly, S. R., Fuchs, S. C., & Olinto, M. T., 1997)

## METHODOLOGY

### Research Design

This study is a descriptive cross-sectional that used the quantitative method to determine the prevalence of dysmenorrhoea and the quality of life among women from the regard to eight domains.

### Data Collection

In the first stage, the data collection used in this study is purposive sampling technique. Purposive sampling is a non-probability sample that is selected based on the characteristics of a population and the objective of the study.

The second stage of data collection was questionnaires distribution. A set of questionnaires was distributed to the population to collect the data through convenience sampling. Each individual will be chosen randomly and each individual has the chance to be chosen for the sample as any other subset of individuals.

### Sampling

The survey is based on a research sample of 384 women (Krejcie & Morgan, 1970) who live in Kota Bharu, Kelantan. These 384 women will be chosen randomly to involve in the study and receive the structured questionnaire. The sampling method used in this study was the purposive sampling technique and convenience sampling.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula will be shown as below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three types of data analysis used in this study, that were descriptive statistics such as mean, standard deviation and frequency. Next, inferential statistic which is chi-square test will be applied to determine the differences of association between categorical variables. The data obtained was analysed by using Statistical Package for the Social Science (SPSS), version 25.0.

## FINDINGS

A demographic details of the respondents is illustrated in Table 1. From the table, it shows that the average age was  $24.67 \pm 6.294$ , ranging from 15 to 46, most of the respondents are between 17 and 30 years old. The ethnic composition was Malay (68.5%), followed by Chinese (23.7%) and Indian (6.8%) respectively. 73.4% are single women, majority women are SPM holder. Working respondents recorded 53.1% participation as compared to 46.9% who are not working. Majority of women (52.1%) who have no income and only 3% of women have high income who earn more than RM 5001.

Status of dysmenorrhea was asked through dysmenorrhea. Table 2 shows only 293 of respondent (76.3%) and 91 of household (23.7%) were reported having dysmenorrhea. Majority of respondents are having period pain.

Distribution of dysmenorrhea symptoms presented in Table 3. There were six symptoms here which are back pain, nausea, vomiting, fatigue, diarrhea and breast pain. Generally, the highest symptoms women have gone through are back pain (54.4%); fatigue (46.6%); breast pain (39.8%); nausea (33.6%); vomiting (17.4%); diarrhea (14.3%). The symptom that the respondents have gone through during menstruation is back pain.

Table 4 shows social demographics and social economic characteristic of women with dysmenorrhea. From the table, it shows that majority of respondents who are having dysmenorrhea are young adults who are 23 years old. Most of them are Malay women (85.9 %), women with dysmenorrhea are also high in single status (80.2%). Majority of respondents who have dysmenorrhea are degree holder (35.2 %), not working women have the highest data (47.3%) and most of the women with dysmenorrhea are in no income status (53.9 %).

Table 5 shows the relationship between socio demographic and socio economic with the occurrence of dysmenorrhea among women. Based on the bivariate analysis, there is a significant relationship between age, race and marital status with the occurrence of dysmenorrhea ( $p < 0.005$ ). Respondents who are Malay, in young age and single in marital status showed high risk in occurrence of dysmenorrhea. However, based on the bivariate analysis, there is no significant relationship between educational level, occupational status and income level with occurrence of dysmenorrhea ( $p > 0.005$ ).

Table 6 shows the distribution relationship level of quality of life among women with dysmenorrhea regard to physical functioning, role physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health. As shown in table 6, there are a significant relationships between physical functioning, role physical, bodily pain, general health, vitality, social functioning, role-emotional, mental health with women with dysmenorrhea. The results revealed that the mean scores received from eight domains were significantly lower among women with dysmenorrhea, which physical functioning (mean = 54.29, SD = 28.772); role-physical (mean = 38.91, SD = 33.818); bodily pain (mean = 36.75, SD = 19.345); general health (mean = 52.44, SD = 16.477); Vitality (mean = 48.46, SD = 13.746); Social Functioning (mean = 59.77, SD = 15.655); role-emotional (mean = 36.75, SD = 34.507) and mental health were also significantly lower (mean = 48.79, SD = 13.746).

We found significant relationship between quality of life with regards to eight domains with the occurrence of dysmenorrhea (Table 6). Respondents who are with dysmenorrhea, their quality of life is comparatively low as compared to women without dysmenorrhea.

## DISCUSSION & RECOMMENDATION

From this study, we found a significant relationship that social demographics with dysmenorrhea including age, race and marital status. Majority respondents are young adults, the result is consistent with Patel, Tanksale (2006), indicating that younger age of female adolescents tend to have dysmenorrhea. (Liliwati, 2007) also stated that female students (12 to 17 years old) found 62.3% prevalence of dysmenorrhea and noted to be significantly higher in the middle adolescence (15 to 17 years old) age group.

Malay women with dysmenorrhea have the highest result with 85.9%, and the result is consistent with Wong (2011) which reported that 76.0% of participants who had dysmenorrhea are Malay young adults. Previous study of Htoo, Nan, and Htay (2017) has shown an association between ethnicity and the occurrence of dysmenorrhea. In this study, the result indicated that non-married women with dysmenorrhea have the highest percentage which is 83.3%. This findings was consistent with the previous studies by Pramanik, Shrestha, Sherpa and Adhikari (2010) who said that among young, unmarried, non-smoker female medical undergraduate students aged 18-20 years indicated a positive relationships between dysmenorrhea.



Bivariate chi-square analysis also indicated that social economic is not significantly associated with dysmenorrhea including education level, occupational status and income level. This study has found that there was no significant relationship existed between education level and occurrence of dysmenorrhea with the value of  $X^2 = 0.251$  and P-value = 0.617). This study findings was supported by previous study of Ohde, Tokuda, Takahashi, Yanai, Hinojara and Fukui (2008) and Patel, Tanksale and Sahasrabhojane (2006). However, the previous study by Habibi et al. (2015) has different review, whereby it stated that there is a significant relationship between education level and the occurrence of dysmenorrhea. The reason for discrepancy is not readily apparent, the association maybe due to other factors such as different sample size in the study, sample size in study of Habibi et al. (2015) is about 277 participants. Furthermore, other factor that suggested to be implied such as accessibility of health education, may have a significant contribution to dysmenorrhea instead of educational level.

This study has found that there was no significant relationship existed between occupational status and the occurrence of dysmenorrhea with the value of ( $X^2 = 1.651$ , P-value = 0.199). The above findings contradicts the study by Chung, Kim, Lee, Lee, Jeon, Park, and Kim (2014), Kordi, Mohamadirizi and Shakeri (2013) and Lebel (2008). The previous study examined that women who work tend to have a higher risk of dysmenorrhea as compared to women who do not. Although occupational status is potentially to have association with the occurrence of dysmenorrhea, but it is difficult to come with a firm conclusion because there are only limited number of studies the have reported on these association. The factor for discrepancy with the previous study, maybe due to the factor of different living pattern or lifestyle in country culture. From this study, other factor that suggested to be implied for further study such as intensity of work stress, lifestyle, and living pattern, may have a significant contribution to dysmenorrhea instead of occupational status.

This study has found that there was no significant relationship existed between income level and occurrence of dysmenorrhea with the value of ( $X^2 = 1.160$ , P-value = 0.689). Similarly, the result was consistent with the previous study by Ohde et al. (2008). Author Hailemeskel, Demissie and Assefa (2016) and Akhavanakbari and Ahangar (2010) found differences suggesting that there was significant association between dysmenorrhea and economic situation. However, it is unable to reach any firm conclusion due to previous studies that did not describe economic situation and gave no report of the direction of association, limited of previous studies also cause a difficulty to compare findings in both studies. Other reason for discrepancy is also due to the different sample size in study, of which there were 440 research participants involved in the study of Solomon, Asrate and Nigussie (2016). Furthermore, there are various associated risk factors that can be considered to have an association with dysmenorrhea. It is also wise to recommend future studies to imply factor of personal factor or sociocultural rather than personal income.

Independent sample t-test in table 6 showed that, the relationship between the levels of quality of life with regards to eight domains among women with dysmenorrhea is significance difference ( $P < 0.05$ ). The result revealed that the mean scores received from eight domains were significantly lower among women with dysmenorrhea, which physical functioning (mean = 54.29, SD = 28.772); role-physical (mean = 38.91, SD = 33.818); bodily pain (mean = 36.75, SD = 19.345); general health (mean = 52.44, SD = 16.477); Vitality (mean = 48.46, SD = 13.746); Social Functioning (mean = 59.77, SD = 15.655); role-emotional (mean = 36.75, SD = 34.507) and mental health were also significantly lower (mean = 48.79, SD = 13.746).

The results showed that women who had dysmenorrhea have lower score in physical functioning which can affect the individual's physical functioning. Research findings by Nur, Sanci, Moore and Grover (2013) and Shewte and Sirpurkar (2016) also point towards dysmenorrhea as an important illness that affects physical.

Moreover, the results showed that women who had dysmenorrhea has the lower score in role-physical can affect the individual's role-physical. The research study by Alaettin Unsal, Unal Avra, Mustafa Tozun, Gul Arslan and Elif Calik (2010) and Gagua and Tkeshelashvili (2012) also found that women with dysmenorrhea scored significantly lower in the role-physical. Another study that had been carried in Australia by Nur, Sanci, Moore and Grover (2013) also showed that girls with dysmenorrhea have a lower role physical score in quality of life than those with other menstrual problems.

The results showed that women who had dysmenorrhea has the lower score in bodily pain. This findings was consistent with the report by Chan and Chen (2009) and Gagua and Tkeshelashvili (2012), which stated that adolescents with dysmenorrhea had the lowest quality of life scores in the bodily pain domain that will give effect on academic performances, school attendances, daily living due to effects of pain.

The results showed that women who had dysmenorrhea has the lower score in general health. Furthermore, Cakir, Karakas and Okten (2007) showed that women with dysmenorrhea who score lower in general health will give negative effects on physical, mental and overall health.

The results showed that women who had dysmenorrhea has the lower score in vitality. This finding was consistent with the previous study from Heba, Osman, Amira and El (2016) and Alaettin (2010), whereby with the increasing severity of dysmenorrhea, the average scores received from all the domains of SF-36 showed decrease. The mean score of vitality for women with dysmenorrhea and women without dysmenorrhea is significantly different.

The results showed that women who had dysmenorrhea has the lower score in social functioning. This findings was consistent with many various cross-sectional studies carried out worldwide involving hundreds-to-thousands of women and/or female teenagers reported dysmenorrhea which give negative impacts on family bonds, friendships, social and recreational activities (Eryilmaz, 2010; Wong & Khoo, 2010; Pitangui, 2013).

The results showed that women who had dysmenorrhea has the lower score in role- emotional, the occurrence of dysmenorrhea might cause emotional effects. The finding is consistent with findings of past studies by Sahin, Kasap, Kiri, Yeniceri and Topal (2018) and Alaettin, Unal, Mustafa, Gul and Elif (2010) of which dysmenorrhea affects participants' mood, daily activities, academic achievement, and social life.

The results showed that women who had dysmenorrhea has the lower score in mental health, and that the occurrence of dysmenorrhea might influence mental well-being. This findings was consistent with the result that was reported by Alaettin, Unal, Mustafa, Gul and Elif (2010) and Gagua and Tkeshelashvili (2013), whereby it stated that teenagers with dysmenorrhea had the lowest quality of life scores in the mental health and role emotional domains and it will give a negative impact on quality of life such as lack of concentration, depression and insomnia.

In conclusion, it is recommended that further studies can be carried out on women from different states to see whether there are similarities in the findings, according to their quality of life. Besides that, for future research it is also important to expose more information about dysmenorrhea towards women. This is because generally most of them are not aware of its consequences. On top of that, the issues are actually symptoms that actually could lead to disease in the future. Hence, researchers could bring out their studies even more accurately. Moreover, further qualitative research studies are needed to explore patients' subjective perceptions about their quality of life towards dysmenorrhea. This result would be helpful to design a detailed plan for our healthcare industry to provide a better living cycle for women who are suffering from dysmenorrhea in our country. This is important because most of women could explain more detailedly when they are being interviewed verbally.

## CONCLUSION

In this investigation, the aim was to assess the prevalence of dysmenorrhea and quality of life (physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health) between women with dysmenorrhea and women without dysmenorrhea in Kota Bharu, Kelantan. The following findings concluded that about three quarter (76.3%) of the women are having period pain. The highest symptom women have gone through during menstruation is back pain (54.4%). Risk factors of age, race, and marital status will influence the occurrence of dysmenorrhea. While risk factors of educational level, occupational status and income level did not influence the occurrence of dysmenorrhea. Furthermore, women with dysmenorrhea in mean score of quality of life is comparatively low compared to women without dysmenorrhea. This study indicates that the occurrence of dysmenorrhea will influence their quality of life regarding in eight domains which is physical functioning, role physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health.

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**APPENDICES**

Table1: Demographics background of respondents

Variables	Mean (SD)	Frequency (n=384)	Percentage (%)
<b>Age</b>	24.67 (6.294)		
<b>Race</b>			
-Malay		263	68.5
-Chinese		91	23.7
-India		26	6.8
-Others		4	1
<b>Marital Status</b>			
-Single		282	73.4
-Married		94	24.5
-Divorced			2.1
<b>Education Status</b>			
-No schooling completed		18	4.7
-PMR			
-SPM		21	5.5
-STPM/Matriculation		140	27.1
-Diploma		37	9.6
-Degree		69	18.0
-Master		131	34.1
		4	1.0
<b>Occupational Status</b>			
-Working			
-Not working		180	46.9
<b>Income Level</b>		240	53.1
-No income			
-<RM 1000			
-RM 1001 – RM3000		200	52.1
-RM 3001 – RM5000		37	9.6
->RM 5001		121	31.5
		25	6.5
		1	3.0

Table 2: Prevalence of Dysmenorrhea

Dysmenorrhea status	Frequency (n=384)	Percentage (%)
Yes	293	76.3
No	91	23.7

Table 3: Symptoms of Dysmenorrhea of women in Kota Bharu, Kelantan

Symptoms of Dysmenorrhea	Frequency (n)	Percentage (%)
Back Pain	209	54.4
Fatigue	179	46.6
Breast Pain	153	39.8
Nausea	129	33.6
Vomiting	67	17.4
Diarrhea	55	14.3

Table 4: Number of Social Demographics and Social Economic characteristic of women with Dysmenorrhea (n = 293)

Variables	Mean (SD)	Frequency (n=293)	Percentage (%)
<b>Age</b>	23.85 (5.599)		
<b>Race</b>			
-Malay		226	77.1
-Chinese		52	17.7
-India		14	4.8
-Others		1	0.3
<b>Marital Status</b>			
-Single		235	80.2
-Married		54	18.4
-Divorced		4	1.4
<b>Education Status</b>			
-No schooling completed		10	3.4
-PMR		16	5.5
-SPM		76	25.9
-STPM/ Matriculation		30	10.2
-Diploma		56	19.1
-Degree		103	35.2
-Master		2	0.7
<b>Occupational Status</b>			
-Working		132	45.1
-Not working		161	47.3
<b>Income Level</b>			
-No income			
-<RM 1000		158	53.9
-RM 1001 – RM3000		33	11.3
-RM 3001 – RM5000		83	28.3
->RM 5001		18	6.1
		1	0.3

Table 5: The relationship between Social Demographics and Social Economic with the occurrence of Dysmenorrhea among women

Variables	OCCURRENCE OF DYSMENORRHEA		$\chi^2$	P-value
	Yes n (%)	No n (%)		
<b>Age</b>				
-Young adults	204 (82.9)	42 (17.1)	16.614	0.000*
-old adults	89 (64.5)	49 (35.5)		
<b>Race</b>				
-Malay	226 (85.9)	37 (14.1)	42.802	0.000*
-Non Malay	67 (55.4)	54 (44.6)		
<b>Marital Status</b>				
-Non-married	235 (83.3)	47(16.7)	29.027	0.000*
-Married	58 (56.9)	44 (43.1)		
<b>Education Status</b>				
-Low education level	188 (75.5)	61 (24.5)	0.251	0.617
-High education level	105 (77.8)	30 (22.2)		
<b>Occupational Status</b>				
-Working	132 (73.3)	48 (26.7)	1.651	0.199
-Not working	161 (78.9)	43 (21.1)		
<b>Income Level</b>				
-Low income level	274 (76.5)	84 (23.5)	0.160	0.689
-High income level	19 (73.1)	7 (26.9)		

\* Significant at p-value less than 0.05

Table 6: Level of quality of life among women with dysmenorrhea regard to physical functioning, role physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health.

Domains of Quality of Life	Dysmenorrhea Status		t	df	P-value
	Women with dysmenorrhea mean (SD)	Women without dysmenorrhea mean (SD)			
<b>Physical Functioning</b>	54.29 (28.772)	77.69 (21.696)	-7.151	382	0.000*
<b>Role Physical</b>	38.91 (33.818)	74.18 (29.686)	-8.935	382	0.000*
<b>Bodily Pain</b>	36.75 (19.345)	73.79 (22.125)	-8.706	382	0.000*
<b>General Health</b>	52.44 (16.477)	65.27 (10.681)	-6.985	382	0.000*
<b>Vitality</b>	48.46 (13.746)	59.18 (12.829)	-7.338	382	0.000*
<b>Social Functioning</b>					
<b>Role-Emotional</b>	59.77 (15.655)	71.15 (19.477)	-5.707	382	0.000*
<b>Mental Health</b>	36.75 (34.507)	71.43 (33.910)	-8.409	382	0.000*
	48.79 (13.746)	62.29 (11.883)	-8.435	382	0.000*
<b>Total mean</b>	392.27	554.98			0.000*

\* Significant at p-value less than 0.05



## Customer Satisfaction towards Spa Service among Spa Goers in Kota Bharu, Kelantan

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### ABSTRACT

The purpose of the present study is to investigate the impact of service quality, perceived value and service encounter on customers' satisfaction in SPA centres in Kota Bharu, Kelantan. 384 respondents who have gone to Spa centres in Kota Bharu, Kelantan volunteered to participate in this study. The data were gathered through questionnaire that was designed on a 5-Point Likert scale and categorical question which is yes or no for customer satisfaction. The study shows that the service quality, perceived value and service encounter dimensions have meaningful relationship with customer satisfaction in Spa. In conclusion, the information provided by this research can be used when designing marketing strategies to improve customers' satisfaction in Spa market and industry in Kota Bharu, Kelantan.

**Keywords:** Service Quality, Perceived Value, Service Encounter, Customer Satisfaction.

### INTRODUCTION

Spa industry is one of the world's most famous industries and it is expanding rapidly. Wellness and spa industry is one of the rapidly growing industries in the world (Okech, 2014; Tabacchi, 2010). The value and benefit of the spa industry now can be seen in several stages. For the movement of health and wellness by using a type of curative and prevention activities, the spa tourism of the spa itself is generally known as a basic component in the wellness and health industry (Stanculescu's, Diaconescu & Diaconescu 2015). Ellis, S. (2008) states that the spa industry was involved in socioeconomic and medical categories. In terms of Economics, Ellis, S. (2008) states that the spa industry is part of the general economic categories at both levels, namely macroeconomics and microeconomics.

Furthermore, the spa sector is also one of the best revenue earners at the global level. According to the Global Wellness Economy Monitor from January 2017, the sum of investments related to wellness tourism has grown to \$563 billion. Travellers reached 691 million wellness journeys in 2015, an expansion of 104.4 million trips from 2013. Wellness trips account for 6.5% of all tourism trips but serve 15.6% of total tourism expenses. This is because wellness tourists are high-yield travellers, contributing much extra per trip than non-wellness tourists (Global Wellness Institute, 2017).

Additionally, another statistic from Global Wellness Institute (2018) designates that the spa earnings covers spa facility revenue (currently \$ 93.6 billion a year), as well as learning, negotiating, corporations, media and events sectors that enable spa businesses (currently \$ 25.2 billion), have risen to \$ 118.8 billion market. Spa locations have risen from 121,595 by 2015 to over 149,000 in 2017, employing approximately 2.6 million workers. Annual revenue growth of 9.9% for spa is higher than the rate from 2013-2015 (2.3%). From 2015-2017, hotel or resort spa category expands the most comprehensive number of spas and income and has now exceeded day spa or salon as the industry's leading revenue (Global Wellness Institute, 2018). This statistic clearly shows that the spa sector is an industry that has grown from year to year. Besides, the spa sector also plays a role in the global economy and is one of the best revenue earners globally.

Apart from that, according to statistic, Asia-Pacific is regarded as the fastest-growing region for health tourism, with 151.9m health-related tourism in 2013. Most of the spas adhere to luxury hotels and resorts, and the country faces stiff competition from more established players like Thailand and Indonesia, as it tries to expand its market share. (Global Wellness Institute, 2018). Malaysia is also one of the growing countries in the spa industry economy. According to a survey by Intelligent Spas, the number of spas in Malaysia has grown more than 200% since 2002. There are more than 170 spas currently operating and earning an average RM1, 000 (\$312) per day in sales (Intelligent Spas, 2011). This numbers is expected to reach 275 outlets, which is about 49% growth, by 2012, according to statistics compiled by the Ministry of Tourism in Malaysia and Euro monitor International Country Sector Briefing.

In maintaining the economic improvement and position of the spa industry globally, quality services play an important role. This is because, the quality services are able to fulfil the customer satisfaction and at the same time it is able to further enhance the economy in the spa industry. Spa service can be defined as an important dimension in hospitality business. It is also recognized as the treatments that provides relaxation to wellness therapies and also beauty care (Tourism Authority of Thailand, 2010). Overall, quality services are very important in ensuring customer satisfaction. This is because the quality

service is capable in fulfilling the consumer's needs and at the same time, it is able to satisfy consumers in the service offered at the spa. The customers will revisit and get the service offered at the spa if the service is able to meet the needs of the customer and also customer satisfaction. Hence, quality services are very closely related to customer satisfaction.

So, this clearly shows that service quality plays an important role in customer satisfaction. This is because, when customers are satisfied with the services offered, they will revisit the spa and at the same time, the spa industry stakeholder economy will be better. In this study, the researcher wanted to study whether the quality service and consumer satisfaction were related. Previously there was a study that looked into the dimension of quality service to consumer satisfaction, but most studies are conducted outside of Malaysia. In this study, the researcher will conduct a study on spa goer's satisfaction towards service quality in Kota Bharu of Kelantan.

There are three objectives of this research:

1. To identify the significant difference of spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.
2. To identify the significant difference of spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.
3. To identify the significant difference of spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

### **Significance of the Study**

#### **Develop Spa Service Quality**

This study was designed purposely to develop spa service quality. Spa service quality is important in this study because it can help to provide new perspective on spa service quality in spa industry in Malaysia particularly in Kota Bharu. Through informative knowledge provided by spa industry it will be able to generate more satisfactions to the spa customers because from informative knowledge, customer will get more knowledge and increase in their satisfaction.

#### **Future Research**

This study can assist any researchers that want to do a study about spa. Information and data consist in the research can be used by any researchers in their studies related to this title. To understand the needs of the customer satisfaction on spa service quality, researcher will provide questionnaire to be distributed to spa goers to identify their satisfaction on spa service quality. Moreover this research will provide recommendations on how to evaluate the performance of a certain spa service quality with reference to spa customers on what to be improve in order to increase spa customer satisfaction.

#### **Spa Industry**

This study can be used by spa industry in order to get the information about spa economy. This research help to generate the economy through the entry of foreign investment due to service quality and generate employment opportunities to the communities. Customer satisfaction can be regarded as a stepping stone to develop more spas and increase the economy through the foreign investment.

#### **Owner Spa**

Moreover, this study will be more helpful to the spa owners and practitioners in training and informing them on how to gain knowledge and formulate strategies to expand and increase the spa service quality. It will also serve as a future reference for researchers on the subject of spa education. And importantly, the research will educate the practitioners of spa, students and also spa owners in deciding whether a spa industry is really fulfilling the markets and its responsibility to the community or it is just to gain profit and become popular.

## LITERATURE REVIEW

### Spa Sector

The definition of spa is derived from the Latin acronym *sanities per aqua* or health through water (Hashemi, Jusoh, Kiumarsi, & Mohammadi, 2015). According to the International Spa Association (ISPA), spas are places to provide professional services that help increase people's well-being through refreshing mind, body and spirit (Hyde-Smith, 2012). A survey of intelligent spas conducted in Malaysia indicated that the number of spas has been rising over 200% since 2002 (Yusmani M.Y, 2010). More specifically, more than 170 spas are currently operating and earning an average of RM 1, 000 per day. According to Euro Monitor International 2007 Country Sector Briefing, the wellness and spa industry in Malaysia is still growing dramatically.

### Spa Services in Spa Sector

The international Spas Association defines spas as a place to provide well-being through professional services that give relaxation to mind, body and spirit. The current and latest spa business model is the amenity spa wellness area which is an ancillary service, due to its offers of a comprehensive experience than the traditional destination spa (Mak, 2009; Keri, 2007). The spa service is very important and contribute a lot to hospitality business.

Panchal (2012) found out that the opportunity to provide empirical work on the trajectory of tourist behaviour in the Asian spa-going context was identified. According to Bulanhagui (2012), one of the benefits of the spa sector is to improve the quality and the service. Additionally, it can also boost the economy for the spa sector. With the improvement of the spa sector economy can guarantee the virtue of staff at the spa. Kim and Lee state that when customers simply evaluate service after purchase, it is described as satisfaction. Service can impact customer satisfaction in different forms (Kim & Lee, 2010).

### Spa Customer Satisfaction

Customer satisfaction consists of three components which are disconfirmation of expectation, fulfilling customer needs and service satisfaction. Disconfirmation is defined as consumer subjective judgments resulting from comparing their expectations and their perceptions of performance received (Chieochankitkan & Sukpatch, 2014). The positive disconfirmation of expectation have shown the encouraging repeated visits, the results reveal that more than half of the respondents (53.6%) had visited a spa two to five times when they found that the spa they visited is satisfactory and meet their expectations (Mak, Wong, & Chang, 2009).

Fulfilling the customer's needs is very important in creating a long-term relationship with spa customers. The statistic shows that 81% of spa customers have their needs fulfilled and satisfied from the service in spa and this 81% of spa customers will become the loyal customers for that spa. On-going satisfaction leads to loyalty. Once customers have placed trust in a company, they are assured that the company will continue to do business with them (Osterwalder, Pigneur, Bernarda, & Smith, 2014).

Service satisfaction is a service provider response towards customer attitude, or an emotional reaction to the difference between what customers anticipated and what they have received, regarding the fulfilment of some need, goal or desire (Angelova & Zekiri, 2011). From the service satisfaction statistic, 91% of unhappy customers from the spa service provide will never come again (Industry, 2016). The study on relationship between service and customer happiness aims to improve the lives of spa customers (Gong & Yi, 2018).

### Factors Influence Spa Goers Satisfaction

#### *Spa Service Quality*

Service quality is defined as the difference between the customer's expectations and experiences. The more the experiences overcome the expectations, the higher is the quality perceived (Loke, Z., Kovacs, E., & Bacsı, Z., 2018). According to the theory that is provided by Parasuraman, Zeithaml and Berry (1988), there are five dimensions which are reliability, tangibility, assurance, responsiveness and empathy.

Responsiveness captures the notion of flexibility and ability to customize the service to customer needs (Magyar, Marton, 2011). Spa management should also improve the staff's capabilities and performance through continuous education and

rewarding the uncertain staff for outstanding staff. The patient's perception on health services can affect the spa industry image and consumer loyalty (M. Shafiq, M. A, Naeem, Z. Munawar & I. Fatima, 2017). A study in Greece states that the value of responsiveness (willingness to help customers) is 4.86 which implies that the variance explained by the first factor was 22.15%. A previous survey in resort and hotel spa customers in China showed that responsiveness was the most important determinant factor in explaining positive emotions (Lo, Wu & Tsai, 2015).

Assurance are often used interchangeably to refer to ways to ensure the quality of the service or product. The assurance consists of administrative activities and procedures implemented in the quality system so that the needs and goals of the products, services or activities will be met. A survey in the Republic of Serbia showed that assurance was the first factor explained spa hotels customers' satisfaction (Blesic, 2014). According to one the studies in Greece, empathy is found as the fourth factor with two items namely honest treatment customers as well as employees' commitment to comfort their customers who contribute to spa customer satisfaction at a percentage of 10.53% (Al-alak, 2012; Lo, Wu, & Tsai, 2015).

#### *Spa Perceived Value*

Customer perceived value is the difference between prospective customer evaluation towards all the benefit and cost of offering and the alternative that perceived. Perceived value of service is present with five dimensions which are the quality of emotion response, financial price, attitude price and reputation (Setiowati, Andradea, 2012). Acquisition can be a powerful tool to achieve growth in a business, enter new markets and expand the capabilities of firm range for a better business result. But with the market that very competitive for takeover and price acquisition that in the same level, acquisition seems to be often failed to create value for the shareholders (Jackson 2007). Perceived service value has an important impact on customer satisfaction. Customers will get acquisition value from the very quality service offered by the spa. Overall customer satisfaction not just come from the service quality offered by the spa but also the perceived acquisition value of the service (Oh, H., & Kim, K., 2017).

Trade-off is a concept that seems increasingly central to operation strategy because it emerges and forms the foundation of how the company or a people conceptualize the improvement process. The importance and significance of this trade-off is likely to be control or related to this two factors which is the degree 'importance' of the trade off, in which in term of impact will have an overall operation competitiveness. Second is the 'sensitivity' of the trade-off. Sensitivity is a change that will caused to one element of trade-off when the changes are made to the other (Da Silveira, Slack, 2001).

Epistemic value is a value that the customers received from the spa employees whether or not the customer understands the information given by the employees. Statistic in Estonian spa in PHSR (Phajarve Spa and Holiday Resort) with 60 respondents shows that in customer satisfaction level with perceived service performance, the question that related to epistemic value is employee friendliness and knowledgeable employees. The first researcher, Cardozo in 1965 proposed that in his daily work, the higher the customer satisfaction the more likely the customer to make repurchase of the products and services (Chiu,Cheng, Yen & Hud 2011). This shows that epistemic value did give satisfaction to customer because customer could get knowledge and information about the spa.

Symbolic value itself actually has not been officially studied. The present project is actually to cover certain lights on the nature and significance of symbolic value. In certain cases this symbolic value is offered as the reason to give judgement and behave in certain method (Beverland, M. B., Lindgreen, A., & Vink, M. W., 2008). Symbolic value is actually supposed to be used to prepare these reason in the absence of other values. Statistic for customer satisfaction on symbolic value in Customers Satisfaction Perception of Service Quality for Spa Establishment in the Active Beach Tourism Cluster in Thailand shows that customers feel that they have becoming first class persons with a desirable lifestyle. With mean score of 4.97 it shows that the score is moderately high. This means that the symbolic value of the product or the design of the spa make customers feel better and high class. The symbolic value of spa product and design in spa influence the customer to feel high class person. Customer satisfaction is a key and a value to a successful business and good marketing practices as it creates satisfied customers (Greenland & Looney 2007; Weitzman, 2008).

#### *Spa Service Encounter*

Hsieh (2013) described service encounter expectations as the craving for service. Customer expectation presents the services or products which should be provided or craved by those customers (Chen, Chang & Liu, 2015). Spa service is another type of business which engaged in service quality and acknowledged as treatments for rest as well as beauty treatments to wellness therapies (Department of Trade Negotiation, 2011). Next, Chen (2013) further explained that during service encounters, the ability of an organization to maintain profitability is deeply related to customer service and satisfaction. According to Wang

(2009), multiple of previous researches have supported the arguments that customer services is a direct determinant of customer satisfaction. Next, customer services is said to affect customer satisfaction through perceived value (Wong & Dioko, 2013). Spa service encounter is also acknowledged as a front stage encounters by the staff, as a truth moment that has crucial effect on customers' service perception since first interaction can make lasting impression (Anan & Sukpatch, 2014). In accordance to Choi and Stafford (2013), wellness service including spas have a great reliance on services cape. Moreover, Choi (2019) found trust that customers put on the service providers, mood while receiving spa treatments have a positive relationship on their evaluation towards their experience.

On the other hand, previously the spa tourism in Taiwan has encountered seasonal problems thus, how to provide customers with diverse services to attract and satisfy them is a crucial topic (Hsieh, L., Lin, L. & Lin, Y., 2008). This could be solved by spa services meeting which is vital to determine the customer satisfaction towards the services offered by the spa. Service meetings have several types. One of these is telephone meetings, face-to-face meetings or meetings through info from other people which is one of the important encounters for spa business. Spa services are regarded as another important element for business in terms of hotel business. It is acknowledged for treatments that give relaxation to health and beauty treatments (Tourism Authority of Thailand, 2010). Result of the perceptual level quality of service, value views, service meetings, customers' satisfaction using spa treatments at Cluster Tourism Active Beach, Thailand are as follows. Discussions on basic information about respondents, find little more than half of respondents are women (51.67 percent), while male respondents reached almost 50 percent (48.33 percent). Some respondents from men and women consisting of half of the respondents due to accumulate interest and awareness of their health. Especially increased interest in using spa treatments. In spa industrial sector, empathy related to the availability of individual focus on spa customers.

In messenger communication, communication partners should be present and make a case for them to be heard and assisted (Knop, 2016). Obtaining information through face-to-face is one of the steps to improve the spa service as well as gaining customers' trust. Customers will feel more confident and assume the customer satisfaction with the services offered satisfies the scope of satisfaction. The sequential model of the connection allows the identification of the relationship between interest variables while controlling for auto-regressive effects (Newsom, 2015). The spa can find out more about the problems that need to be fixed within any lack areas. In addition to the string model of the string, we include a hidden nature factor that contributes to the variance shared in the willingness to expose ourselves to good friends in face-to-face communication and instant communication. Therefore, the general level of readiness to expose to good friends can be segregated, and latent variables of interest contribute only to certain variations in the willingness to reveal themselves which may be attributed to the specific setting in which communication has been taken.

### **Research Hypothesis**

In this study, there were three hypothesis which are:

H1: There is a statistically significant difference on spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan?

H2: There is a statistically significant difference on spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan?

H3: There is a statistically significant difference on spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan?

### **Research Framework**

A research framework has been conducted to investigate the connection between spa goers satisfaction towards spa services which is spa service quality, spa perceived value and spa service encounter.

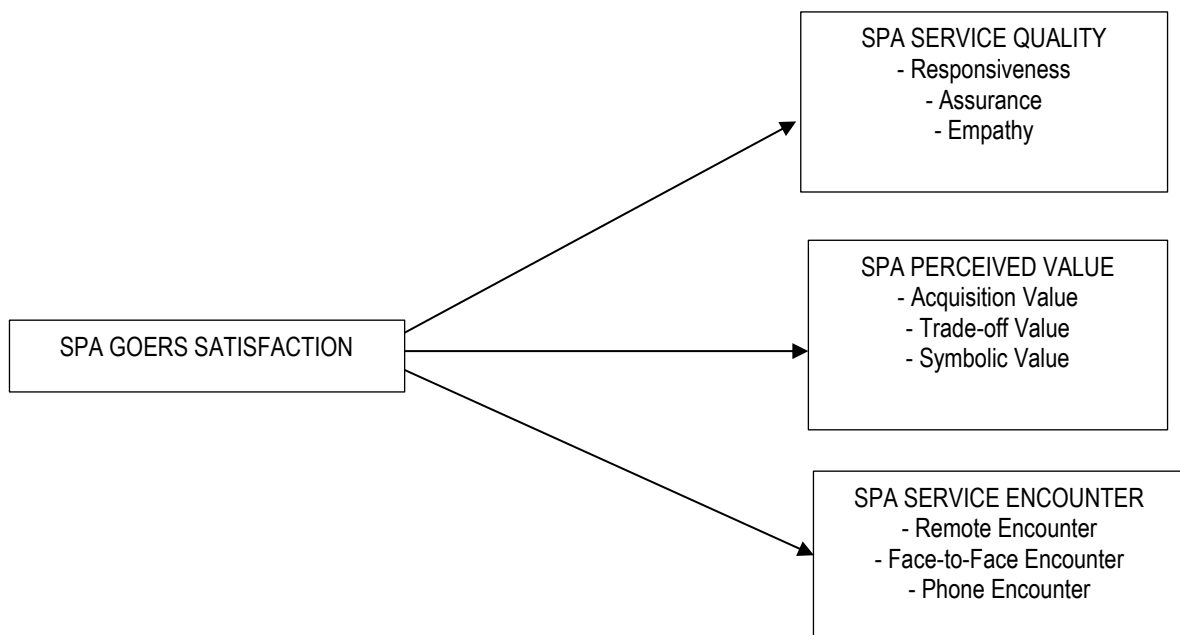


Figure 1 : Conceptual Framework of the study

The conceptual framework in Figure 1 represents the independent variable and dependent variable of this study. In this study, there are three dependent variables that could determine the perspective on spa goers satisfaction which are spa service quality, spa perceived value and spa service encounter.

## METHODOLOGY

### Research Design

In this study, the research design was the descriptive research whereby it consists of cross-sectional on quantitative approach.

### Data Collection

In this study, the researcher used a questionnaire for collecting and obtaining the data and researcher will distribute the questionnaire by asking whether the respondent has used spa or not. Then explanation will be given to the respondents after they agree to answer the question. The research area that researcher choose is respondents that have used spa at Kota Bharu. There will be no force to answer. The questionnaire will be collected back after the respondent has done filling up.

### Sampling

The sampling method that was used in this study was the purposive sampling and convenience sampling. The first sampling method that was used in this study was purposive sampling. The purposive sampling is a non-probability sample chosen based on the objectives of the study and the characteristics of the population. Sampling purposive sampling is also known as subjective, selecting, or evaluation. In order to collect the data and evaluate the relationship between spa services with customer satisfaction, the researcher will select the respondent which is spa goers randomly in Kota Bharu, Kelantan. The researcher decided to do the study in Kota Bharu because after doing the preliminary research, the researchers found that the best spa in Kelantan was in Kota Bharu.

The second sampling method that was used in this study was convenience sampling. A convenience sampling is a kind of non-probability sampling method where the sample is selected from a group of people who are easy to reach or to contact. By using the Krecjie and Morgan table (1970) for sample size, the survey is based on a research sample of 384 spa goers in Kota Bharu Kelantan.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula will be shown as below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three types of data analysis used in this study, that were frequency analysis, descriptive analysis and reliability analysis. The data obtained was analysed by using Statistical Package for the Social Science (SPSS).

The data analysis will be performed by using computerized data analysis package which is known as Statistical Package for Social Science (SPSS) 24.0. The data analysis will be divided into two sections which are descriptive statistic and inferential statistic. Researcher used descriptive method to calculate the data result. What is including in descriptive method that the researcher used are mean, frequency and percentage.

In inferential statistic, researcher used independent sample t-test to analyse collected data. This t-test is designed to compare means of the same variables between two groups. In this study, the researcher compares the mean of customers satisfaction between the group of satisfied and the group of not satisfied. The interpretation for p-value is the same as in other types of t-tests.

## FINDINGS

### Descriptive Analysis

Table 1 revealed the socio-demographic characteristics of the respondents.

Table 1: Characteristics of the respondent. (n=384)

Socio-demographic Profile	Mean (SD)	Frequency ( n=384 )	Percentage (%)
<b>Age</b>	31.36 ( 7.289)		
<b>Gender</b>			
Male		145	37.8
Female		239	62.2
<b>Races</b>			
Malay		309	80.5
Chinese		47	12.2
Indian		28	7.3
<b>Educational Level</b>			
SPM		22	5.7
Diploma		53	13.8
Degree		293	76.3
Master		16	4.2
<b>Occupation</b>			
Working		291	75.8
Non-working		93	24.2
<b>Monthly Income</b>			
< RM 1000		94	24.5
RM 1001 – RM 3000		132	34.4
RM 3001 – RM 5000		126	32.8
> RM 5001		32	8.3

Table 1 shows the demographic characteristic of the 384 respondents which consists of age, gender, races, educational level, occupation and monthly income. From the questionnaire that has been collected, the average respondents who answered the questionnaire has the mean of 31.36 (7.289%). This shows that respondents with the age of 31.36 are most likely going to spa in Kota Bharu. The study from Vryoni, Bakirtzoglou, and Ioannou (2017) showed mean age of customers was 31.78. The study showed that customer around 30 years old and above have income and financial stability.

From the total of 384 respondents who answered the questionnaire, 145 of the respondents were male which consist of (37.8%) of the respondents. Female respondents who answered the questionnaire are 239 (62.2%). This can be interpreted that female are most likely going to treat themselves in spa. From previous study located in Greece for respondents who went to spa are most likely women with 141 women and 66 are men. (Vryoni, S., Bakirtzoglou, P., & Ioannou, P., 2017)

There are four ethnic groups in this questionnaire which are Malay, Chinese Indians and others. Malays recorded the highest in answering this questionnaire by 80.5% contributing about 309 respondents followed by Chinese 47 (12.2%) and Indians 28 (7.3%). The majority of the respondents are Malays as most of the questionnaires were collected. From the (Department of Statistics Malaysia) have shown that majority ethnic group in Kota Bharu, Kelantan were Malay ethnic group (95.7%).



In the monthly income, the majority of the respondents have an income between RM 1001-RM 3000 in which 132 (34.4%) respondents were in that range income. Followed by the income group of RM 30001-RM 5000 with 126 respondents (32.8%). Third in the rank is the group of RM1000 and below with 94 respondents (24.5%). The lowest in the rank is group income of RM5000 and above with 32 respondents and contributes about (8.3%) of the respondents. In this study, majority respondents who have income between RM 1001-RM 3000 has preferred to get the spa service.

In educational level the highest educational level of respondents who went to spa are degrees level in which contributes about 293 respondents (76.3%). This is followed by the diploma respondents with 53 respondents (13.8%) in this study. Then third in the rank is the SPM respondents. This group of respondents contributes in 22 respondents (5.7%) and followed by master respondents in fourth rank by 16 respondents that contributes about (4.2%) in this study. It shows that majority respondents which are spa goers in Kota Bharu have the degree level in educational level.

From 384 respondents, working respondents went to the spa the most with 291 respondents (75.8%). Meanwhile non-working respondents were 93 (26.2%). This shows that the spa goers are mostly working because of the income they have in order to obtain the spa services.

### Inferential Analysis

In the following hypothesis testing, the probability value (P-value) is used to determine whether a null hypothesis will be accepted or rejected. In order to reject a particular null hypothesis, P-value must be less than or equal to the specific significant level. All hypotheses were tested at P-value = 0.05. Therefore, if the P-value is smaller or equal to 0.05, the test is significant and the null hypothesis will be rejected.

**Objective i:** To determine the significant difference in spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

**Hypothesis i:** There was statistically significant difference in spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

Table 2: The significant difference in spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

Spa Service	Satisfied Mean ( SD )	Non Satisfied Mean ( SD )	t	df	P-value
Service quality	4.6254 ( .39228 )	3.5417 ( .83824 )	-8.971	382	0.000*

\* Significant at P-value less than 0.05

From the table 2, it shows the significant difference in spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan. The mean for satisfied spa goers (Mean = 4.625, SD = 0.392) and non-satisfied spa goers (Mean = 3.541, SD = 0.838). A high quality service means competitive advantage for a company; if as a result, it can attract and retain customers.

Since P-value is less than 0.005 (.000). The researcher can reject the null hypothesis and conclude that the mean of service quality for satisfied and non-satisfied spa goers is significantly different. Based on the result, the researcher can state that there was a statistically significant difference in mean service quality between satisfied and non-satisfied spa goers in Kota Bharu, Kelantan (tdf = -8.971382, P<0.005). The average spa service quality for satisfied was 1.0837 higher than the spa service quality for non-satisfied spa goers.

The study by Trihas and Konstantarou (2016) showed that there was a significant different in service quality between satisfied spa goers and non-satisfied spa goers with quality of service (P = 0.001). Based on this study, service quality appears to be a very important or extremely important factor when selecting a spa to satisfied spa goers. Thus, this proved that excellent service quality in spa can make spa goers satisfied.

In the previous study by NCY Yap (2010) revealed that there was a significant, strong and positive correlation between service quality and customer value and customer satisfaction (r = 0.00, r = 0.00, respectively, p < .01). Based on this study, it can be proven that the spa service qualities are very important in ensuring the spa goers satisfaction.

The previous study determined that service quality factors significantly influenced spa goers' satisfaction. The five dimensions of service quality collectively described a total of 58 per cent variance on customer satisfaction ( $R^2 = .58$ ). Furthermore, regression coefficients showed that Empathy factor ( $\beta = .380, p = .00$ ) and Tangibles ( $\beta = .310, p = .00$ ) had the most significant impacts on overall customer satisfaction, followed by Reliability ( $\beta = .22, p = .00$ ) and Responsiveness ( $\beta = .10, p = .00$ ) (Awad, Basheer Abbas Al-alak Ghaleb EL-refae, 2012).

**Objective ii:** To determine the significant difference in spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

**Hypothesis ii:** There is a statistically significant difference in spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

Table 3: The significant difference in spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu Kelantan.

Spa Service	Satisfied Mean ( SD )	Non Satisfied Mean ( SD )	T	df	P-value
Perceived value	4.5260 ( .51301 )	3.4167 ( .80246 )	-7.224	382	.000

\* Significant at P-value less than 0.05

From the table 3 given shows the significant difference in spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan. The mean for satisfied spa goers (Mean = 4.526, SD = 0.513) and non-satisfied spa goers (Mean = 3.417, SD = 0.802).

Since P-value is less than 0.005 (.000), the researcher can reject the null hypothesis and conclude that the mean of spa perceived value for satisfied and non-satisfied spa goers is significantly different. Based on the result, the researcher can state that there was a statistically significant difference in mean spa perceived value between satisfied and non-satisfied spa goers in Kota Bharu, Kelantan (tdf = -7.224382,  $P < 0.005$ ). The average spa service quality for satisfied spa goers was 1.1093 higher than the spa perceived value for non-satisfied spa goers.

Based on the study by Setiowati, Rini and Putri (2012), it showed that there was a significantly different in spa perceived value between satisfied and non-satisfied spa goers. The perceived value that affects customer satisfaction was significance with P-value lower than 0.005, which is ( $P = 0.003$ ) It makes perceived value as a factor influencing customer satisfaction and accepts the hypothesis proposed. Based on the formula from the study, if one unit perceived value increase, it will increase satisfaction by 0.255 or 25.5%.

Based on the study Anuwichanont, J, and Mechinda, P. (2009) the hypothesis testing was accomplished by examining the completely standardized parameter estimates and their associated t-values. The relationships were significant ( $P < 0.001$ ) in the expected direction, with the exception of the relationship between perceived value and satisfaction. The results demonstrated that quality, emotional response, monetary price and reputation had significant, positive impacts on satisfaction and trust as hypothesized.

In previous study on perceived value in Greece by Vryoni, S., Bakirtzoglou, P., and Ioannou, P. (2017), items that related to this research were physical facilities, prices and service implementation. Mean for physical facilities is (0.59) meanwhile mean for prices is (0.57) and mean for service implementation is (0.83). This study proved that, there was a significantly different in perceived value between satisfied spa goers and non-satisfied spa goers.

**Objective iii:** To determine the significant difference in spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

**Hypothesis iii:** There is a statistically significant difference in spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

Table 4: The significant difference in spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

Spa Service	Satisfied Mean ( SD )	Non Satisfied Mean ( SD )	t	df	P-value
Service Encounter	4.5484 ( .50696 )	3.4583 ( .55106 )	-7.312	382	0.000

\* Significant at P-value less than 0.05

From the table 4 given, it shows the significant difference in spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan. The mean for satisfied spa goers (Mean = 4.548, SD = 0.507) and non-satisfied spa goers (Mean = 3.458, SD = 0.551).

Since P-value is less than 0.005 (.000), the researcher can reject the null hypothesis and conclude that the mean of spa service encounter for satisfied and non-satisfied spa goers is significantly different. Based on the result, the researcher can state that there was a statistically significant difference in mean spa service encounter between satisfied and non-satisfied spa goers in Kota Bharu, Kelantan (tdf = -7.312382, P<0.005). The average spa service quality for satisfied spa goers was 1.0901 higher than the spa service encounter for non-satisfied spa goers.

The study by Nguyen, DeWitt, and Russell-Bennett (2012), showed the tests were significantly different in service encounter and customer satisfaction. The results support our argument that the effects of service quality and customer satisfaction, indeed are significantly different (P<0.0001). In this case, it was obvious that most of the customers were with service encounter in spa.

The study by Chieochankitkan and Sukpatch (2014) showed that, there was a statistically significant difference at a level of 0.01 ( $p = 0.00$ ). This study stated that service encounter is one of a crucial service, as it is at the level where customers assess the services satisfaction provided to them.

The study from Praneetham.C (2019) showed the level toward the service encounter factor of customers satisfaction (mean = 4.20, SD = 0.89). Based on this study, it showed the significant difference in spa service encounter between satisfied spa goers and non-satisfied spa goers. Based on the study, service encounter were like a services meeting with customer and staff in spa It was very important to determine the satisfaction of customers towards the services provided by the spa.

## DISCUSSION & RECOMMENDATION

### *Discussion*

This study reveals that there is a statistically significant difference on spa service quality between satisfied spa goers and non-satisfied spa goers with the value of (t = -8.971, P-value = .000). It can be proven that the spa service quality is very important in ensuring the spa goers satisfaction. So, this study and the previous study clearly show that spa service quality plays an important role in spa goer's satisfaction. In the previous study reveals that there is a significant, strong and positive correlation between Service Quality and Customer Value and Customer Loyalty ( $r = 0.00$ ,  $r = 0.00$ , respectively,  $p < .01$ ), (NCY Yap, 2010).

This study has found that there is a statistically significant difference on spa perceived value between satisfied spa goers and non-satisfied spa goers with the value of (t = -7.224, P-value = .000). It can be proven that the spa perceived value is very important in ensuring the spa goers satisfaction. So, this study and the previous study clearly show that spa service quality plays an important role in spa goer's satisfaction. In previous study on perceived value in Greece, items that related to this research are physical facilities, prices and service implementation. Mean for physical facilities is (0.59) meanwhile mean for prices is (0.57) and mean for service implementation is (0.83) (Acta Kinesiologica, 2017).

This study has found that there is a statistically significant difference on spa service encounter between satisfied spa goers and non-satisfied spa goers with the value of (t = -7.312, P-value = .000). It can be proven that the spa perceived value is very important in ensuring the spa goers satisfaction. So, this study and the previous study clearly show that spa service quality plays an important role in spa goer's satisfaction. In the previous study on spa service encounter in Malaysia, satisfaction refers to the buyer's state of being adequately rewarded in a buying situation for the sacrifice he or she has made (Al-alak, 2009). Item that relates to the research is about the spa service encounter with spa customer satisfaction.

### **Recommendation**

There are several recommendations for future research to improve the result of the study. Since, the survey for this study was conducted only in Kota Bharu, Kelantan, in the future this study could be conducted in other states to see if the results differ from those observed in this study. So, the researcher knows the other factors than can make spa goers satisfied or not satisfied.

Besides that, the researcher found that, the satisfaction of spa goers could be increased by the service quality, perceived value and service encounter of that spa. This is because service in spa have a big impact whether the spa goers satisfied or not satisfied with the spa that they have visited. The study recommends that the spa sector urgently needs to develop personnel and service standards in the spa and also their staff.

Moreover, future study should include a comparison between first time customer and regular customer in spa. The researcher can make an accurate result from this comparison of spa goers. This is because the result from regular spa goers and first time spa goers can be different because of their experience.

Spas should develop new, exciting and effective treatments for visitors and focus on providing more tailored treatments for different conditions and demographics. This is because, there are many teenagers that visit to spa to get a treatment such as pedicure, manicure and skin treatment. So, as a spa manager they need to know customers' needs and wants.

This study should be demonstrated and deepened using qualitative methods to get better information from the spa goers. These qualitative methods can give opportunity for researcher to ask questions directly to respondents who are not satisfied with the service in the spa. In addition, qualitative methods can be conducted in future study to obtain high level of reliability of the results.

### **CONCLUSION**

In conclusion, there is a rapid growing of the spa and wellness market at the starting of the 21st due to the growing health awareness of people. Spa service plays an important role in the health business and health tourism, particularly in spa and wellness tourism. The main aim of this study is to investigate the significant difference of spa service between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan. The findings of this study show satisfaction factors of spa goers in Kota Bharu, Kelantan. This study reveals that there is a statistically significant difference of spa service quality, spa perceived value and spa service encounter between satisfied spa goers and non-satisfied spa goers. It can be proven that the spa service quality, spa perceived value and spa service encounter is very important in ensuring the spa goers satisfaction. After obtaining the research findings, all three objectives of this study were achieved where the first objective was to determine the significant difference of spa service quality between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan. The second objective is to determine the significant difference of spa perceived value between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan and the third objective is to determine the significant difference of spa service encounter between satisfied spa goers and non-satisfied spa goers in Kota Bharu, Kelantan.

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## Depression, Anxiety and Level of Stress among University Malaysia Kelantan Staff

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### ABSTRACT

This study aims to explore the depression, anxiety and level of stress among University Malaysia Kelantan staff. The questionnaire were distributed to 191 staff pursuing Administrative staff and Academic staff. The data collected was then analyzed using SPSS version 21. The findings of the study indicated that there were two factors influencing a staff: demographic (gender, marital status, religion, position, professionalism and income level) and Lifestyle (smoking, alcohol consumption and physical activity). The results also suggested that there were different significant relationships between demographic and lifestyle factors towards prevalence of depression, anxiety and level of stress among University Malaysia Kelantan staff.

**Keywords:** *depression, anxiety, stress, Kelantan, demographic, lifestyle*

### INTRODUCTION

Depression has become a major costly illness in America. Depression effect is as the same as heart disease or aids to the economy of U.S if left untreated, worthy over \$51 billion in absenteeism from work and result loss of productivity and other \$26 billion in direct treatment cost (Mental Health America, 2012). Depression usually affects people in their prime working years and could last a lifetime if neglected. Estimated more than 80% people are managed to be cured. Meanwhile in Malaysia, depression will be a big issue among Malaysians by 2020 as more people are expected to suffer this mental health problem due to work and family pressure (National Institute of Occupational of Safety and Health, 2012).

Anxiety is a response of body to observed threat which is initiated by an individual's feelings, beliefs and thoughts and expressed by worried thoughts and tension. Worldwide, anxiety disorders are the sixth-leading cause of disability (defined by years of lived with disability), with greater rates of disability occurring in females and in people aged 15 to 34 years (Baxter et al., 2014). Anxiety disorders are associated with a poorer quality of life in comparison to not having anxiety, including higher rates of divorce and unemployment (Olatunji et al., 2007). Anxiety disorders are associated with poor job productivity and short-and-long term work disability (Plaiser et al., 2010; Plaiser et al., 2012; Sanderson et al., 2007; Hendriks et al., 2015; Erikson et al., 2009), resulting more than \$4.1 billion in indirect workplace costs (American Psychiatric Association, 2004).

World Health Organization (WHO) defined workplace stress as the feedback of people may have when dealing with work demands or pressure that are not fit to their knowledge or abilities and which challenge their ability to cope. Health and Safety Executive (HSE) (2001) defined stress as the detrimental reaction a person has to excessive pressure or other types of demand placed upon them. D'Arcy (2007) affirmed that everyone experiences stress a little differently but overload of it is a different story. The studies explain that stress overload is caused by the overreaction or failure of the stress response to turn off and reset itself properly. Also according to D'Arcy (2007) stress is the body's way of rising to a challenge and preparing to meet tough situations with focus, strength, stamina and heightened alertness. However, higher level of stress were reported as arising from funding cuts to universities, heavier teaching loads, difficulty in securing research funds, lack of resources, poor relationships with colleagues and unrealistic expectations from management as reported by Winefield and Jarret (2001) and Ahmady et al. (2007).

This study aims to investigate the factors that influence depression, anxiety and symptom of stress among University Malaysia Kelantan staff using two independent variables which are demographic and lifestyle.

There are four objectives of this research:

1. To determine the prevalence of depression, anxiety and level of stress among UMK's staff.
2. To determine the level of depression, anxiety and stress among UMK's staff.
3. To identify the relationship between demographic characteristics (age, gender and marital status) with occurrences of depression, anxiety and level of stress among UMK's staff.

4. To identify the relationship between lifestyle factors with the occurrence of depression, anxiety and level of stress among UMK's staff.

### **Significance of the Study**

#### **Staff of University Malaysia Kelantan**

First, this study will give the benefits to the staff of University Malaysia Kelantan to make it as a reference to decrease or avoid themselves from depression, anxiety and symptom of stress. Then, we can help them to control their lifestyle in the future. It also can increase the knowledge and awareness towards depression, anxiety and symptom of stress among them. Awareness is important because they will be more careful and alert about changes in themselves. Other than that, the study can lead a student and staff to have a healthier lifestyle.

#### **Community**

This study also give an awareness to the community in University Malaysia Kelantan. It is because not only the staff in University Malaysia Kelantan will result in the depression, anxiety and symptom of stress but it can include many departments and many other institutions or company because they need to face with many barriers and problem in their life. This study will lead the community to be aware about the changes in themselves to avoid the uncontrolled situations that are caused by their demographic and lifestyle factors.

#### **Ministry of Health (MOH)**

Ministry of Health (MOH) in Malaysia can use this study as a reference or benchmark to take actions towards the serious problems nowadays that are caused by the depression, anxiety and symptom of stress among staff in the institution. For the example, the MOH can construct a training, talk and monthly online test to all the staff to see the prevalence and level of depression, anxiety and symptom of stress. It also can show the relationships between demographic and lifestyle with depression, anxiety and symptom of stress.

## **LITERATURE REVIEW**

### **Depression**

According to World Health Organization [WHO] (2005) 322 million people were estimated living in depression that leads to the cause of ill health and disability worldwide. This statistic has risen more than 18% since 2005, according to World Health Organization (WHO). The agency estimated that 50% of those with the disorder did not get treatment (Entis, 2017). The prevalence of depression in Malaysia ranges between 3.9 to 46%. Among the general community in Malaysia, the prevalence of depression was reported 6.3 to 13.9% based on research (Mukhtar & Oei, 2011). However, the prevalence of depression in clinical groups ranges from 3.9 to 46%. The prevalence of depression in Kelantan is the lowest in Malaysia which is 0.4% compared to the highest in Wilayah Persekutuan Kuala Lumpur, 4.2% according to (Maideen, Mohd. Sidik, Rampal & Mukhtar, 2014).

### **Anxiety**

According to the research (WHO, 2015), the global population with anxiety disorders is estimated at 3.6%. The total estimated people with an anxiety disorder in the world is 264 million. This number reflects from an increase of 14.9% since 2005. According to National Health and Morbidity Survey (2017), 29% of Malaysians had depression and anxiety disorder compared to 12% in 2011. This survey showed that the percentage of Malaysians who had depression and anxiety increased by 17% from 2011 to 2017. The exact prevalence of anxiety disorder in Kelantan is unknown as further research is needed to determine the prevalence in Kelantan.

### **Stress**

Based on a survey conducted by the Forth (2018), 37% of British residents feel stressed for at least one full day per week. After taking account the entire study group, an average of nine days per month that the British people feel stressed. Those who do not feel stressed at all is a minority at 15% and the remaining 85% are experiencing a clear level of stress regularly. Based on the article (Healthworks, 2015), Malaysians have a stress level at 63%. This percentage is very high compared to the average of 53% at that moment. Based on Abdul Hadi, Naing, Daud, Nordin and Sulong (2009) showed that the prevalence



of stress ranging of secondary teacher from mild to extremely severe was 34%. However, the majority of teachers had a mild level of stress at 17.4%.

## **Demographic**

Demographic is the study of population-based factors. Demographic encompasses age, gender, and marital status. Demographic is also used to standardize the population of studies into each of their characteristic.

### **Age**

Based on the Substance Abuse and Mental Health Services Administration combined data from 2008 to 2010, young adult ages between 18 and 25 had the highest percentage of serious thought about suicide which is 7.4% (David Levine, 2017). Furthermore, the senior population ages above 50 that is having major depression is less than 1% to about 5% (David Levine, 2017).

Based on the research by Baxter, Vos, Scott, Ferrari, and Whiteford (2014), the age group between 20 and 24 have a peak level of anxiety which is 5.5%. This percentage shows that the peak level of anxiety is still moderate. The lowest level of anxiety is the group age between 32 and 34.

The stress level for people aged between 18 and 47 have a moderate level of stress which is 5.7 and it is the peak for the level of stress. Although, for ages between 48 and 66 comes second with 4.7. The last place comes with 3.7 is the people ages above 66. These were recorded according to the media American Psychological Association (2012).

### **Gender**

Based on gender and health (World Health Organization, 2002) large number of studies provide strong evidence that women have the highest contribution to the prevalence of depression compared to men. Socially determined that roles, norms, and responsibility for women were far more frequently than men, in situations where they have little control over important decisions concerning their lives.

Studies about anxiety disorders across gender (Olivia Remes, 2016) show that women's level tend to be higher than man which is 7.1 than 4.0 in a lifetime. Women are likely to ruminate about them which can increase their anxiety, while men engage more in problem-focused coping. Other studies show that women received more physical and mental abuses than man.

Women are more stressed than man as they claim to suffer stress for three more days per month than man. 42% of women believe they are too stressed compared to 36% of men (Olivia Remes, 2016). Money is the most common cause of the stress amongst women, while men are work.

### **Marital Status**

Marital status was related to depression in both men and women. Individuals who were divorced scored higher level for depression than married persons in the previous study (Jang, Kawachi, Chang, Boo, Shin, Lee, & Cho, 2009). The divorce might be the cause as they cannot cope to overcome their problems in marriage and this might trigger the depression.

The level of anxiety for married person is lower than single and divorced as they are too worried to maintain their relationship. People who are single tend to focus more on this relationship as they have not yet married and tend not to cope with problems easily (Emma McGowan, 2017). A single and divorced persons have more problems to solve than married people.

Based on previous studies (Mohd Zukri & Noor Hassim, 2009), the stress level for a single person is slightly higher than the married person. Stress percentage for a single person is 54.9% and for a married person is 40.9%. These previous studies show that it is not much different from the married people although the single person tends to be more stress than married people.

### **Lifestyle**

Based on previous survey, it was found that 42% of all cigarettes consumed in England are consumed by those with mental illness (McManus, Howard and Campion, 2010). Furthermore, cigarette consumption in general population has shown a decrease over the past 20 years but consumption among smokers with mental illness has remained relatively unchanged

(Royal College of Physicians, 2013). Additionally, the association between smoking and depression may be bidirectional, with occasional starts of smoking used to endure the depression but in fact worsen the smoker over time (Munafò and Araya, 2010).

It is unclear why socially anxious individuals are at risk for smoking and nicotine dependence (Buckner and Vinci, 2013). The research suggested for future studies to employ different methodology to draw stronger inference (Fluharty, Taylor, Grabski and Munafò, 2017). Social anxiety is related to smoking to cope in social situations (Watson, VanderVeen, Cohen, DeMarree, and Morrell, 2012). Anxious individuals may also smoke because the effect of smoking is more reinforcing than other stimuli (Rodgers, Salès, and Chabrol, 2010).

These data are consistent with examinations of stress and smoking frequency that indicate that recent stress experiences would increase smoking behaviours. However, smoking behaviours did not increase the experience of stress (Wills, Sandy, and Yeager, 2002). Smoking may help individuals to reduce the effect of stress. (Kassel Stroud, and Paronis, 2003).

### **Alcohol Consumption**

The sedative effects of alcohol can be drawn as a kind of meditation that helps to distract from a persistent feeling of sadness (Watkins, 2019). Adolescence is viewed as a period of onset and escalation of alcohol use, and the extent and sample of alcohol consumption throughout adolescence predicts the risk to boost alcoholism, drug addiction, and temper problems later in lifestyles. (Van Waes, Darnaudery, Marrocco, Gruber, Talavera, Mairesse, Van Camp, Casolla, Nicoletti, Mathe, Maccari, 2011).

Addiction to alcohol is a complex phenomenon influenced by environmental determinants (Kendler, 2001). This effect can relieve anxiety disorder and provide them with confidence in some situations. At some point, the feeling of anxiety may strike back or more intense that may take their place (Christiansen, 2019). Alcohol may increase anxiety disorder once sedative from alcohol subsides.

Alcohol can cause stress on the body's physiological balance. Previous research (Buddy, 2018) found that alcohol may actually compound the effects of stress and takes a psychological toll on the body. As the stressful events continue in a long-term, heavy alcohol consumption might involve and can lead to an increase in the level of stress and developing alcohol use disorder (Kendler, 2011).

### **Physical Activity**

The physical activity can treat depression which could avoid the physiologic side effects prescribed antidepressants (Mammen and Faulkner, 2013). The link between depression and physical activity are not entirely clear but, based on the previous study showed that increasing physical activity is an effective prevention strategy for depression (Mayo Clinic Staff, 2017).

The way in which exercising affects depression symptoms is nevertheless a source of speculation (Faulkner, and Carless, 2006). Physical activity may keep the mind from negative thoughts that lead to anxiety. This is a healthy coping strategy to manage anxiety. Getting in shape also can make people feel confident about their appearance (Mayo Clinic Staff, 2017).

Physical activity can help lower the overall stress level and improve the quality of life, both mentally and physically (Madell, 2016). It can improve the quality of sleep as the body have slowly free from previous stress. By improving the physical and heart health, there are less to be stressed about as the physical activity helps to moderate the stress level.

### **Research Hypothesis**

In this study, there were two hypotheses:

H1: There is a significant relationship between demographic characteristics (age, gender and marital status) with occurrence of depression, anxiety and level of stress.

H2: There is a significant relationship between lifestyle with occurrence of depression, anxiety and level of stress.

## Research Framework

A research framework has been constructed to investigate the connection between our study variables. With this framework, our study focuses only on occurrence of depression, anxiety and stress. Demographic and lifestyles have the same one because these variables cause depression, anxiety and stress among staff in University Malaysia Kelantan City Campus.

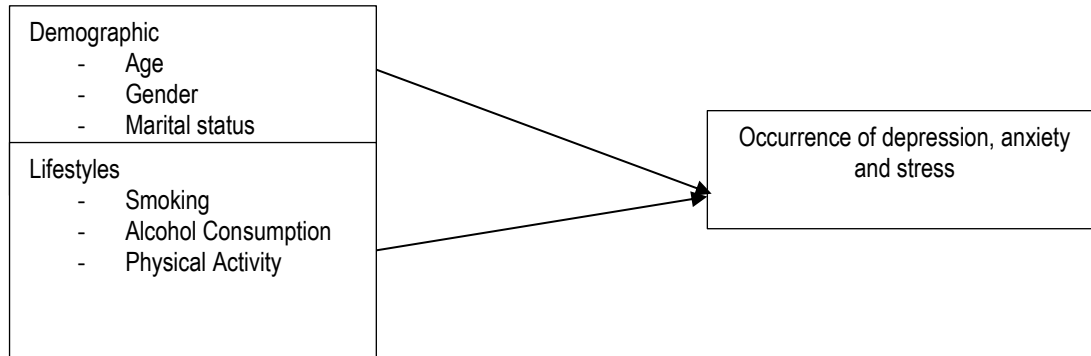


Figure 1: Research framework of depression, anxiety and symptom of stress

## METHODOLOGY

### Research Design

This study used the quantitative method that research on the occurrences of depression, anxiety and symptom of stress among UMK's staff. This design is used to provide a clear outcome to measure the relationship between demographic and lifestyles of UMK's staff and their level of depression, anxiety, and symptoms of stress at a specific point in time. This quantitative research design is relatively inexpensive and takes up little time to conduct.

### Data Collection

In the first stage, the data collection will be held in University Malaysia Kelantan, City Campus. The second stage of data collection was a fieldwork. A set of questionnaires was distributed to lecturer's room, Faculty of Hospitality, Tourism and Wellness, Faculty of Entrepreneur and Business, library, clinics, treasurer's office, hostel and the area inside of University Malaysia Kelantan City Campus only.

### Sampling

A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgmental, selective, or subjective sampling. The reasons why researchers choose University Malaysia Kelantan is because of certain factors that researchers think can be beneficial to the research findings.

The sampling method used in this study was the convenient sampling method. It (also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in the study.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown as below:

$$S = \frac{\chi^2 N p (1 - p)}{e^2 (N - 1) + \chi^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$\chi^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three types of data analysis used in this study, that were frequency analysis and descriptive analysis. The data obtained was analysed by using Statistical Package for the Social Science (SPSS).

### FINDINGS

Table 1 shows that the demographic background of 191 respondents, which include age, gender, marital status, religion, position, professionalism and monthly income. The average age was  $34.10 \pm 6.857$ . According to an investigation by Ministry of Health Malaysia in 2015, out of respondents, 20,940 of them were 16 years and above.

The number of respondents is based on gender. From the result, the number of female is higher as compared to male respondents. Female staff calculated about 55.5% while male staff are only 44.5%. Previous research has shown that the majority of respondents were female 87.6% (Cheung, et al., 2015).

Moving on the marital status variables, here researcher can see that married staff has recorded the highest number which is 133 with 69.6% compared with the single staff accounted for 55 of them which brings up 28.8% whereby divorced staff are only 3 person with 1.6%. In University Malaysia Kelantan City Campus, staff are mostly married. Several studies have revealed that depression is less for women than for single men, widows or divorcees as compared to married people (Andrew & Bulloh, 2017).

Table 1 shows that most of the respondents' religion is Islam with 96.9% followed by Indian and Christian with 1.6% equally. However, there is no respondent with Chinese religion at all. Baetz et al. (2004) offered several possible explanations for the observed association between religion and higher level of depressive symptom.

According to position status, the higher number of administrative staff with 131 of them with 68.6% as compared to academic staff with 60 of them with 31.4% only. According to the Human Resource Department, there are 373 total of staff in University Malaysia Kelantan City Campus.

Furthermore, variable professionalism status stated that non-professional is higher than professional with 88.5% compared to professional with 11.5% only. Megan Seto (2012) identifies, the current model has the effect of attracting a greater number of disciplinary problems with statistic suggesting that 40% to 75% of disciplinary actions are against lawyers who are mentally ill.

The last variable is monthly income. Majority of staff who has income RM1001-RM3000 with 101 of them equal lent with 52.9%. In the second rank who is earning between RM3001-RM5000 with 54 of them with 28.3 percentage. In addition, the third rank revenue is more than or equal RM5001 with 22 of them with 11.5%. Lastly, the lowest revenue of staff is  $\leq$ RM1000 with 14 of them with 7.3%. According to the Department of Statistic Malaysia, the mean monthly household income for Malaysia increased to RM5228 in 2016.

### DISCUSSION & RECOMMENDATION

**Objective 1: To determine the prevalence of depression, anxiety and level of stress among University Malaysia Kelantan staff.**

Table 2 shows the data of prevalence of depression among staff in University Malaysia Kelantan. Based on the table above, it shows that staff with depression has recorded 108 with 56.5% whereby staff who mentioned no are 83 of them with 43.5%. Therefore, majority of the respondents are having depression. The findings of this study found a high prevalence of depression which is 56.5% among staff in University Malaysia Kelantan. Comparatively, low reporting rates was reported at 35.8% (Teris, Paul & Yip, 2015). According to Kuo et al. (2015), a low reporting rates was 27% of the prevalence of depression.

The data of prevalence of anxiety among staff in University Malaysia Kelantan is shown in the table 4.2. It shows that staff with anxiety has recorded 110 with 57.6% whereby staff who mentioned no are 81 of them with 42.4%. The findings of this study found a prevalence of anxiety which is 57.6% among staff in University Malaysia Kelantan. The findings were lower with the previous studies reported at 40% (Allison, 2002) and 15.6% (Daniel Eisenberg, 2007).

Table 2 shows the data of prevalence of stress among staff in University Malaysia Kelantan. Based on the table above, it shows that staff with anxiety has recorded 62 with 32.5% whereby staff who mentioned no are 129 of them with 67.5%. Studies have found that the prevalence of stress among the medical students was 29.6% which was lower than our research (Zaid, Chan, Ho, 2007). The prevalence of stress among Debre Birhan governmental and non-governmental regular health science college participants is 3.6 and this is a very low reporting rates (Ayele Mamo Abebe, Yilma Girma Kebede and Fikir Mengistu (2016).

The results reveals that, majority of UMK's staff have anxiety as compared to depression and stress. This is because number with anxiety respondents is over depression and stress.

**Objective ii: To determine the level of depression, anxiety and symptoms of stress among UMK's staff.**

Table 3 shows the level of depression, anxiety and stress among staff of University Malaysia Kelantan. According to the table above, there are five stages of each depression, stress and anxiety level. The stages are normal, mild, moderate, severe and extremely severe. Scoring for each of the level are determined using Depression Anxiety Stress Scale. Scoring for depression, normal: 0-4, mild: 5-6, moderate: 7-10, severe: 11-13 and extremely severe:  $\geq 14$ . Meanwhile for anxiety, normal: 0-3, mild: 4-5, moderate: 6-7, severe: 8-9 and extremely severe:  $\geq 10$ . Then, for stress, normal: 0-7, mild: 8-9, moderate: 10-12, severe: 13-16 and extremely severe:  $\geq 17$ .

From table 3 above, we can observe that firstly for depression most UMK's staff are having Normal level of depression involving 83 respondents with 43.5%, highest as compared to others. Next, for Mild score, there are 39 staff experienced it with 20.4%. It is followed by Moderate level with 48 of them with 25.1%. Then, moves to Severe level with 12 of them with 6.3%. The lowest score is Extremely Severe with just 9 of them with 4.7%.

Secondly, moves to the level of anxiety's score, we can see that Normal scale took place as the highest score with 81 respondents or 42.4%. Next for Mild, scoring is 39 staffs with 20.4%. It is followed by Moderate score with 25 of them with 13.1%. Meanwhile for Severe score, there are 26 staffs experienced it with 13.6%. The lowest score is recorded by Extremely Severe with only 20 of them at 10.5%.

Thirdly, is the level of stress's score, for the Normal scale researcher finds out that there are 129 respondents with 67.5%. It is followed by Mild, scored by 22 staffs with 11.5%. Next, moves to Moderate scale; the score is 26 with 13.6%. Meanwhile, for the Severe scale, the score is recorded at also 11 staffs with 5.8%. Last, Extremely Severe scale is the lowest with only just 3 of respondents at 1.6%.

From this study, we can conclude that for each of Depression, Anxiety and Stress level, the Normal scale recorded the highest respondents as compared to others with respectively Depression scored by 83 with 43.5%, Anxiety at 81 with 41.5% and Stress at 129 with 67.5%. Even though the percentage is high and categorised as normal, the respondents who answered may have the symptoms but the respondents thought that they do experience a little symptom of depression, stress and anxiety. Meanwhile, Extremely Severe scale captured the lowest of respondents among all levels with Depression only 9 with 4.7%, Anxiety took 20 of them with 10.5% and Stress just 3 with 1.6%.

For the level of depression that scored by 43.5% is still counted as normal because even though the respondents who answered the questionnaire do have depression, but their level of depression are too low as compared to those respondents who are having mild, moderate, severe and extremely severe because they did have the symptoms of depression. This indicates that occupational stress among academicians is a problem, but not acute; it is just perceived differently among academicians. The findings is consistent with the studies conducted by Reddy and Poornima (2012), Raza (2012) and Zaheer et al. (2016) which documented moderate level of stress perceived by university teachers. On the contrary, Sliskoric and Sersdic (2011) conducted a study on work stress among university teachers and suggested that teachers in higher education are exposed to high level of occupational stress.

**Objective iii: To identify the relationship between demographic characteristic (gender, marital status, religion, position, professionalism and income) with the occurrence of depression, anxiety and symptom of stress among University Malaysia Kelantan staff.**

Table 4 shows the relationship between demographic characteristics with the occurrence of depression among UMK's staff. There is a significant relationship that existed between two variables when the P-value is less than 0.05.

Table 4 presents, the gender variable shown that there is 78 of respondents with 91.8% of male who have a depression and 7 of them with 8.2% do not have a depression. Therefore, the table also recorded that there is 84 respondent with 79.2% of

female who have a depression and 22 of them with 20.8% do not have a depression. Based on the analysis, there is a significant relationship between gender variable with the occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 5.741$ , P-value = 0.017). The result is preferred that female respondents have the higher occurrences of depression than male in the general population (Weissman & Klerman, 1977; Lynn & Martin, 1977; Cyranowski et al., 2000; Kendler et al., 2001; Nolen-Hoeksema, in press). The number of potential biological, psychological, genetic and social explanations have been formulated to explain this association, as it has integrative theories of depression (Veijola et al., 1998).

The marital status shows that the married recorded the highest data, 109 of them with 67.3% that have depression rather than single represented by 53 respondents with 32.7%. There are 24 married with 82.8% and 5 single respondents with 17.2% who do not have any occurrences of depression. The P-value between marital status and occurrences of stress among UMK's staff is 0.227 and the chi-square test value is 2.968. According to this analysis, there is no significant relationship existed between marital status and prevalence of depression among University Malaysia Kelantan staff.

From the religion variable, 156 of Muslim with 96.3% and 6 of Non-Muslim with 3.7% respondent have an occurrence of depression, however 29 of Muslim with 100% do not have prevalence of depression. The P-value between religion and occurrence of depression among University Malaysia Kelantan staff is 0.292 and the chi-square test is 1.109. Based on the analysis, there is no significant relationship existed between religion and occurrence of depression.

As illustrated in table 4, position variable stated that 117 of administrative staff with 89.3% and 45 academic staff with 75% that have an occurrence of depression. Although, 14 administrative staff with 10.7 and 15 academic staff with 25% do not have any occurrences of depression. Based on the analysis, there is a significant relationship existed between position and occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 6.546$ , P-value = 0.011).

The professionalism variable showed that, 151 of non-professionals with 89.3% and 11 of professional people with 50% have an occurrence of depression. Then, 18 non-professional respondents with 10.7% and 11 of professionals with 50% do not have a prevalence of depression. According to the analysis, there is a significant relationship existed between professionalism with the occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 23.405$ , P-value = 0.000).

The final segment is income level. There are 106 respondents with 65.4% of low income level and 34.6% of high income who have an occurrence of depression. Therefore, 9 respondents with 31% of low income category and 20 respondents with 69% of high income do not have a prevalence of depression. According to this analysis, there is a significant relationship existed between income level and the occurrence of depression among University Malaysia Kelantan staff whereby is the chi-square is 12.148 and P-value is 0.0\*. Since the P-value is greater than 0.05, researcher does not reject the null hypothesis. Rather, the researcher concludes that there is not enough evidence to suggest relationship between income level and a prevalence of depression.

Table 5 shows the relationship between demographic characteristics with the occurrence of anxiety among UMK's staff. There are significant relationships between two variables which is gender and income level.

Table shows a gender variables, 75 of male with 88.2% and 84 of female with 79.2% have occurrence of anxiety, but 10 of male and 22 of female with 11.8% and 20.8% do not have any occurrences of anxiety. The chi-square test showed the 2.734 and the P-value at 0.098. According to this analysis, there is a significant relationship existed between gender and the occurrence of anxiety among University Malaysia Kelantan staff.

Next is a marital status, 112 of married respondents with 70.4% are recorded as having an occurrence of anxiety rather than singles that only recorded 47 with 29.6%. Other than that, 21 of married with 65.6% and 11 of single with 34.4% are recorded not having any occurrences of anxiety. The P-value between marital status and occurrence of anxiety is 0.589 and the chi-square is 0.292. Based on this analysis, there is no significant relationship existed between marital status and the occurrence of anxiety among University Malaysia Kelantan staff.

The table of religion variable shows 153 of Muslim with 96.2% and 6 of Non-Muslim with 3.8% of them recorded as having an occurrence of anxiety. Therefore, the other 32 respondents do not have occurrence of anxiety. The P-value between religion and prevalence of anxiety is 0.264 and the chi-square test is 1.247. According to the analysis, there is no significant relationship between religion and the occurrence of anxiety among University Malaysia Kelantan staff.

Position variable showed 111 of administrative staff with 84.7% and the academic staff 48 of them with 80.0% as having occurrences of anxiety. Other than that, 20 of administrative staff with 15.3% and 12 of academic staff with 20.0% as do not have an occurrence of anxiety. The P-value between position and the occurrence of anxiety is 0.661 and the chi-square test

is 0.416. Based on this analysis, there is no significant relationship existed between position and the occurrence of anxiety among University Malaysia Kelantan staff.

The professionalism are divided by two variables which is non-professional and professional. Based on the table above, 142 of non-professionals and 17 of professionals with 84.0% and 77.3% as having an occurrence of anxiety. Although, 27 of non-professionals and 5 of professionals with 16.0% and 22.7% respectively are recorded as not having any occurrences of anxiety. The P-value between professionalism and the occurrence of anxiety is 0.636 and the chi-square test is 0.426. According to this analysis, there is a significant relationship existed between professionalism and the occurrence of anxiety among University Malaysia Kelantan staff.

Last segment in the table above is income level variable. There is 104 of respondents with low income level with 65.4% recorded as the highest group that has an occurrence of anxiety however 11 respondents of low income with 34.4% do not have occurrence of anxiety. The P-value between income level and the occurrence of anxiety is 0.001 and the chi-square test is 10.709. Based on the analysis, there is a significant relationship existed between income level and the occurrence of anxiety among University Malaysia Kelantan staff.

Table 6 shows the relationship between demographic characteristics with an occurrence of stress. There is a significant relationship between two variables which are professionalism and income level with prevalence of stress among University Malaysia Kelantan staff.

Table shows gender variable, 90 of female with 84.9% and 73 of male with 85.9% are recorded as having a prevalence of stress. Then, 16 of female with 15.1% and 12 of male with 14.1% are recorded as not having any occurrence of stress. The P-value between gender and the occurrence of stress is 0.85 and the chi-square test is 0.036. According to this analysis, there is no significant relationship existed between gender and the occurrence of stress among University Malaysia Kelantan staff.

Next, the marital status variable, 110 of married with 67.9% get the highest number of respondents that have an occurrence of stress rather than single. Then, 23 of married with 82.1% of them do not have an occurrence of stress. Single variable had 53 of them with 32.5% that have an occurrence and 5 of them with 17.9% do not have a prevalence of stress. The P-value between marital status and the occurrence of stress is 0.119 and the chi-square test is 2.428. Based on this analysis, there is no significant relationship existed between marital status and the occurrence of stress among University Malaysia Kelantan staff.

Other than that, religion variable stated 157 of Muslim with 96.3% have an occurrence of stress and 28 of them with 100% do not have an occurrence of stress. Non-Muslim recorded that 6 respondents with 33.7% have an occurrence of stress. The P-value between religion and occurrence of stress is 0.302 and the chi-square test is 1.064. According to this analysis, there is no significant relationship between religion and the occurrence of stress among University Malaysia Kelantan staff.

Then the position variable, there is 118 of administrative staff with 90.1% and 45 of academic staff with 75.0% are recorded as having an occurrence of stress while 13 of administrative staff with 9.9% and 15 of academic staff with 25.0% do not have occurrence of stress. The table above also shows that the P-value between position variable and the occurrence of stress is 0.006 and the chi-square test is 7.477. According to this analysis, there is a significant relationship existed between position and the occurrence of stress among University Malaysia Kelantan staff.

The professionalism variable, 152 of non-professionals with 89.9% and 11 of professionals with 50.0% are recorded as having an occurrence of stress. There is 17 of non-professionals with 10.1% and 11 of professionals with 50.0% of them do not have an occurrence of stress. The table above shows that the P-value between professionalism and occurrence of stress is 0.000 and the chi-square test is 24.822. Based on the analysis, there is a significant relationship existed between professionalism and the occurrence of stress among University Malaysia Kelantan staff.

The final segment is income level, 105 respondents that had low income with 64.4% recorded as having an occurrence of stress rather than the respondents that had high income level which only have 58 of respondents with 35.6% of them. There is only 10 of respondents from low income with 35.7% do not have an occurrence of stress. The table 4.6 shows the P-value between income level and the occurrence of stress is 0.004 and the chi-square test is 8.217. The analysis can be concluded based on the table above is that there is a significant relationship existed between income level and the occurrence of stress among University Malaysia Kelantan staff.

**Objective iv: To identify the relationship between lifestyle factor (smoking habits, alcohol consumption, and physical activity) with the occurrence of depression, anxiety and stress among UMK's staff.**

Table 7 shows the relationship between the Social Lifestyle with the occurrence of depression. There is a significant relationship existed between two variables when P-value is less than 0.05.

Table 7 shows that for smoking variables, 13 respondents that were smoking have the occurrence of depression with 86.7% and only 2 of the smoking respondents do not have the occurrence of depression with 13.3%. 149 respondents that were non-smoker have the occurrence of depression with 84.7% and 27 respondents that non-smoker do not have the occurrence of depression with 15.3%. Based on the analysis, it stated that there is no significant relationship existed between smoking lifestyle and the occurrence of depression as the  $X^2 = 0.043$  and P-value = 0.835. Author discovers that 73% of the smoker with the occurrences of depression (Fluharty, Taylor, Grabski, Munafò, 2016). According to Khademalhosseini, Ahmadi, and Khademalhosseini (2015), most smokers from Iranian high school students have some degrees of depression and heavy smoking which are related to each other (Rashid, Kanagasundram, Danaee, Abdul Majid, Sulaiman, Ahmad Zahari, Ng, Francis, Wan Husin and Su, 2019). Being depressed will increased the risk of the smoker to use cigarettes daily, major depression has been associated in the past with increased rates of daily smoking and elevated rates of nicotine dependence.

From the table 7 shows that there is no association of alcohol consumption from the respondents. This explain that majorities of the respondents are Malays and Muslims in religion. In another study, Singh, Kaen, Hei, Tuthill, Allotey and Reidpath (2018) examined that 103 respondents that are Malays placed in Kuala Lumpur and have the lowest 5% in the binge drinking category. Previous study of Abdul Mutalip, Kamarudin, Manickam, Abd Hamid and Saari (2011) stated that only 0.9% of the Malays respondents drinks the alcohol in Malaysia. The result is consistent with Latiff, Tajik, Ibrahim, Abubakar and Albar (2016), indicating that Malays respondent is not the highest to drink alcohol among the secondary school students in Malaysia.

Physical activity recorded that 104 respondents with 81.9% that like to do physical activity have the prevalence of depression while 23 respondents with 18.1% do not have the prevalence of depression. 58 respondents with the highest 90.6% of having the prevalence of depression do not like to have physical activity and the other 6 respondents with 9.4% without having the prevalence of depression do not like to have physical activity. This study has found that the value  $X^2 = 2.521$  and P-value = 0.112. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and prevalence of depression. This study findings was supported by previous study of Ku, Fox and Chen (2009) and Rothon, Bhui, Viner, Taylor and Stansfeld (2010). However, the previous study by Harvey, Hotopf, Overland and Mykletun (2010) has the different result that shows the significant relationship between the physical activity and prevalence of depression. The reason of discrepancy is not readily apparent, the association maybe due to factor such as the sample size of the study. Harvey et al. (2010) sample study was 33,925 participants. The other factor suggested was the lack of physical activity facilities provided for the staff in University Malaysia Kelantan.

Table 8 shows the relationship between social lifestyle and the prevalence of anxiety. There is a significant relationship existed between two variables when P-value is less than 0.05. The social lifestyle based on the Table 4.8 are smoking habits, alcohol consumption and physical activity with the total sample of (n=191).

Table 8 shows that 11 respondents who are smoking has the prevalence of anxiety with 73.3% than the 4 respondents who are smoking but do not have the prevalence of anxiety with 26.7%. 148 respondents with 84.1% are not smoking but have the prevalence of anxiety while 28 respondents with 15.9% arenot smoking and do not have the prevalence of anxiety. Based on the analysis, it stated that with  $X^2 = 1.147$  and P-value = 0.284. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and the prevalence of depression. Based on the previous study (Rashid et al. 2015) also shows that the prevalence of anxiety is higher among the smokers than the non-smokers. There is no support for statistical interaction between smoking and anxiety as  $P = 0.93$  (Bjorngaard, Elvestad, Smith, Krokan, Vatten & Romundstad, 2012). However, based on the study made by McClave, Dube, Strine, Kroenke, Caraballo and Mokdad (2009), it shows that there is significant relationship between the smoking habits and the prevalence of anxiety which is the P-value<0.001. The reason for discrepancy is the different factors of geographic as the previous study was placed in United State while this study was placed in Universiti Malaysia Kelantan (UMK). The other factors suggested that the lifestyle in UMK was lack of respondents who are smokers. From this study, other factors that suggested to be applied for further study such as the smoking place and cafeteria may result in the significant contribution to smoking habits.

Based on table 8, since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between alcohol and prevalence of anxiety. The reason for this was there is no respondent that consume alcohol and this factor cannot be used for this study. For this study, other factor can be implied



for further study such as music therapy, sleeping order and eating habits, which may have the significant contribution to prevalence of anxiety.

Table 8 shows that 98 respondents with 77.2% like to have physical activity and have the prevalence of anxiety while 29 respondents with 22.8% like to have physical activity but do not have the prevalence of anxiety. 61 respondents with 95.3% do not like to have physical activity and have the prevalence of anxiety while only 3 respondents with 4.7% do not like to have physical activity and do not have the prevalence of anxiety. This study has found that there is a significant relationship between physical activity and the prevalence of anxiety ( $X^2 = 10.048$ , P-value = 0.002). Active adults report fewer symptoms of anxiety than inactive adults. (Biddle and Asare, 2011). This shows that this study has the different result than the previous study. Taracki, Yeldan, Mutlu, Baydogan and Kasapcopur (2011) shows different result as the study has no significant relationship between two variables. The reason for discrepancy was due to the different sample size in study, there were 52 research participants involved in Taracki et al (2011). The other reason for discrepancy also due to the different set of questionnaire as this study used DASS set of questionnaire while the past study (Taracki et al., 2011) used the Screen for Child Anxiety Related Emotional Disorder (SCARED) set of questionnaire. Other factors should be implied for further study is such as the set of questionnaire that is more specific for the research sample.

Table 9 shows the relationship between the social lifestyle and the prevalence of stress. There is a significant relationship existed between two variables when P-value is less than 0.05. The social lifestyle based on the Table 4.9 are smoking habits, alcohol consumption and physical activity with the total sample of 191 (n=191).

Based on the table 9, it shows that 11 respondents with 73.3% were smoking and have the prevalence of stress while 4 respondents with 26.7% were smoking but do not have the prevalence of stress. 152 respondents with the highest percentage of 86.4% were not smoking and have the prevalence of stress while 24 respondents with 13.6% were not smoking and do not have the prevalence of stress.  $X^2 = 1.876$  and P-value = 0.171 were not statistically significant. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between smoking and prevalence of stress. However, the previous study made by Gupta and Mehta (2011) shows that there is a significant relationship between smokers and the prevalence of stress as the sample research study were university students in Australia. Mediation analysis indicated that two negative emotions fully mediated the link between stress and intensity of smoking (Wang, Chen, Gong and Yan, 2016). Stress exposure led to significant increased nicotine craving and impulsive responding in smoker (Schepis, McFetridge, Chaplin, Sinha & Sarin, 2011).

Based on table 9, since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between alcohol and prevalence of stress between alcohol consumption and the prevalence of anxiety. The reason for this was there is no respondent that consume alcohol and this factor cannot be used for this study. Almost all of the respondents are Muslim and respondents may conceal alcohol consumption. For this study, other factors can be implied for further study such as music therapy, sleeping order and eating habits, which may have the significant contribution to prevalence of anxiety.

Table 9 shows that 105 respondents with 82.7% like to do the physical activities and have the prevalence of stress while the 24 respondents with 18.3% like to do physical activity but do not have the prevalence of stress. 58 respondents with 90.6% do not do the physical activity although have the prevalence of stress while the lowest 6 respondents with 9.4% do not do the physical activity and do not have the prevalence of stress. Based on the statistic,  $X^2 = 2.149$  and P-value = 0.143. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and prevalence of stress. Study from Roskoden, Charles, Krüger, Vogt, Gärtner, Hannich, Steveling, Lerch, and Aghdassi (2017) also has stated that there is no significant difference were found for overall physical activity. In a 2013 cross-sectional, correlational study among a sample of Thai nursing students, those with high stress levels reported poorer physical health, which was strongly associated with their psychological distress (Shankar and Park, 2016). Based on previous study by Michels, Nathalie, Sioen, Boone, Braet, Vanaelst, Huybrechts, and Henauw (2015), bidirectional relations were examined with cross-lagged analyses resulted that certain stress aspect increased the physical activity. There are factors that should be implied for further study which is the type of physical activity such as walking, swimming and cycling, that may change the statistic results.

## CONCLUSION

In conclusion, the prevalence of stress was highest among depression and anxiety. As for the level, researcher can conclude that UMK's staff have the highest normal level in stress compared to depression and anxiety. This is just a sample from 191 respondents. For relationship between demographic characteristic with the occurrence of depression, anxiety and stress, researcher can conclude that religion has the highest occurrence between other variables. Besides, for the relationship between lifestyles factors, physical activity has the highest prevalence in depression, anxiety and stress.

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## APPENDICES

Table 1: Number of respondents by variables (n=191)

Variables	Mean (SD)	Frequency (n=191)	Percentage (%)
Age	34.10(6.857)		
Gender			
• Male		85	44.5
• Female		106	55.5
Marital Status			
• Single		55	28.8
• Married		133	69.6
• Divorce		3	1.6
Religion			
• Islam		185	96.9
• Indian		3	1.6
• Christian		3	1.6
• Chinese		0	0
Position			
• Academic Staff		60	31.4
• Administrative Staff		131	68.6
Professionalism			
• Professional		22	11.5
• Non- professional		169	88.5
Monthly Income			
• ≤RM1000		14	7.3
• RM1001-RM3000		101	52.9
• RM3001-RM5000		54	28.3
• ≥RM5001		22	11.5

Table 2: Prevalence of Depression, Anxiety and Stress

Variables	Frequency (n=191)	
	Yes (%)	No (%)
Depression	108 (56.5)	83(43.5)
Anxiety	110 (57.6)	81(42.4)
Stress	62 (32.5)	129(67.5)

Table 3: level of depression, anxiety and stress

Variables	Frequency (n= 191)	%
Depression		
• Normal	83	43.5
	39	20.4
• Mild	48	25.1
	12	6.3
• Moderate	9	4.7
• Severe		
• Extremely severe	81	42.4
	39	20.4
	25	13.1
Anxiety	26	13.6
• Normal	20	10.5
• Mild		
	129	67.5
• Moderate	22	11.5
	26	13.6
• Severe	11	5.8
	3	1.6
• Extremely severe		
Stress		
• Normal		
• Mild		
• Moderate		
• Severe		
• Extremely severe		

Table 4: The relationship between demographic characteristic with the occurrence of depression among UMK's staff.

Variable	Occurrences of Depression		x <sup>2</sup>	P-value	
	Yes n (%)	No n (%)			
<b>Gender</b>					
	Male	78 (91.8)	7 (8.2)	5.741	0.017*
	Female	84 (79.2)	22 (20.8)		
<b>Marital Status</b>					
	Single	53 (32.7)	5 (17.2)	2.786	0.095
	Married	109 (67.3)	24 (82.8)		
<b>Religion</b>					
	Muslim	156 (96.3)	29 (100.0)	1.109	0.292
	Non-Muslim	6 (3.7)	0 (0.0)		
<b>Position</b>					
	Academic Staff	45 (75.0)	15 (25.0)	6.546	0.011*
	Administrative	117 (89.3)	14 (10.7)		
	Staff				
<b>Professionalism</b>					
	Non-professional	151 (89.3)	18 (10.7)	23.405	0.000*
	Professional	11 (50.0)	11 (50.0)		
<b>Income</b>					
	Low Income	106 (65.4)	9 (31.0)	12.148	0.000*
	High Income	56 (34.6)	20 (69.0)		

\*significant less than 0.05

Table 5: The relationship between demographic characteristic with the occurrence of anxiety among UMK's staff.

Variable	Occurrence Of Anxiety		x <sup>2</sup>	P-value	
	Yes n (%)	No n (%)			
<b>Gender</b>					
	Male	75 (88.2)	10 (11.8)	2.734	0.098
	Female	84 (79.2)	22 (20.8)		
<b>Marital Status</b>					
	Single	47 (29.6)	11 (34.4)	0.292	0.589
	Married	112 (70.4)	21 (65.6)		
<b>Religion</b>					
	Muslim	153 (96.2)	32 (100.0)	1.247	0.264
	Non-Muslim	6 (3.8)	0 (0.0)		
<b>Position</b>					
	Academic Staff	48 (80.0)	12 (20.0)	0.661	0.416
	Administrative Staff	111 (84.7)	20 (15.3)		
<b>Professionalism</b>					
	Non-professional	142 (84.0)	27 (16.0)	0.636	0.425
	Professional	17 (77.3)	5 (22.7)		
<b>Income</b>					
	Low Income	104 (65.4)	11 (34.4)	10.709	0.001
	High Income	55 (34.6)	21 (65.6)		

\*significant at p-value less than 0.05

Table 6: The relationship between demographic characteristic with the occurrence of stress among UMK's staff.

Variable	Occurrence Of Stress		x <sup>2</sup>	P-value	
	Yes n (%)	No n (%)			
<b>Gender</b>					
	Male	73 (85.9)	12 (14.1)	0.036	0.85
	Female	90 (84.9)	16 (15.1)		
<b>Marital Status</b>					
	Single	53 (32.5)	5 (17.9)	2.428	0.119
	Married	110 (67.9)	23 (82.1)		
<b>Religion</b>					
	Muslim	157 (96.3)	28 (100.0)	1.064	0.302
	Non-Muslim	6 (3.7)	0 (0.0)		
<b>Position</b>					
	Academic Staff	45 (75.0)	15 (25.0)	7.477	0.006
	Administrative Staff	118 (90.1)	13 (9.9)		
<b>Professionalism</b>					
	Non-professional	152 (89.9)	17 (10.1)	24.822	0.0*
	Professional	11 (50.0)	11 (50.0)		
<b>Income</b>					
	Low Income	105 (64.4)	10 (35.7)	8.217	0.004
	High Income	58 (35.6)	18 (64.3)		

\*significant at p-value less than 0.05

Table 7: The Relationship between the social lifestyle and the Prevalence of Depression

	Prevalence Of Depression		x <sup>2</sup>	p-value
	Yes n (%)	No n (%)		
<b>Smoking</b>				
• Yes	13(86.7)	2(13.3)	0.043	0.835
• No	149(84.7)	27(15.3)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0.000	0.000*
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	104(81.9)	23(18.1)	2.521	0.112
• No	58(90.6)	6(9.4)		

\*Significant at p-value less than 0.05

Table 8: The relationship between social lifestyle and the prevalence of anxiety

	Prevalence Of Anxiety		$\chi^2$	p-value
	Yes n(%)	No n(%)		
<b>Smoking</b>				
• Yes	11(73.3)	4(26.7)	1.147	0.284
• No	148(84.1)	28(15.9)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0	0
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	98(77.2)	29(22.8)	10.048	0.002
• No	61(95.3)	3(4.7)		

\*Significant at p-value less than 0.05

Table 9: The relationship between the social lifestyle and the prevalence of stress

	Occurrence Of Stress		$\chi^2$	p-value
	Yes n(%)	No n(%)		
<b>Smoking</b>				
• Yes	11(73.3)	4(26.7)	1.876	0.171
• No	152(86.4)	24(13.6)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0	0
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	105(82.7)	24(17.3)	2.149	0.143
• No	58(90.6)	6(9.4)		

\*Significant at p-value less than 0.05



## The Effect of Knowledge and Attitude Toward Drug Abuse Among Public University Students in Kota Bharu, Kelantan

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### ABSTRACT

Drug abuse among Malaysians especially in the state of Kelantan are major public health concerns, yet few studies have associated it with adverse academic and health outcomes and risks to personal safety. This research utilized data from a longitudinal study to determine the importance of awareness and proper attitude towards drugs. Out of 3927 students, 351 were chosen in order to successfully complete this research. A set of questionnaires was prepared and distributed to the chosen number of students in order to derive their level of awareness and attitude towards the effect of drug abuse. The findings from this study indicate that knowledge and attitude positively have a significant on the effect of drug abuse among public university students in Kota Bharu, Kelantan. This study also clearly demonstrates the need for a prevention program to be developed throughout all stages of adolescent in order to decrease the major issue from drug abuse.

**Keywords:** Knowledge, Attitude, Drug Abuse, Students

### INTRODUCTION

World Drug Report (2007) stated that the involvement of teenagers in legal and illegal drugs increasing globally. Gore and Bloem (2011), stated that the uses of illegal substances contribute 2% for teenagers from the age of 10 to 24 to face specific disability-adjusted life-years. According to Gray (2007), data of epidemiological study explained that 42% of seniors in high school had tried marijuana in the United States. Farrel and Marshall (2006) have proven that almost 1 in 4 (25 percent) of the English population reported as using cannabis at all times. Pengpid and Peltzer (2013) conducted a study in Thailand which identified that the overall prevalence of illegal drugs used was 6.0%. The number of drug addicts identified in Malaysia from January to November 2012 was 4948, among whom 3.2% were adolescents aged less than 18 years of age (National Anti-Narcotic Agency 2012).

Besides that, according to National Antidrug Agency (2017), Pulau Pinang has the highest number of drug addicts with 3844 people stands for 14.83 percent and Kelantan is the second highest with 3700 people representing 14.27 percent and followed by Kedah with 2655 drug addicts representing 10.24 percent. Kelantan has 2822 new cases in the year 2017 and 878 repetitive cases.

This study discusses the effect of knowledge and attitudes towards drug abuse among public university students in Kota Bharu, Kelantan. The objectives of this study are as follow:

1. To examine the relationship between knowledge and drug abuse among public university students in Kota Bharu, Kelantan.
2. To determine the relationship between attitude and drug abuse among public university students in Kota Bharu, Kelantan.

### SIGNIFICANCE OF STUDY

This research will bring many benefits to many parties that involve directly or indirectly in this research. Below are the parties that will get the benefits and positive outcomes from this research.

#### Government

The Ministry of Higher Education Malaysia (MOHE) can benefit from this study to determine the cause of drug abuse among students and enact laws to reduce and ultimately prevent this problem from getting worse. Enforcement of the law will impact in suspending and expelling students who got caught involved in drug abuse.

## Research

Other related research in the future may benefit from the results of this study with certain improvements or additional data to further expand the field of study.

## Community

This research will provide information for the community to handle the issue so that they are more sensitive, responsible and alert. The issue can hopefully be resolved through awareness and cooperation of the whole community.

## LITERATURE REVIEW

### Definition of drug abuse

Drugs are chemicals of psychoactive material that affect the central nervous system and drug abuse is when a user is in a situation of intoxication, addiction and causes behavioral problems. Drugs are chemical substances that are dangerous for an individual to consume as it changes the functions of the body and mind. Drugs are special term refers to substances that damage an abuser's mental, physical and emotional health and behavior as well. In the end, a drug abuser becomes addicted and strongly relies on substances (Galea, Nandi, & Viahov, 2004).

Drug abuse also refers to a functional disorder and maladaptation due to the misuse of substances. Drugs could destroy the original function of the brain and cause interruption in conversation and work performance. Besides that, drugs also lead to the destruction of an abuser's behavior (Bonell et al., 2010).

### Relationship between knowledge and attitude toward drug abuse

Drug abuse remains to be a big issue in Malaysia according to Scorzelli (2009) with practically 30,000 Malaysians were imprisoned for many drug-related crimes (Yuen & Zahid, 2013). Based on Caldeira, et al., (2009), outcomes from the longitudinal College Life Study (CLS) studied in the University of Maryland, it was found that there was a shared use of illegal substance with 35.0% of third-year students and 23.6% of first-year students meeting the conditions for substance use disorders.

It is not clear what is the root of these changes is, but it does seem either that the configuration of drug use in Malaysia is ever-changing or that, the legal changes in rehab cause many users to begin searching for care who might not have done so in the past. Based on NADA ( National Anti-drug Agency) drug report on 2013, the up-to-date available statistics on drug types, which were commonly abused by Malaysian drug users in 2013, cited opiates (75.07%) as the highest-ranked substance, followed by methamphetamines (13.58%), cannabis (8.82%), amphetamine-type substances (ATS) pills (2.23%), and psych pharmaceutical pills or psychoactive (0.22%), although it was not known which substances were highly used among drug users of different age groups .

Appropriate education about substance abuse is an important precautionary measure for kids, us and even teenagers. When adults share factual information about substance abuse, it helps us improve a better-quality sense of drug abuse knowledge. Without proper educational actions on the harmful effects of drugs, people may cultivate increased risks for becoming interested in drugs, falling prey to peer pressure, and try drugs themselves. When people started trying drugs, it places them in a high-risk category for eventually involved in drug addiction, tolerance and dependence.

In terms of drug abuse knowledge, it's necessary to collect and share facts about all kinds of drugs, regardless of what the observed threat of addiction is. Some people believe that meth, heroin and cocaine are more addictive with more serious impact, but the truth is that drugs like marijuana can be just as addictive and just as dangerous as others. It is essential for people of all ages to identify the potential damage that any drug can cause; not only to the mind but also to the body. Outside of teaching the basics, substance abuse teaching can also provide information on what to do and how to express support when a family member or friend is going through rehabilitation. Moreover, substance abuse education may also deliver information about addiction treatment and what the potential effects are to make everyone involved in the recovery process.

## Hypothesis

The research hypotheses for this study are as follows;

1. H1: There is a significant relationship between knowledge and drug abuse among public university students in Kota Bharu, Kelantan.
2. H2: There is a significant relationship between attitude and drug abuse among public university students in Kota Bharu, Kelantan.

## Research Framework

The research framework as illustrated in Figure 1 has the key components: knowledge and attitude as the independent variables while drug abuse among public university students in Kota Bharu, Kelantan is the dependent variable. The source is referred to and adopted from the basic model of the study (Teng et al., 2018). Through the reference, the researcher has used the theory model of TAM and added the perceived risk as the independent variables.

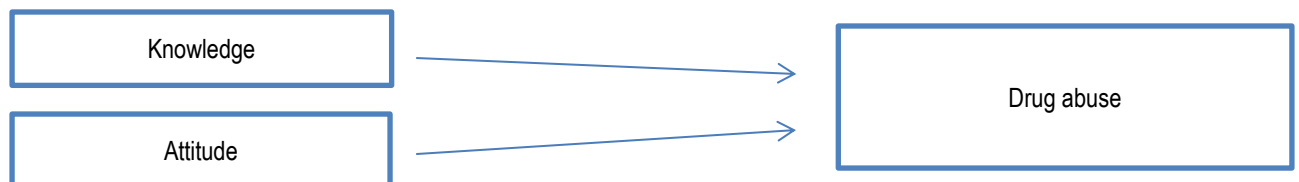


Figure 1: The research framework on the relationship of knowledge and attitude towards drug abuse among public university students in Kota Bharu, Kelantan

## METHODOLOGY

### Research Design

The research design for this research will be quantitative to add more accuracy to the study. Quantitative research is a much more structured way of collecting and analyzing data obtained from survey. Quantitative research involves the use of computational, statistical, and mathematical tools to derive results. It is conclusive in its aim as it tries to quantify the problem and understand how prevalent it is by looking for projectable results to a larger population. A questionnaire will be used as a tool to get accurate data from the respondents.

### Target Population

For this research, the target population was among 3927 public university students in Kota Bharu, Kelantan.

### Sample Size

Sampling is basically the method of selecting a smaller number of members of the entire community to make a determination on that particular community. This research's sample size was a random sample of 351 respondents among public university students in Kelantan. It was determined using the Krejcie and Morgan's sample size estimation table.

### Sampling Method

The sample of respondents was selected by using a stratified random sampling method in order to identify the level of awareness, perception, and attitudes towards drug abuse among public university students in Kelantan. The researcher used stratified sampling because it involves dividing the population into a homogenous subgroup known as strata. The strata are formed based on the member's shared attributes or characteristics such as income and educational attainment. Stratified sampling is used to highlight the difference between a group in a population as opposed to simple random sampling which treats all members of the population as equal.

## Research Instrument

The study used questionnaire as the research instrument. The questionnaire was constructed in both English and Malay language. The questionnaire includes questions on demographic profile, knowledge, attitude, and effect of drug abuse among public university students in Kota Bharu, Kelantan.

This questionnaire consisted of four sections. Section A was multiple choice questions on the respondent's demographic profile that includes age, gender, race, education level and more. Section B was on drug abuse effect among public university students and Section C was on knowledge of the effect of drug abuse followed by Section D on attitude towards drug abuse among public university students in Kota Bharu, Kelantan.

## Likert Scale

A Likert Scale approach as in Table 1 was used to identify the level of agreement. Likert Scale is a commonly used scale that requires the respondents to show a degree of disagreement or agreement with every of each statement. A five points Likert Scale was chosen for the questionnaire. The reason for choosing a five points Likert Scale is to ease the respondents in answering the questions.

Table 1: points of Likert Scale

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Slightly Agree	Agree

## Data Analysis

The data collected were analyzed using the IBM Statistical Package for Social Science (SPSS) version 23.0. Descriptive statistics were used in analyzing the data that include mean, median, mode and frequencies. The Pearson Correlation would also be used for correlation analysis.

## Reliability Analysis

Reliability Analysis is a tool measuring the stability or consistency of the test scores (Statistics How To, 2016). The reliability analysis was used when conducting the pilot test. A pilot test questionnaire samples were conducted in order to determine the reliability of the questionnaire that will be used in the real survey. The higher the score, the more reliable the questionnaire is. According to Alegre, Lapiedra, and Chiva (2006), it is important to do a pilot study in order to improve the validity of the contents.

## Correlation Analysis

the Pearson Correlation Coefficient analysis was done to establish the relationship between the two variables. The result of the analysis would give a value of -1 to show a perfect negative correlation between the two variables, while a value of 1 means that there is a perfect positive correlation. A value of 0 meanwhile shows that there is no linear relationship between the two variables.

## RESULTS

### Frequency Analysis

The most basic analysis of this study was the frequency analysis. Respondents' profile, attitude, and behaviour were discussed. The data obtained from Section A of the questionnaire included various demographic variables of the respondents such as gender, age, education, drugs and so on. Section A is presented in the form of Tables 2, 3, 4, 5, and 6.

Table 2: Number of Respondents by Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	205	58.4	58.4	58.4
	male	146	41.6	41.6	100.0
	Total	351	100.0	100.0	

Table 2 represents the percentage of the gender of the respondents. Out of 351 respondents, 205 are females (58.4%) and 146 are males (41.6%) involved in this research.

Table 3: Number of Respondents by Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	284	80.9	80.9	80.9
	married	67	19.1	19.1	100.0
	Total	351	100.0	100.0	

Table 3 indicates the percentage of the marital status of respondents. Out of 351 respondents, 284 (80.9%) are single and 67 (19.1%) are married.

Table 4: Table of Respondents by Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19-21 years old	86	24.5	24.5	24.5
	22-24 years old	172	49.0	49.0	73.5
	24-26 years old	60	17.1	17.1	90.6
	27-29 years old	19	5.4	5.4	96.0
	other	14	4.0	4.0	100.0
	Total	351	100.0	100.0	

Table 4 shows the percentage of respondents by age group. In terms of age, respondents were divided into 5 categories; the largest group of age among the respondents was 22-24 which represents 172 respondents (49%) followed by age 19-21 with 86 respondents (24.5%). 60 respondents (17.1%) are from the age group of 24-26 followed by 19 respondents (5.4%) in the age group of 27-29 and the other 14 respondents are from other age groups.

Table 5: Table of Respondents by Education levels

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	58	16.5	16.5	16.5
	degree	238	67.8	67.8	84.3
	master	42	12.0	12.0	96.3
	phd	13	3.7	3.7	100.0
	Total	351	100.0	100.0	

Table 5 indicates the percentage of respondents based on their level of education. The majority of the respondents were degree students which represent 238 respondents (67.8%). 58 respondents (16.5%) are pursuing a diploma followed by 42 master students (12.0%) and the least is 13 respondents who are pursuing PhD representing only 3.7% of sample population.

Table 6: Table of Respondents by How Often

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	15	4.3	4.3	4.3
	occasionally	116	33.0	33.0	37.3
	often	220	62.7	62.7	100.0
	Total	351	100.0	100.0	

Table 6 indicates the number of respondents by how often they heard about drugs. 220 respondents (62.7%) often heard about drugs followed by 116 (33.0%) who occasionally heard and 15 (4.3%) respondents who never heard about drugs before.

### Pearson's Correlation Coefficient

Table 7 showed a Pearson Correlation Coefficient between knowledge and drug abuse. From the table, it shows that there is a significant positive relationship between knowledge and drug abuse at a 1 percent level.

Table 7: Correlation coefficient for knowledge and effect of drug abuse among student

		EFFECT	KNOWLEDGE
EFFECT	Pearson Correlation	1	.458**
	Sig. (2-tailed)		.000
	N	351	351
KNOWLEDGE	Pearson Correlation	.458**	1
	Sig. (2-tailed)	.000	
	N	351	351

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 8 illustrated the Pearson Correlation Coefficient between attitude and drug abuse among students. The table shows that there is a significant positive relationship between attitude and drug abuse at a 1 percent level.

Table 8: Correlation coefficient for attitude and effect of drug abuse among student

		EFFECT	ATTITUDE
EFFECT	Pearson Correlation	1	.411**
	Sig. (2-tailed)		.000
	N	351	351
ATTITUDE	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.000	
	N	351	351

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## DISCUSSION

Based on the data analysis, there is a significant relationship between knowledge and drug abuse among public university students in Kota Bharu. Most respondents indicated that an in-depth knowledge of drug abuse consequences, causes, and its effects are highly required. The result was significant maybe due to the respondents' highly educated background and had been exposed to subjects such as science, chemistry, and biology that would surely provide them with more exposure towards some knowledge on drugs, how it is produced and its effect on the body system.

Then, there is also a significant relationship between attitude and drug abuse. The reason for this result is the positive behaviour of the respondents in balancing the mental and physical aspects of life which lead to a positive code of ethics. Moreover, the positive surroundings help to create good vibes such as supportive social networks and stress management (Qiu, Cai & Gregory, 2006).

This research has important implications for the evaluation of drug knowledge. Understanding the attitudes of the non-user is essential toward identifying misconceptions and knowledge gaps about the factor and effect of drug abuse. The overall data collection of student's knowledge of drug abuse has lead to a belief that people do not confide with drug abusers and consider them as a burden to society. Additionally, findings on factors contributing to drug abuse demonstrated that in Malaysia's law, addiction to drugs can be considered a crime. The result of this study also shows that a lack of knowledge on the complication of drugs can be a factor in drug abuse. So, the government and the non-government sectors should pay more attention to create awareness by exposing accurate information regarding drugs. Normative education and interactive programming could also extend the impact of broader prevention programming in a self-selected sample of students interested in learning more about drug use, abuse, and treatment (Europe monitoring centre for drug addiction, 2017).

## CONCLUSION

To conclude, this research was able to shed some light on the student's opinions in regard to their knowledge and attitude on drugs. In the future, it is hoped that feedback from the non-user can be factored into drug prevention and other public health program. The research hypothesis also had been accepted in providing the evidence as the variables were found to be statistically significant.

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## The Awareness of Beauty Product Consumption Among Female Student of University Malaysia Kelantan City Campus

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### ABSTRACT

The purpose of this study is to identify the awareness of beauty product consumption among female students of University Malaysia Kelantan City Campus. Descriptive analysis and Pearson correlation coefficient were used in this study. The findings of this study indicate that physical health, mental health, and money-wasting are significant at a 1 percent level in affecting the awareness of consumption of beauty products among female students.

**Keywords:** *Physical health, Mental health, Money Wasting, Beauty product*

### INTRODUCTION

The purpose of this study is to identify the awareness of beauty product consumption among female students of University Malaysia Kelantan City Campus. Lately, beauty products have flooded the domestic and international markets at such a skyrocketing rate. Health professionals around the world often associated health with a perfect system and beauty product.

The first issue that this research wants to observe is the relationship between mental health and awareness of beauty products consumption. Mental health can be defined as a person's condition in relation to their psychological and emotional well-being. According to the survey from The Renfrew Center Foundation (2016), which included data for 1292 women age 18 and older stated that "almost half of women have negative feelings when they don't wear makeup". To be more specific, 44 percent of women surveyed suffer from negative emotions when they are in natural physical self. This issue will lead them to suffer from low self-esteem whenever they go outside with a bare face and some of them are not confident to face the community in that condition. This problem will, in turn, lead to mental health issues.

In addition, most of the people use a range of cosmetics every day. Most of the products also contain chemicals that can be harmful. Nowadays, the serious issue related to a beauty product is that people do not care much about their health while being too obsessed with looking good in front of other people. According to the Ministry of Health through the National Medicinal Adverse Impact Center, the National Pharmacy Regulatory Agency (NPRA) announced a list of 162 products that contain prohibited or mixed poison material. That means a lot of beauty products in the market are not safe to be consumed and will be harmful to physical health if taken in the long term.

The other issue studied was the relationship between money wasting and awareness of beauty products consumption. Money wasting can be defined as a bad use of money. In 2013, Malaysian has reported to be spending about US\$407 million on cosmetic and toiletry products and this particular demand was mainly met by imported products. We can see here that the consumers do not mind spending money for beauty purposes even though the prices of these foreign beauty products are very expensive and cost so much money wasting.

### MATERIALS AND METHODS

#### Data Analysis

In interpreting the primary data, this research used the Statistical Package for Social Science (SPSS). SPSS is a software to analyse the research data that had been completed and collected. It covers everything from plans to collect data, data management during and after data collection through activities such as making inferences from numerical facts and presentation of the finding from the data as it has been analysed (Rossemi Din, 2010). The use of computer software will help the researcher in reducing the time taken to calculate data and facilitates quantitative analysis faster.

#### Descriptive analysis

Descriptive analysis was used in this study to summarize the data collected via questionnaire. Descriptive analysis is a method to organize, display, describe and explain a set of data with use table, graph, chart and summary measure (Johnson and

Christensen, 2000). Descriptive analysis use frequency and percentage to examine the profile of respondents through statistics. These methods include frequency tables, cross-tabulations and finding mean differences between groups or correlations between questions (S Landau, 2004).

### Reliability test

The reliability test was used to measure the stability and consistency of the instrument. The stability measures the degree at which the instrument provides consistent results with repeated measurements.

### Pearson correlation

The Pearson product-moment correlation coefficient as indicated in Table 1 is a measure of the strength of the linear relationship between two variables. If the relationship between the variables is not linear, then the correlation coefficient does not adequately represent the strength of the relationship between the variables. There are several types of correlation coefficient formulas. One of the most commonly used formulas is Pearson's correlation coefficient formula. Two other formulas that are commonly used are the sample correlation coefficient and the population correlation coefficient.

Table 1: Pearson correlation

Value of the Correlation Coefficient	Strength of Correlation
1	Perfect
0.7 - 0.9	Strong
0.4 - 0.6	Moderate
0.1 - 0.3	Weak
0	Zero

Source: Akoglu, H (2018)

## RESULTS AND DISCUSSION

### Descriptive Analysis

Table 2 shows that 30% of respondents are from 18 years old to 20 years old. 69% of respondents are from 21 years old to 23 years old and only 1% of respondents are from 24 years old to 26 years old. Besides that, the majority of the respondents were Malay which is 41%. While 27% were Chinese, 24% were Indian and only 8% were other races. 100% of the respondents were found to be single. 100% of the female respondents used beauty products where the majority of it was for haircare purposes which are 42%. 25% used beauty products for facial and skincare and only 2% used it for all of the mentioned purposes.

Table 2: Demographic profile of respondent

CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
AGE		
18 – 20	107	30.5
21 – 23	241	68.7
24 – 26	3	.9
RACES		
Malay	144	41.0
Chinese	95	27.1
Indian	85	24.2
Others	27	7.7
MARITAL STATUS		
Single	351	100.0
Married	0	.
USING ANY BEAUTY PRODUCTS		
Yes	351	100
No	0	.
TYPES OF BEAUTY PRODUCTS		
For Skincare	70	19.9
For Haircare	116	33.0
For Facial	85	24.2
All Above	80	22.8

### Pearson Correlation Analysis

Table 3 shows that physical health, mental health and money-wasting are significant at a 1 percent level in affecting the awareness of beauty product consumption among female students.

Table 3: Correlation Analysis of Dependent Variable and Independent Variables

		Awareness Of CBP	Physical Health	Mental Health	Money Wasting
Awareness Of CBP	Pearson	1	.718**	.629**	.701**
	Correlation Sig.(2-tailed)		.000	.000	.000
Physical Health	N	351	351	351	351
	Pearson Correlation Sig.(2-tailed)	.718** .000	1 .000	.837** .000	.920** .000
Mental Health	N	351	351	351	351
	Pearson Correlation Sig.(2-tailed)	.629** .000	.837** .000	1 .000	.895** .000
Money Wasting	N	351	351	351	351
	Pearson Correlation Sig.(2-tailed)	.701** .000	.920** .000	.895** .000	1 .000
N		351	351	351	351

\*\* . Correlation is significant at the 0.01 level (2-tailed)

## CONCLUSION AND RECOMMENDATION

This study was conducted to identify the awareness of beauty product consumption among female students of University Malaysia Kelantan. The finding indicated that the awareness of beauty products consumption was caused by three independent variables which are physical health, mental health, money-wasting.

In addition, the research found that awareness of beauty product consumption is important and the female students should have knowledge about the effect of beauty products on physical health, mental health, money-wasting. Based on the result of this research, it is highly recommended that the female student of University Malaysia Kelantan must be made aware of the beauty product consumption as using the wrong beauty product can cause damage to their skin.

The awareness of beauty product consumption is the most important knowledge to have had for consumers since it has the tendency to affect our physical health, mental health, and money-wasting. Increased consumption of beauty products had caused a growing concern on the safety of the products. There are some recommendations on how to overcome the ignorance of beauty product consumption awareness.

According to this study, there were many students who agreed that they have heard about the misapplication of beauty products. It is recommended that the students must do research about the product they want to use or buy beforehand. They need to make sure the beauty products are approved by KKM and are free of harmful substances such as mercury.

The students are also having an obsession with looking beautiful through the consumption of beauty products and this may cause anxiety. So, as a recommendation, they should be motivated to feel confident and have a high self-belief.

Furthermore, female students tend to frequently change their skincare product and this may cause skin damage. Therefore, it is recommended for them to stay with one product for a longer time period for a better positive effect.

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## Games Addiction of Secondary School Students: Does Physical Activity Matter?

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### ABSTRACT

This study aims to examine the effect of physical activity on games addiction among secondary students in Kota Bharu, Kelantan. The questionnaires were distributed to 381 secondary school students in Kota Bharu, Kelantan. The data collected was then analysed using SPSS version 21. The findings of the study indicate that there were two significant effects for each physical activity on games addiction in secondary school students as follows: sleep disturbance and fatigue. The results also suggested that there were no significant differences found according to age in terms of games addiction. However, sleep disturbances and fatigue aspects of physical activity found to be significantly different between male and female students. Hence, to reduce the chances of suffering from games addiction, the individual should adapt to other activities to cope with stress such as exercising and discuss the problems with parents or friends.

**Keywords:** Games Addiction, Secondary School Students, Physical Health

### INTRODUCTION

Technology has come a long way and it is inevitable to avoid gaming with the spectacular invention of computers, cellular phones, smartphones, and the internet. These modern devices and the rise in the use of the internet had completely changed daily life routines. In particular, the rise of the internet had also increased the level of games addiction all across the nation. Games are usually played for enjoyment though sometimes being used as an educational tool in a structured form of a play. It can be played in any form whether alone, in teams or online. Goals, rules, challenges, and interactions are the key components of games.

Games can be defined as a system in which players engage in an artificial content, defined by rules that result in quantifiable outcome (Zimmerman, 2003), or a form of play with goals and structure (Maroney, 2001). When a player strips away the genre differences and the technology complexities, all games share four defining traits: a goal, rules, a feedback system and voluntary participation (McGonigal, 2012). Pannekeet (2016) stated that about 2.4 million Malaysians were involved and attracted to e-sports. This situation has increased the revenue for the global games market at approximately USD 589.4 million. Through this, Malaysia is known and listed as one of the best-growing countries in e-sport.

Many mental, physical and social problems arise among children and adolescents as they are attracted to computer games. Therefore, anger and violence, obesity, epilepsy due to games, social isolation, and other physical and mental damages are stimulated through this addiction. Hence, attention has been given by many psychologists and mental health professionals on the effects of these games (Ahmadi, 1998).

Therefore, there is a growing interest to study the physical and mental health effects of gaming addiction on secondary school students globally. Nevertheless, this study focuses on the effect of physical health in secondary school students on games addiction in Kota Bharu, Kelantan. The groups of students that would be selected are between the age of 13 to 17 years old for both males and females.

The general objective of this study is to examine the effect of physical activity on games addiction in secondary school students. In particular, the specific objectives for this research are as follows:

1. To examine the relationship between sleep disturbances and games addiction in secondary students in Kota Bharu, Kelantan.
2. To determine the relationship between fatigue and games addiction in secondary students in Kota Bharu, Kelantan.



## **Significance of the Study**

### **Parents**

Parents will be more concern about their children's daily activities. They will also be more aware of their children behaviour and involvement or development of the symptoms in games addiction. Other than that, parents will be more concern about their children's performances at school. Parents will get more knowledge and information on the danger and effect of games addiction on their children's physical health.

### **Secondary school student**

The student will be more aware of their exam performances. From the result of their performance, they will realize how far their involvement in games addiction will be affected. They will start to concentrate on their studies and change their games addiction habits to developing their study skills. The student will also be exposed to how fatal and dangerous games addiction can be to them. For example, the effects and how dangerous it is towards their physical and mental health.

### **School Teachers**

Teachers will be more aware of their student behaviour when they are involved in games addiction. From this study, the teacher can gain additional knowledge about games addiction. The teacher will be aware of the effects of games addiction on their students physical and mental health. Teachers would be able to take initiative and help their students by taking action in controlling their games addiction. Teachers can also help their students to gain knowledge about how dangerous games addiction is towards their health.

## **LITERATURE REVIEW**

### **Games Addiction**

#### **Definition of Games Addiction**

Games addiction is similar to pathological gambling but it does not involve the use of drugs. In other words, games addiction can be known as an impulse control disorder. Video games addiction started from overplaying the games either video games, online games or computer games. It will cause a negative effect on the gamer's daily life. Games addiction can also be defined as compulsive or uncontrolled use of video games, in a way that causes problems in other areas of the person's life (Elizabeth, 2018).

Many young people's lives today are dominated by media where an average child grows up with television, DVD player, radio, CD players, video games, mobile phones, computers, and iPods (Osgerby, 2004). Earlier studies showed that gaming can affect a gamer either positively or negatively (Granic, 2014) especially among students. This will affect the student performances in school and also will change their lifestyle, especially socially because of games addiction.

Besides, games addiction will lead to problems related to mental and physical health. For mental health, the symptoms can be social phobia and aggressive behaviour. This is different from symptoms for physical health where it will make people fatigue and have sleep disturbances. Games addiction cannot be seen as a direct physical danger to people but it is a danger for people's mental health which will lead to negative effects, like; low self-esteem, high levels of loneliness and shyness (Julia, 2014).

### **Physical Activity**

According to Parker et al. (2017), the calls for increased physical activity for children resonate globally (National Physical Movement Plan Coalition, 2016; Woods et al., 2010; World Wellbeing Association, 2016). While physical education and physical activity represent two different, but related aspects, voluntary physical activity is controlled by various factors. Chen et al., (2014), stated that school physical education is depicted as an urgent variable in promoting lifelong physical activity commitment. Actually, school physical education has been recognized as a 'key organized field of school life in which children's physical education and development takes place' (Fahey et al., 2005: 86). More than a third of young people in grades 9 until 12 do not consistently take part in overwhelming physical activity.

### a) Sleep Disturbances

In most past studies on the impacts of mental tasks and bright light on sleep, pre-sleep physiological variables reflecting activity levels of central and autonomic nervous systems were not estimated in spite of the way that physiological variables before sleep may affect sleep, especially the sleep beginning procedure. For instance, (Komada et al.2000) revealed that upgraded cerebral cortex movement brought about by exposure to bright light affected the sleep onset process, and (Krauchi & Wirz-Justice, 2001) announced that distal-proximal skin temperature gradient was the best indicator of rest beginning.

### b) Fatigue

On weekdays, children with gaming devices in their rooms went to bed significantly late hence putting out less vitality in bed. Children who watched more television headed to sleep late on weekdays as well as on the final day of the week and even rose late on the final day of the week. They hence put less vitality in bed on weekdays. They are drained and fatigued in all dimensions. Children who spend more vitality playing recreations went back late on weekdays and the final day of the week and got up late on the weekends. They spent less energy in bed on weekdays and increasing measures of tiredness.

### Research Hypothesis

In this study, there were two hypotheses on the relationship between sleep disturbances and fatigue on games addiction. The hypotheses are as follows:

- a) H1: There is a significant relationship between sleep disturbances and games addiction.
- b) H2: There is a significant relationship between fatigue and games addiction.

### Research Framework

A research framework has been conducted to investigate the relationship between sleep disturbances and fatigue on games addiction among secondary students in Kota Bharu, Kelantan.

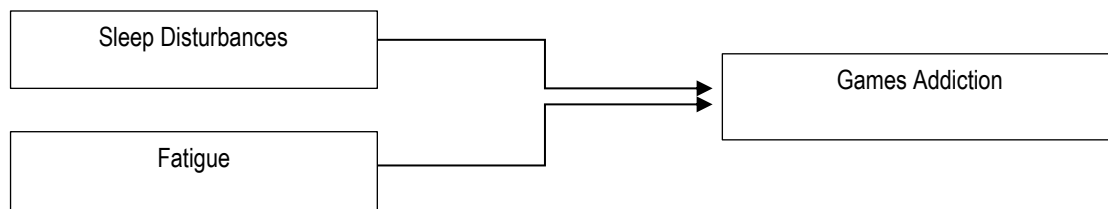


Figure 1: Research framework of the relationship between sleep disturbances and fatigue on games addiction among secondary students in Kota Bharu, Kelantan

## METHODOLOGY

### Research Design

The approach that has been utilized by the researcher to gather the information is quantitative. During this study, the researcher distributed questionnaires of the topic to induce data. This research design was chosen to meet the objective of the survey which is to determine physical activity on games addiction among secondary school students in Kota Bharu, Kelantan.

### Target Population

This study is focusing on how games addiction affects secondary students' daily life in Kota Bharu, Kelantan. This study emphasized the effect of physical activity on games addiction. The physical activity consists of sleep disturbances and fatigue.

## Data Collection

The questionnaires were distributed to the respondents for approximately around 10 minutes per respondent to make sure the respondent would be able to answer all the questions without rushing. Instruction design was conducted to avoid a social popularity bias by reading to the respondents, who would be guaranteed privacy. In all instances, data collection would be done in less than 10 minutes, as agreed in advance per respondent. Questionnaires were distributed using the stratified sampling for form 1 until form 5 by using the hardcopy form.

## Sampling

The sampling method used in this study was the stratified sampling. In achieving a reliable and valid sample of this study, the researchers used the equation from Krejcie and Morgan (1970) to determine the sample size. The formula is shown in Table 1 below:

Table 1: Determining Sample Size from a Given Population

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size  
 "S" is sample size.]

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + x^2 p (1 - p)}$$

(Eq:1)

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

## Data Analysis

There were three types of data analysis used in this study, which were frequency analysis, descriptive analysis, and reliability analysis. The data obtained were analysed by using the Statistical Package for Social Science (SPSS).

## FINDINGS

Table 2 indicates the relationship between sleep disturbance and games addiction. After conducting the Pearson Correlation test, the relationship between sleep disturbance and games addiction was significant at a 1 percent level. Therefore, H1 is supported.

Table 2: Correlation coefficient between sleep disturbance and games addiction

		Sleep disturbance	Game addiction
Sleep disturbance	Pearson Correlation	1	.583**
	Sig. (2-tailed)		.000
	N	381	381
Game addiction	Pearson Correlation	.583**	1
	Sig. (2-tailed)	.000	
	N	381	381

Table 3 indicates the relationship between fatigue and games addiction. After conducting the Pearson Correlation test, the relationship between fatigue and games addiction was found to be significant at a 1 percent level. Therefore, H2 is supported.

Table 3: Correlation coefficient between fatigue and games addiction

		Fatigue	Game addiction
Fatigue	Pearson Correlation	1	.582**
	Sig. (2-tailed)		.000
	N	381	381
Game addiction	Pearson Correlation	.582**	1
	Sig. (2-tailed)	.000	
	N	381	381

## DISCUSSION & RECOMMENDATION

The result of Pearson's Correlation Coefficient test shows that there is a significant relationship between sleep disturbances and games addiction which means that gamers' sleeping patterns and qualities are disturbed and interrupted as they are addicted to games. Zamani, (2009) has proven that in his study of the Effect of Addiction to Computer Games on Physical and Mental Health of Female and Male Students of Guidance School in City of Isfahan, correlation between addiction to computer games and physical complains, anxiety and sleep disorder, disorder in social functioning and depression were significant at  $P \leq 0.05$ . Therefore, there was a direct relationship between addiction to computer games and physical disorders such as anxiety, sleep disorder, and depression.

Then, the result shows that there is a significant relationship between fatigue and games addiction. This means that game addiction gives constraints and tiredness physically to the game users. It will then directly affect them and their environment. The recommendation for future research is to conduct more studies focus on the effect of four styles on games addiction. There are relatively few studies that recruited sleep disturbance, fatigue, social phobia, and aggressive behaviour as independent variables and investigate the causal relationships on games addiction. Most of the studies focused on the children's and adolescents' having problems becoming addicted to playing online games, in much the same way as adults become addicted to alcohol or drug or gambling (Griffiths 1998; Young 1996, Ko et al.2010). Future research may explore the relationship between games addiction, physical effect, and mental health.

## CONCLUSION

In conclusion, there are different causes of games addiction other than the variables being recruited in the current study. In terms of consequences, games addiction may lead to many negative outcomes such as sleep disturbances, fatigue, and others. Individual who perceived gaming as a coping strategy for stress and anxiety should be aware of his/her gaming behavior. Past research showed that individuals that use gaming as a way to relieve stress are more vulnerable to gaming addiction (Plante, et al., 2018). In order to reduce the chances of suffering from games addiction, the individual should adapt to other activities to cope with stress like exercise and discuss the problems with parents or friends.

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## Physical Activity Among Adults: Does It Matter to Health and Wellbeing?

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### ABSTRACT

In the 21st century, adults are likely to get a disease and poor nutrition. The purpose of this study is to investigate the relationship between physical activity on health and wellbeing among adults in Kedah, Pahang, and Perak. A total of 384 adults have been selected to answer a questionnaire. Three adults have been selected in three states for physical test by using Simple Random Sampling. Data were collected by using the quantitative method and analysed by using SPSS. The findings show that physical activity is vital to health and wellbeing.

**Keywords:** *Physical activity, Lifestyle, Eating Behaviour, Health and Wellbeing*

### INTRODUCTION

The measurement of the number of deaths in a particular population during a particular period of time is referred to as the death rate or mortality rate. It is typically calculated annually as the number of deaths per one thousand people. The rates of mortality depend on various causes in different countries. South Africa is commonly known for diseases such as HIV/AIDs, malaria, Hepatitis B, and Tuberculosis. Meanwhile, Zimbabwe's is due to the lack of medical supplies and food. Furthermore, communicable diseases, shortage of healthcare, malnutrition, cardiovascular diseases, violence, cancers, and accidents are common factors that lead to high mortality rates. Nevertheless, the risk of population decline will be faced by countries with high mortality rates and relatively low fertility rates. Meanwhile, countries with improved access to health, well-informed citizens, overall better nutrition, higher standards of living, and advancements in medicine have a low mortality rate.

Table 1 shows that Bulgaria has the highest mortality rate in the world due to non-communicable diseases (diseases of the circulatory, digestive, or respiratory systems) and cancers (Worlds Health Organization). On the other hand, Qatar has the lowest mortality rate in the world due to their improved health care system, renowned for its technologically advanced facilities and some of the best patient care in the world today.

In general, to encourage good health and wellbeing, physical activity is said to be vital to minimize health problems. Physical activity is the movement of the body produced by the skeletal muscle that requires energy expenditure. Physical inactivity which means lack of physical activity has been identified as the fourth risk factor as global death.

Physical activity is important to stay healthy and be active. Lack of physical activity can cause many chronic disease problems. Previous studies said that a lack of physical activity (PA) can cause organ problems to not function. Regular and adequate levels of PA in adults are key contributors to energy expenditure and are essential for energy balance and weight control (WHO, 2019a). Numerous studies have reported the importance of PA for weight control (Sarma, Zaric, Campbell & Gigiland, 2014). Furthermore, PA has been shown to reduce the risk of cardiovascular disease and other chronic diseases, including diabetes mellitus, hypertension, obesity, cancer (colon and breast), and osteoporosis (Warburton et al., 2006).

According to the WHO (2019), an adult aged 18 to 64 years should perform at least 150 min/week of moderate-intensity aerobic PA, or 75 min/week of vigorous-intensity aerobic PA, or an equivalent combination of moderate- and vigorous-intensity PA, which is equivalent to a total PA level of at least 600 metabolic equivalent-minutes per week (MET-minutes/week) or 10 MET-hours/week. There are many physical activities that can lead to being active, for example running, swimming, cycling, high impact exercise, kayaking and others (Guy et al., 2017). It does not surprise that exercise can give many benefits to health. It can keep our bone strong and keep a healthy heart. On the other hand, lack of physical activity can cause our bone weak and organs to become malfunction and lead to many diseases such as obesity, diabetes or hypertension (Kristin, 2019).

In addition, regular exercise appears to offer a vehicle for more deep-seated change through improvements in the way we view our physical selves, and this has the potential to generalize to higher self-esteem and identity change.

Subsequent analysis has not supported this as a widespread effect as few exercisers report these sensations. It is likely to require high levels of exercise output, and further studies have not found a correlation between endorphin levels and mood.

Measurement, control and isolation difficulties make this a challenging area of research and there has been little systematic

progress since the early 1990s. Dishman recently summarized the evidence for norepinephrine as a trigger for anxiety and depression reduction and reported similar difficulties. Therefore, there has been recent attention given to the interaction between physical activities.

Health is a complete physical, mental and social health condition and not just the absence of illness or weakness. Better health is the cause of happiness and wellbeing in human. It is also important to contribute to economic progress, as healthy population live longer, more productive and save more. There are many factors that can influence health and the ability to provide quality health services and the Ministry of Health are an important government agency that will contribute to all of this progress (WHO, 2019b).

Wellbeing is something that is very important and highly sought by everyone because it involves many positive things such as being healthy, feeling happy, a sense of purpose and being socially connected. Improving our wellbeing can be very difficult without knowing what to do and how to do it (Thicki Davis, 2019).

Table 1: ten countries with the highest and lowest mortality rates in the world

Ten countries with the highest mortality rates in the world			Ten countries with the lowest mortality rates in the world	
No.	Country	Percentage (%)	Country	Percentage (%)
1	Bulgaria	15.433	Qatar	1.244
2	Ukraine	15.192	United Arab Emirates	1.519
3	Latvia	14.669	Bahrain	2.416
4	Lesotho	14.144	Oman	2.446
5	Lithuania	13.737	Mayotte	2.71
6	Serbia	13.194	Kuwait	2.787
7	Croatia	13.17	Maldives	2.821
8	Romania	13.099	French Guiana	2.956
9	Georgia	12.816	Palestine	3.462
10	Russia	12.785	Saudi Arabia	3.513

Source: World Population Review (2019)

### Objective of this study

To examine the relationship between physical activity and health and wellbeing of adults in Pahang, Kedah and Perak.

### LITERATURE REVIEW

#### Definition of Health and Wellbeing

Health is a complete physical, mental and social health condition and not just the absence of illness or weakness. Better health is the cause of happiness and wellbeing human. It is also important to contribute to economic progress, as healthy population live longer, more productive and save more. There are many factors that can influence health and the ability to provide quality health services and the Ministry of Health are an important government agency that will contribute to all of this progress (WHO, 2019b).

#### Physical Activity

Exercise can be useful in treating and avoiding depressive illnesses and can be used as a mean of reducing stress and anxiety on a daily basis. Well-studied physical activity benefit includes improvements in cardiorespiratory fitness, muscle strength, physical functioning (objective and self-report), body composition, bone health, fatigue, body image/self-esteem, emotional well-being, social functioning, anxiety, and quality of life (Rogers et al., 2018). Physical activity benefits include but are not limited to increased muscle strength or endurance and cardiorespiratory fitness along with favorable changes in body composition and physical functioning (Mills et al., 2014) such as fatigue, poor sleep quality, and reduced health-related quality of life (Rogers et al., 2018). The feeling good effect of exercise, therefore, seems to be substantiated by research.

### METHODOLOGY

The target sample were adults aged between 15 and 39, including Malay, Chinese, Indian and others, with education level consisting of SPM, diploma, bachelor's and master's degree holders with a marital status of either single, married or divorced.

## Study design and Sample

In this study, the quantitative test has been adopted to conduct the captioned study. This research is to study the physical activity affecting the health and wellbeing of adults in three states (Perak, Pahang, Kedah). An adult is the most common category to have the risk of poor health, disease and obesity. In addition, physical activity or physical fitness test was conducted to determine adults' level of fitness in order to clarify their factors affecting health. Through this research design, the data were collected in assessing the relationship between independent variable and dependent variable.

The list of the total number of adults in three states was taken from Census e-Atlas Malaysia. The sample size for this research is 384 adults aged between 15 and 39 from Kedah, Pahang and Perak. The sample size chosen was according to the table for determining sample size from a given population (Krejcie & Morgan 1970).

## Instrument

Instruments are known as one of the methods used by researchers as measurement tools (surveys, tests, questionnaires) and so on. In this study, the instrument used is in the form of a questionnaire. An introduction survey Research and Data Analysis states that a questionnaire is the best quantitative method that can be used as a data collector. Questions for the questionnaires were divided into five parts.

A 5 point Likert scale from 1 (strongly disagreed) to 5 (strongly agreed) was used to construct this questionnaire. The Likert scale is a built-in scale based on the notion that every statement on the scale is "attitude value", "interest" or "light" concerning the problem. (Kumar, 2005).

Part A consisted of a demographic question based on personal information such as gender, age, race, religion, education.

Part B consisted of questions regarding their health and wellbeing. The respondents were required to rate their health and wellbeing whether they have a problem or not.

Part C was about their involvement in physical activities. For instance, they could state their involvement in physical activities and also state which type of physical activity do they indulge in (JockoVillinc, 2015).

Part D was about eating habits. Respondents could tick the relevant boxes regarding their eating habits and how often they eat fast foods (Tran, 2000).

Part E consisted of questions regarding their lifestyle. The respondents were required to rate their lifestyle whether it was healthy or unhealthy (Clayton, 2008).

To answer, respondents were given a scale to rate so that it would not consume much of their time. The Likert scale was used where respondents needed to answer on a four-point Likert type ranging from strongly disagree, disagree, neutral, agree and strongly agree.

## Data Collection and procedures

This research used a quantitative method. Quantitative data is information about quantities that can be measured and written down with numbers (Shmoop Editorial Team, 2008). For physical activity test, the research carried out a physical test for the adults in Kedah, Pahang and Perak as questionnaires were distributed to the respondents. The questionnaires were also done via Google Form.

This study used the Simple Random Sampling (SRS) technique in order to collect data from the respondent to give each and every member of the population an equal chance of being selected as subjects.

## Data Analysis

This section explains the analytic tool used in transferring raw data into meaningful numbers. Data from the questionnaire were compiled, sorted, edited, classified and coded into a coding sheet and analysed using computerized data analysis. The Statistical Package for Social Sciences (SPSS) was used to analyse the data. SPSS is a software to assist in the processing of statistical analysis data accurately and quickly.



Descriptive statistics was the information and features from the investigation. This descriptive analysis helps to simplify a large amount of data into a manageable form (Trochim, 2006). The descriptive statistics would summarize the data into maximum, minimum, means, standard deviation and variance through descriptive analysis for interval scale independent and dependent variables (Bougie,2010).

A reliability test was done to test the consistency. And there are many levels of reliability testing such as development and manufacturing testing. In other words, reliability testing is to find a mistake to be removed before being used. The main purpose is to ensure the product's reliability and to check if the product attains the customer's reliability. (The Economic Times, 2019). The reliability test reveals how consistent measurement of a particular element over a period of time and between different participants. Internal reliability is measured by Cronbach's Alpha with a value of high error equals to 0.70.

Pearson correlation, also known as  $r$ ,  $R$ , or Pearson's  $r$  is to measure the linear relationship between two interval or ratio variables. It is with P-value and can have a value between -1 and 1. It is the same measurement as the point-biserial correlation which is a measurement of the relationship between a dichotomous such as yes or no, male or female and interval or ratio variable. On the contrary, the  $r$ -value of -1 indicates a perfect negative linear correlation. This happens when the value of variable increases while the other variable decreases and the coordinate on a scatter plot to form a straight line.

## FINDINGS AND DISCUSSION

According to table 2, the relationship between physical activities and health and wellbeing among adults in Kedah, Pahang, and Perak is significant at 1 percent level. Based on the results, it shows that physical activities are related to the health and wellbeing of adults in Kedah, Pahang and Perak. Therefore, H1 is accepted. The positive value of Pearson Correlation 0.747\* shows that the relationship between physical activities and health and wellbeing is positive. It shows that the dependent variables influenced by independent variables (physical activities). Lack of physical activities can cause weak bone and organs to become malfunction and lead to many diseases such as obesity, diabetes or hypertension (Davis, 2019). The results show that many respondents have awareness about the importance of physical activities in their health and wellbeing. The factor for them to become active is because they knew if they are lazy to exercise, they will have a high risk for any diseases. In the questionnaire, many respondents stated that they always exercise and active in physical activity to ensure that they are in good shape.

Table 2: the relationship between physical activities and health and wellbeing among adults

		Physical activities	Health and wellbeing
Physical activities	Pearson Correlation	1	.747**
	Sig. (2-tailed)		.000
	N	384	384
Health and wellbeing	Pearson Correlation		1
	Sig. (2-tailed)		
	N		384

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## LIMITATION AND RECOMMENDATION

### Limitation of the Study

The first obstacle that was encountered in this study was the lack of available data for one of the independent variable which is physical activity. It was found that there were not many journals regarding the relationship between physical activity and health and wellbeing. Lack of available data required the research to limit the scope.

Next, the demographics of the respondents. One of the criteria in our demographic was age. The age range of the respondents approached was between 15 and 39. The obstacle was there were not many respondents age between 30 to 34 and 35 to 39. This is because the respondents were scouted and selected mostly at the park area and fitness centre in Kedah, Pahang and Perak and the majority of the people who went there were young adults.

Besides that, time was also one of the limitations where the research spent too much time on data collection at only an average rate of 50 respondents a day.

## Recommendation

It was found that the majority of single individuals have more time for physical activities compared to a married couple as they do not carry the responsibilities to look after children and spouses. Therefore, a more effective public health policy is suggested to be aimed particularly at promoting participation in physical activity among non-singles (Yong & Bee, 2014). This research will also be valuable to those want to do research in a similar field. All the data collected and analysed are valid and all the information from the respondents was true.

## CONCLUSION

In a nutshell, physical activity is vital to health and wellbeing. In Malaysia, there is a current trend where there are more adolescents and adults joining a run such as a marathon and others. Usually, it is called a fun run in which it has a specific theme such as a unicorn run. This will encourage the married couple who have a busy life to join the event since it is usually conducted during weekends. They can also have quality time together with family on a weekend by jogging at the park or doing some recreational activities.

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## Factors that Influence Skipping Breakfast Among Students

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### ABSTRACT

This research is based on the respondent obtained from students of Kolej Teknologi Darul Naim (KTD) and Lincoln University College in Kota Bharu Kelantan. The aim of this research is to investigate the factors that influence skipping breakfast among students. There are three factors that had been examined which are: time constraints, individual habits, and financial problems. The total number of respondents was 186 students from both universities. The data were analysed using descriptive statistics, reliability and Pearson correlation. The findings from this study indicate that time constraints, individual habits, and financial problems are significant factors that influence skipping breakfast among students.

**Keywords:** *Skipping breakfast, time constraint, individual habits, financial problem*

### BACKGROUND OF THE STUDY

Most people eat three main meals every day, but in Western countries, they have seven types of meals. Breakfast is the main meal of the day, which is taken between 6 am to 9 am (Essberger, 2019). Many people would say that they skipped breakfast due to time constraints and having no interest in taking breakfast. They are just like an empty stomach (Zarinah, 2018). According to Alhilabi and Payne (2018), eating breakfast has long term health benefits. It can reduce obesity, high blood pressure, heart disease, and diabetes. Among the foods taken by Malaysians people before going to work or school are like Nasi lemak, fried noodles, coffee, tea and Milo (Merriam, 2019).

Breakfast is important, but there are a lot of people who often ignore breakfast. The factors that cause people to skip breakfast is the lack of time to do so. This is because many people tend to wake up late and are in a hurry to bath and getting ready, they easily forgot to take their breakfast (Ackuaku-Dogbe & Abaidoo, 2014). Additionally, another factor that causes people to skip breakfast is that they are just not feeling hungry since they might have eaten late at night before. Binge eating will not only increase our weight, but the nutrients from the food will not be properly digested and absorbed by our bodies. Unlike breakfast, all of the nutrients will be digested and absorbed because our bodies are in the most active state in the morning (Smith et al., 2017).

Nowadays, breakfast becomes popular more than lunch or dinner. American author and nutritionist Adelle Davis said "Eat breakfast like a king, lunch like prince and dinner like a pauper. Breakfast is the most important meal of the day for all people regardless of age. There are many reasons why people skip breakfast. According to Mohuddin (2018), the reasons are lack of time and lack of appetite.

Among Americans, the rate of skipping breakfast is at 11 percent compared with lunch, 9 percent, and dinner, 5 percent within a different group of age. In another study among college students of the University of North Carolina, 44.2 percent of the student never take their breakfast comparing with lunch, 3.5 percent, and dinner, 2.3 percent (Gross et al., 2004). Australian young adults meanwhile eat breakfast less than 5 days a week, compared with 10 percent in children and 33 percent in adults (Australia statistic, 2014).

According to Afolabi (2013), Nigeria university students skipped breakfast due to the lack of time, 48 percent, lack of appetite, 19 percent, and inability to cook, 13 percent. 20 percent was due to financial problems and another 50 percent because they just did not feel hungry. The students who ignore the morning meal would not get vitamins and minerals that are required for growth and brain function (Mc Crow & Campbell, 2011). Based on Malaysia statistics (2018), the top reasons why Malaysians do not take breakfast daily were due to the lack of time, 42 percent, and not feeling hungry at 37 percent is. 19 percent wanted to maintain weight and 14 percent wanted to lose weight.

The main objective of this research is to identify the factor influencing skipping breakfast among students of Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu. The objectives of this study are stated as below:

1. To identify the relationship between time constraint and skipping breakfast among students of Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu Kelantan.

2. To examine the relationship between individual habits and skipping breakfast among students of Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu Kelantan.
3. To determine the relationship between financial problem and skipping breakfast among students of Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu Kelantan

## **SIGNIFICANCE OF STUDY**

This study is about the factors that influence skipping breakfast among students of Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu Kelantan. Therefore, this study will be significant for both government policymaking and academics.

### **Government Aspect**

From this study, the research was trying to find out the main factors that influence students to skip their breakfast. This is important as a reference for the Ministry of Health in monitoring the problems of skipping breakfast among the Malaysian community to find the best solutions.

### **Academic Aspect**

From an academic perspective, it is worth for the community especially students to gain knowledge and information on the importance of consuming breakfast in their daily life. Therefore, the results of this study can create awareness and provide solutions for the community and students who are facing problems with skipping breakfast.

## **LITERATURE REVIEW**

According to O'Neil (2014), skipping breakfast means people who do not eat breakfast at home. Usually, people skip their breakfast and never take breakfast. Some people skip breakfast at least once or twice a week and also skip at least six times a week. Intake of breakfast is considered an important meal to health. Breakfast should consist of 50 percent protein, 30 percent carbohydrate, and 20 percent fat to have more benefits on mood alertness, and attention (Bipasha & Goon, 2013).

People who often skipped breakfast had a higher risk of obesity and overweight than people who often ate breakfast (Peltzer, 2014). Skipping breakfast can influence someone to begin morning tasks without enough energy (Cueto, 2011). Nutritional adequacy, body weight and academic performance are important issues regarding student's health and lifestyle (Rampersaud, 2005). Breakfast consumption is important for nutritional balance for all population groups (Ozdogan et al, 2010). A complete nutritious and balanced quality breakfast includes at least one serving of three food groups which is dairy, cereals and fruits (Jana, 2014).

According to Goon (2014), the factors behind skipping breakfast are work pressure which is 23.3 percent, lack of time which is 16.2 percent, and the other 7.7 percent are unable to prepare breakfast. An investigation among undergraduates of a public university in Kuala Lumpur revealed that the reasons for the undergraduates skipping breakfast is the unavailability of time to eat before the first lecture of the day (Ackuaku-Dogbe & Abaidoo, 2014).

According to Sugiyama (2012), about 13 percent of men skip breakfast regularly while about 15 percent are women. The reason given was their habits that had been practiced since adolescence into adulthood. Meanwhile, the reason given by 51% of medical students for skipping breakfast is for diet and weight control (Sajwani et al., 2009). Moreover, girls are more concerned about their body weight than boys (Zullig, 2006). A healthy breakfast decision for students is a concern in this research. The consumption of breakfast is related with more advantages body loads and way of life constrained and breakfast skipping (De la Hunty et al., 2006) and very beneficial to children and combination of nutritional value, hunger reduction and subjective feelings of alertness are the functions of adolescent (cognitive) scholastic (Hoyland et al., 2009).

People always mentioned "money" in their life. Money is important in our life because with money people can eat, buy clothes, spend on medical expenses, entertainment, and emergency provisions. The financial problem also faced by students particularly those who study far from their hometown. Financial factors such as family income are also contributing to students skipping breakfast. Generally, low-income families will be thrifty, they will eat only lunch or dinner (Azeman, 2017). According to Al Bahtway (2015), students from high-income families are also more likely to skip breakfast. They do not take breakfast, but they tend to spend their money to buy snacks or fast food for lunch.

## Research Framework

Figure 1 below shows the research framework for the factors that influence skipping breakfast among students in Kolej Teknologi Darulnaim and Lincoln University College in Kota Bharu Kelantan.

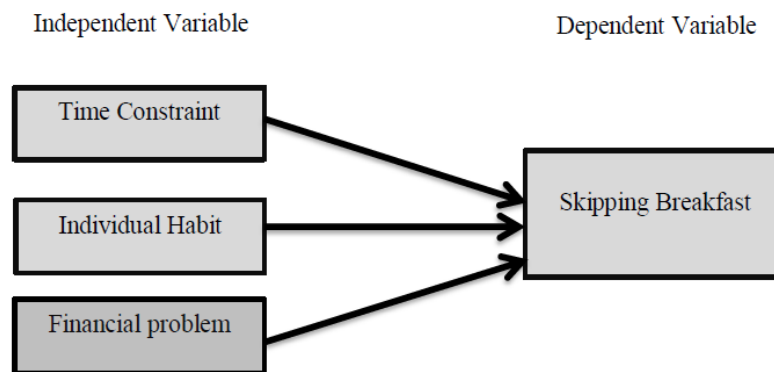


Figure 1: Research framework of the factors that influence skipping breakfast among students

## METHODOLOGY

### Research Design

A quantitative design was used in this study. According to Aliage and Guderson (2002), quantitative research explains wonders by gathering numerical information that are then broken down and analysed utilizing scientifically based techniques.

A questionnaire was used as the primary data in the study. The question is related to factors that influence skipping breakfast among students of Kolej Teknologi Darul Naim and Lincoln University College students in Kota Bharu, Kelantan. The data were collected from 186 students of Kolej Teknologi Darulnaim (KTD) and 306 students of Lincoln University. The Instruments are general terms used by researchers for measuring devices such as surveys, tests, questionnaires, and more. The instrument of this research is the questionnaire, a tool specially designed to collect information for analysis purposes that can answer the research questions.

### DATA COLLECTION

The questionnaires were distributed to respondents approximately at both Kolej Teknologi Darul Naim and Lincoln University College in Kota Bharu, Kelantan. Instructions were explained to the respondents to avoid any social desirability bias. Only the respondent and the researcher were involved during the data collection. The data collection would be completed between 10 to 15 minutes as agreed with the lecturers of Kolej Teknologi Darulnaim and Lincoln University College so that it would not interfere with the students' lecture time and activities. The researcher would ask for cooperation from the lecturers of both colleges to make sure the students can complete the questionnaires conveniently in order to make sure the data are perfect.

### DATA ANALYSIS

The Statistical Package for Social Sciences (SPSS) was used to analyse the data. SPSS is a software used by researchers to assist in the process of accurately analysing the statistical data. SPSS data will interpret into statistics such as valid percentage and cumulative percentage. The research used a simple descriptive analysis to evaluate data. Mean, frequency and percentage were calculated as per each answer choice.

## RESULTS AND DISCUSSION

### Profile of Sample

Table 1 shows the demographic characteristic of the respondent. 29 (15.6%) and 116 (62.4%) and 41 (22%) respondents are below 20 years old, 20-23 years old and above 24 years old respectively. 126 (67.7%) of the respondents are Malays, 21 (11.3%) are Chinese, 29 (15.6%) are Indians and only 10 (5.4%) respondents from other races. The distribution of respondents according to their marital status shows that 186 (100.0%) respondents are single. The analysis also showed that 80 (43%)

respondents and 106 (57%) respondents are male and female respectively. The distribution of respondents according to their education level shows that all of the 101 (54.3%) respondents were diploma students and 88 (45.7%) respondents are degree students.

Table 1: The demographic characteristic of the respondent

<b>Respondent Classification Profile</b>		<b>Frequency (N=187)</b>	<b>Percentage (%)</b>
<b>Age</b>	Below 20 years old	29	15.6
	20 to 23 years old	116	62.4
	Above 24 years old	41	22.0
<b>Race</b>	Malay	126	67.7
	Chinese	21	11.3
	Indian	29	15.6
	Others	10	5.4
<b>Status</b>	Single	186	100.0
<b>Gender</b>	Male	80	43.0
	Female	106	57.0
<b>Education</b>	Diploma	101	54.3
<b>Level</b>	Degree	85	45.7
	Total	186	100.0

The result in Table 2 indicated that there is a significant relationship between the time constraint and skipping breakfast among students of Kolej Teknologi Darul Naim and Lincoln University College in Kota Bharu Kelantan. In order to prevent going late for class, students would skip their breakfast every morning. Individual habits and financial problems also show a significant relationship with skipping breakfast among students at a 1 percent level.

According to Goon (2014), the factors behind skipping breakfast are work pressure which is 23.3 percent, lack of time which is 16.2 percent, and the other 7.7 percent are unable to prepare breakfast. An investigation among undergraduates of a public university in Kuala Lumpur revealed that the reasons for the undergraduates skipping breakfast is the unavailability of time to eat before the first lecture of the day (Ackuaku-Dogbe & Abaidoo, 2014).

While about 13 percent of men skip breakfast regularly while about 15 percent are women. The reason given was their habits that had been practiced since adolescence into adulthood (Sugiyama, 2012). Financial factors such as family income are also contributing to students skipping breakfast. Generally, low-income families will be thrifty, they will eat only lunch or dinner (Azeman, 2017).

Table 2: The Pearson correlation result

		Time_	Individual_	Financial_	Skipping_
		Constraints	Habits	Problems	Breakfast
Time_Constraints	Pearson	1	.596**	.696**	.522**
	Correlation				
	Sig. (2-tailed)		.000	.000	.000
	N	186	186	186	186
Individual_Habits	Pearson	.596**	1	.671**	.418**
	Correlation				
	Sig. (2-tailed)	.000		.000	.000
	N	186	186	186	186
Financial_Problems	Pearson	.696**	.671**	1	.501**
	Correlation				
	Sig. (2-tailed)	.000	.000		.000
	N	186	186	186	186
Skipping_Breakfast	Pearson	.522**	.418**	.501**	1
	Correlation				
	Sig. (2-tailed)	.000	.000	.000	
	N	186	186	186	186

**CONCLUSION AND RECOMMENDATION**

Breakfast is the most important and the first meal of the day. It provides us the energy to start a day well. People who skip breakfast usually have less energy and lower concentration. There are some recommendations on how to overcome the problem of skipping breakfast based on this study.

Firstly, it is now known that the factors of skipping breakfast were time constraints to prepare or take breakfast. According to this study, 101 students agreed that they had trouble finding enough time for breakfast. It is recommended that the students prepare some light food that is easy to eat and prepare such as bread or biscuit. Students can keep these light food inside their beg. So, they can just grab the food whenever they are starving. Besides, being on a strict diet to maintain or lose weight was also one of the factors of skipping breakfast and this can be abusive as breakfast will make them hungry and more likely to binge and pack unhealthy foods in the morning, as well as throughout the day. Some of the students had the belief that if they do not eat breakfast, they will get slim. The solution to this problem is to make sure they eat a healthy, fresh breakfast that will fill and provide them with the nutrients they need. To get an ideal body shape, the students must eat healthily and has regular exercise. Furthermore, some of the students want to save money by skipping breakfast. The most effective solution is for them to prepare a certain budget for a less expensive breakfast such as a cup of hot drink and biscuit.

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## The Factors That Influence Fast Food Consumption

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### ABSTRACT

*Advancement in science, technology and industry have been key drivers towards the change of human lifestyle especially food consumption habits. Fast foods have become increasingly popular in recent decades and have been a routine mostly in large urban areas. Therefore, this study aims to examine the determinants of fast food consumptions among third year students of Faculty of Hospitality, Tourism and Wellness (FHPK), UMK Kampus Kota. 180 of FHPK's third year students have been randomly recruited to participate in this study with 60 students for each course respectively that will represent the whole population. Mann Whitney U Test was used to investigate the significant relationship between price, service quality and convenience towards fast food consumption. The results indicate that there is no significant relationship of all three factors. Our findings provide evidence on the high prevalence of fast food consumption among students, suggesting they just love the way it taste because the calibrated mix ingredients in fast food is hard to resist.*

**Keywords:** Fast Food Consumption, Price, Service Quality, Convenience

### INTRODUCTION

Business service of fast food is one of the rapid growing segments in the hospitality industry worldwide (Bakar, Faizal & Alias, 2017). By the increase in the number of fast food restaurants over the world, there is a high chance for people to consume fast food as well. Moreover, the fast food industry in Malaysia has been most chosen among customers due to the quick preparing which allows them to finish their meal within a limited period of time (Xiao et al., 2018).

Specifically, there are various fast food restaurants situated around Universiti Malaysia Kelantan, Kampus Kota area such as McDonald, Pizza Hut, Domino's Pizza, and KFC. All of these fast food restaurants offer tempting fast food meals and beverages that could attract people especially students as Mat, Zulqernain and Mohd (2016) suggested that a hectic life is the main reason for students to consume fast food.

This study aims to investigate the factors that influence fast food consumption in terms of price, service quality and convenience among third year students Faculty of Hospitality, Tourism and Wellness [Fakulti Hospitaliti, Pelancongan dan Kesejahteraan(FHPK)] UMK, Kampus Kota. Hanaysha (2016) stated that price has a significant positive result on customer satisfaction which strengthening customer retention of fast food restaurant. Fast food consumption is also influenced by its cheap price, less time consuming and good taste (Saghaian, 2018). Thus this study is conducted to explore and find the significant relationship between price, service quality and convenience towards fast food consumption.

There are three objectives of this research:

1. To investigate the relationship between price and fast food consumption among third year of FHPK's students in UMK, Kampus Kota.
2. To identify the relationship between service quality and fast food consumption among third year of FHPK's students in UMK, Kampus Kota.
3. To determine the relationship between convenience and fast food consumption among third year of FHPK's students in UMK, Kampus Kota.

### SIGNIFICANCE OF THE STUDY

#### Researchers

This study shed light for researchers to find the real causes that contribute towards high fast food consumptions among students. Researchers will gain insight and knowledge whether the high consumption is due to affordable price, good service

quality, convenience for them or just because it suits their liking. It would help researchers to summarize recommendation that can help to reduce consumption of fast food from the study that have been already done.

### **Students**

This study helps to motivate students and encourage them to seek a better variety of healthy food choices. They need to deeply understand on how fast food will affect their health in long-term consumption and start taking care of themselves by leading a healthy lifestyle. Instead of going for fast food as their daily main course, it is best for them to have a complete healthier meal on a regular basis.

### **Consumers**

As for consumers, this study will provide them some useful knowledge on fast food consumption and therefore, the awareness of how rapidly growing fast food industry has changed human lifestyle. In other words, it is important because it can educate them on how to make better food choices without being influenced by marketing strategies of fast food restaurants in Malaysia.

## **LITERATURE REVIEW**

Perception of causes that influence fast food consumptions among third-year students of Faculty of Hospitality, Tourism and Wellness (FHPK), UMK Kampus Kota.

### **Fast Food Consumption**

Basically, the first few impressions of people about fast food are their quick service, convenient to purchase, low nutrition level of food which is unhealthy and also it's affordable price (Tan, 2016). But now fast food and convenience foods are preferable to the young generations because they are more hassle-free, easy to prepare, ready to consume, easily available and reasonably priced (Carrigan et al., 2006; Mat et al., 2016). It is because they can simply eat outside or take fast food and spend more time on other things or activities.

### **Price**

According to Samah et al. (2015), price is one of the most elements for customer to buy a product or services. It is another determinant factor for consumers or customers purchase decision. In today's global economy, price is an amount of money that consumers use to acquire something from products and also services. Hanaysha (2016) mentioned that price also has its significant positive effect other than convenience, service quality, and also customer satisfaction when purchasing product or services. Moreover, price acts as an utmost important key component of purchase intention in fast food industry. According to Liew (2015), price also significantly influences intention of purchase because changes in production could give a great impact towards customers.

### **Service Quality**

According to Mabel (2018), the marketing mix influences have its significant impact on the service and product quality. The perceived quality of the food and service will motivate consumers to buy particular food products (Mabel, 2018). Customers will likely share their experiences to people around such as friends and relatives about the products and services in the fast food restaurants that have made them felt good.

### **Convenience**

Fast food consumption has become intensely popular throughout the world due to its convenience, cheap and quick preparation is among the reasons that people showed interest and tendency towards fast food (Wang et al., 2016). The increasing rate of people dine out in fast food outlets is an indication towards a change of consumption patterns, where quick and readily-made food put up as the first option. The quick service has outstrips the traditional dining system.

## RESEARCH HYPOTHESIS

The hypotheses of this study are based on price, service quality and convenience influencing fast food consumption among third year of Fakulti Hospitaliti, Pelancongan dan Kesejahteraan. In this study, there were three hypotheses

H1: There is no significant relationship between reasonable price and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

H2: There is no significant relationship between service quality and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

H3: There is no significant relationship between convenience and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

## RESEARCH FRAMEWORK

A research framework has been conducted to investigate the relationship between price, service quality and convenience influencing fast food consumption.

### FACTOR INFLUENCES FAST FOOD

#### CONSUMPTION

#### FAST FOOD CONSUMPTION

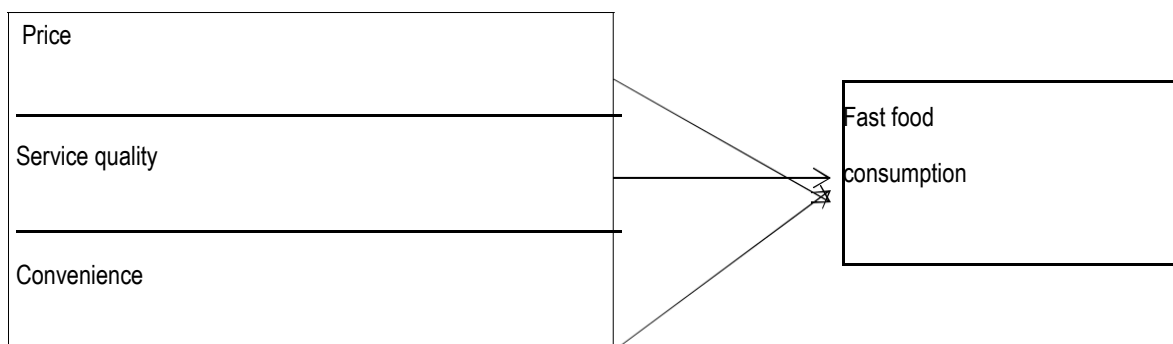


Figure 3.1 Research framework of determinants of fast food consumption.

Source: The role of conceptual frameworks in epidemiological analysis

(Victora, C. G., S. R., Fuchs, S. C., & Olinto, M. T., 1997)

## RESEARCH DESIGN

A Research design will define the method and procedure for data collection and data analysis on needed information. The research design acts as the master plan which is better known as framework for the research plan. This study was conducted using the quantitative method as the way to gather data from respondents. This study used the questionnaires as the main instrument to obtain the variable information and data. Data and information from questionnaires were used as the main information in this study. The total amount of the population is 300 respondents consist of third year FHPK's students while the sample size selected for this study is 169 according suggestion of Krejcie and Morgan (1970).

## DATA COLLECTION PROCEDURES

Questionnaires were administered among third year FHPK's students in Universiti Malaysia Kelantan, Kampus Kota. The researchers distributed the questionnaire to respondents approximately 15 minutes before their lecture class started.

Respondents were fully informed about the aims and objectives of our research. The questions in the survey were designed only to collect information for this survey. Instructions are designed to help the respondents completing the questionnaire have general understanding, provide a general orientation of the study as well as to prevent social desirability bias which confirmed their confidentiality. The time given to accomplish this survey and the data collection took about 5 minutes after completion. It did not interfere with the lecture class as it had been agreed with the lecturer in charged.

## **DATA ANALYSIS**

A tool that has been used to analyse the data is a statistical tool or better known as Statistical Package Social Science (SPSS) programmed version 22.0 computer software that helps interpreting the primary data.

## **SAMPLING METHOD**

The researchers used the probability technique because samples were selected at random. Each subject has the same possibility of being chosen as sample. Cluster sampling was used in this study. It is fairly representative since researchers did not favour certain members while cluster sampling gets every member from each group which is good to reflect the population as a whole. Respondents consist of third year FHPK's students from three courses which are hospitality, tourism and wellness. The total number of second year students from this three courses are around 300 students. As the population size is around 300 students, sample size employed for this study is 169 according to the suggestion of Krejcie and Morgan (1970). The researchers decided to increase the sample size to 180 respondents. After dividing the sample size equally, every member from three courses were selected at random of 60 students for each course respectively.

## **FINDINGS**

### **HYPOTHESIS TESTING**

In the following hypothesis testing, the probability value (p-value) is used to determine whether a null hypothesis will be accepted or rejected. In order to reject a particular null hypothesis, p-value must be less than or equal to the specific significant level or alpha value ( $\alpha$ ). All the hypotheses were tested at 95% confidence or p-value = 0.05. Thus, if the p-value is smaller or equal to 0.05, the test is significant and the null hypothesis will be rejected. This means that there is a significant difference between the dependent and independent variables and vice versa. A Mann-Whitney U Test was carried out on the data hence the results are shown in table as follows.

4.4.1 H1: There is no significant relationship between reasonable price and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

Table 4.8: Mann-Whitney U Test between price and fast food consumptions among third-year FHPK's students.

	Total Price
Mann-Whitney U	1971.000
Wilcoxon W	13146.000
Z	-1.284
Asymp. Sig. (2-tailed)	0.199

	Subjects	n	Mean Rank	Sum of Ranks	Md
Total Price	Male	31	101.42	3144.00	3.30
	Female	149	88.23	13146.00	3.10
	Total	180			3.15

From Table 4.8 above, the results of Mann-Whitney U Test revealed that there is no significance difference of price and fast food consumptions among third-year FHPK's students for male (Md = 3.30, n = 31) and female (Md = 3.10, n = 149), U = 1971, z = -1.284, p = 0.199, r = 0.873. From the results stated, researchers confirmed to accept hypothesis one.

4.4.2. H2: There is no significant relationship between service quality and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

Table 4.9: Mann-Whitney U Test between service quality and fast food consumptions among third-year FHPK's students.

	Total Price
Mann-Whitney U	2159.500
Wilcoxon W	13334.500
Z	-0.569
Asymp. Sig. (2-tailed)	0.569

	Subjects	n	Mean Rank	Sum of Ranks	Md
Total Price	Male	31	95.34	2955.50	3.50
	Female	149	89.49	13334.50	3.50
	Total	180			3.50

From Table 4.9 above, the results of Mann-Whitney U Test revealed that there is no significance difference of service quality and fast food consumptions among third-year FHPK's students for male (Md = 3.50, n = 31) and female (Md = 3.50, n = 149), U = 2159.5, z = -0.569, p = 0.569, r = 0.856. From the results stated, researchers confirmed to accept hypothesis two.

4.4.3. H3: There is no significant relationship between convenience and fast food consumption among third year students of FHPK, Universiti Malaysia Kelantan, Kampus Kota.

Table 4.10: Mann-Whitney U Test between convenience and fast food consumptions among third-year FHPK's students.

	Total Price
Mann-Whitney U	2296.000
Wilcoxon W	2792.000
Z	-0.051
Asymp. Sig. (2-tailed)	0.959

	Subjects	n	Mean Rank	Sum of Ranks	Md
Total Price	Male	31	90.06	2792.00	4.00
	Female	149	90.59	13498.00	3.80
	Total	180			3.80

From Table 4.10 above, the results of Mann-Whitney U Test revealed that there is no significance difference of convenience and fast food consumptions among third-year of FHPK's students for male (Md =4.00, n= 31) and female (Md = 3.80, n = 149), U = 2296, z = -0.051, p = 0.959, r = 0.825. From the results stated, researchers confirmed to accept hypothesis three.

## RESULTS AND DISCUSSIONS

The factors influencing fast food consumption among third-year students of Faculty Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Kampus Kota.

The result of Mann Whitney U Test shows that there is no significant relationship between price and fast food consumption among third-year FHPK's students (p=0.199). This means, price does not affect the fast food consumption among students. Low or high in price of fast food does not indicate the consumption by students towards fast food. Some students choose to eat fast food because it's cheap but maybe they just like the way fast food tastes because the calibrated mix ingredients in fast food is hard to resist. It proved that the students who buy fast food are not based on the price even though the students come from rich or poor family or the student monthly allowance is high. This is supported by Hanan (2016) that there are no significant relationship between family income and amount of consuming fast foods or the frequency of consumption.

The result of Mann-Whitney U Test shows that there is no significant relationship between service quality and fast food consumption among third-year FHPK's students (p=0.569). This means, service quality does not affect the fast food consumption among students. Good or bad of service quality in fast food industry does not influence the desire of students towards fast food consumption. In accordance to this finding, students do not include service quality for their fast food's choice because the possibility for students having low perception on fast food restaurants when they have to wait for a long time especially during the peak hour is low. On the other hand, Najihah (2019) found that the critical issues in fast food service industry is on the speedy waiting time, as this industry should provide the quick and easy for grab products and when



the assess waiting time are negative and product quality offered by the restaurants are bad, it may result to the loss of customers.

The result of Mann-Whitney U Test shows that there is no significant relationship between convenience and fast food consumption among third-year FHPK's students ( $p=0.959$ ). This means, the convenience of any fast food's restaurant does not affect students' consumption towards fast food. We know that fast food is convenient because it's prepared ahead of time and the students do not need to cook it but sometimes students' preferences change, they might want to eat homemade meal. In terms of the student health, it can be a major decision in their day especially to sit down for a healthy meal. This is proven by Oladimeji et al (2017) who said that social factor which is changes in dietary culture due to peer group influences or health concerns can affect student consumption of fast food.

## RECOMMENDATIONS

Recommendation for further research includes the following;

1. Fast food restaurant could use creativity, resources and full range marketing practice to promote and support healthy diets for teenagers and students in their meals.
2. The number of test or survey could be increased where it can show more results that are related to respondents' perception, for example price of fast food in fast food restaurant.
3. Future studies could include the awareness of the effects of fast food intakes not only on students but also children.
4. The effects of fast food intake among children could be included in future studies.
5. Researchers could take more time to complete the test and to add more factors in the research.

## CONCLUSION

In conclusion, the findings of this study show that the factors influencing fast food consumption among third year students of Faculty of Hospitality, Tourism and Wellness, University Malaysia Kelantan is price, services quality and convenience.

Fast food restaurant was assigned a path in providing the best quality on their products and in good price. Fast food restaurant was offering good midday-meal and supper sets and those sets was sold in the best quality. Moreover, cooking is not an option for students whether they live in a college hostel or even if they live outside the college. Therefore, fast food is among the students' top choice because it is convenient, affordable and readily available as a substitute for home-made food.

It also recommended that the next studies to include the awareness in the intake of fast food consumption among children. We are also in need of knowing how fast food consumption can give its effect to the children.

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**The Effects Of Social Culture Towards Student Health Among Third Year Students Of Faculty Of Hospitality, Tourism And Wellness In Universiti Malaysia Kelantan (UMK), Kampus Kota**

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**ABSTRACT**

*Health has an important place in human life quality for the current and next generation. Many people assume that eating without thinking about what they put into their bodies will not affect them in any way but in contrast, food gives one of the biggest effects on a person's wellbeing. The main focus of this study is to investigate the effects of social culture that influence the health of the third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota. A quantitative approach was used to collect and analyze the data. A total of 105 students has been selected by using simple random sampling and cluster sampling method to fulfill our pilot study. Data were collected using the validated Health-Promoting Lifestyle Profile Questionnaires (HPLP II). The significance of this study lies in the fact that it can give the students the policy of social culture to have a better and healthy lifestyle that can help them to manage their health conditions. It can also help students change their behaviour in lifestyle and improve their health. Furthermore, the study used Mann-Whitney U Test to present the research hypothesis. The result shows significant value of social culture effects towards student health. The research found that the effect affecting students' health are Lifestyle, Dietary Knowledge, and Social Support.*

**Keywords:** Health, Social Culture, Lifestyle, Dietary Knowledge, Social Support

**INTRODUCTION**

In the lives of all humans, health has an important place. The definition of health can be explained in numerous ways. Kurt (2015) defined health as a condition of the body that is completely in good health and perfect physical without having any illness or disease. To protect and improve the quality of health in life, every human needs to develop a healthy lifestyle. If they think that this issue is important, they will avoid risky activities and practice behaviour that protects and improves their health (Kurt, 2015). Many people assume that eating without thinking of what they put into their body will not affect them in any way but on the contrary food has one of the biggest effects on a person's wellbeing.

On the subject of unhealthy changes in eating habits that is under lifestyle, university life is a very life-threatening period that can give an effect on students' health. When asked about knowledge of dietary guidelines, it was really important for a person to make a healthier choice in the intake of each meal. Dietary knowledge of students are usually not being supervised since they are young adults that have to change in physical growth that related to food and nutrition. Every food intake of each person is affected by a few types of the natural environment including social, genetic, physical activity and psychology. Some of them follow family feeding practice.

Normally, it leads to starvation due to the inability in finding suitable food supplies. In turn, all of these factors are assumed to have an impact on the valuable gift in life in order to maintain the health of students. Therefore, the main focus of this study is to investigate the effects of social culture that influence health among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

There are three objectives of this research:

1. To investigate the healthy lifestyle in social culture towards health among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.
2. To investigate the knowledge in dietary in social culture towards health among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.
3. To investigate the effect of social support in social culture towards health among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

## **SIGNIFICANCE OF THE STUDY**

### **Ministry of Health (MOH) and Ministry of Youth and Sports (KBS)**

National Missions Thrust in particular, Thrust Four is “to improve the standard and sustainability of quality of life”. Ministry of Health can refer to this study to ensure the health condition of every person which is necessary for the accomplishments of Vision 2020. So, this study is aligned with the vision of the Ministry of Health as a nation working together for better health. The health status of Malaysians has not improved, so by referring to this study, it can give suggestions to the ministry that there is a need to look at the micro level of communities and students that are actively participating in sport.

### **Higher education leaders and all university faculties in Malaysia**

They can take the findings of this study to increase sport and physical activity opportunities for all at the individual, social and national levels in Malaysia. Through globalisation, physical activity can be a lifestyle for every individual especially among students and can be shown as a mainstay of sport for all and societal benefits.

### **Students**

It can give the student a policy of social culture to have a better and healthier lifestyle that can help manage the health conditions of UMK students. It can also help students change their behaviour in lifestyle and improve their health in order to live healthier and longer lives.

## **LITERATURE REVIEW**

### **Lifestyle**

Lifestyle is referred to as the features of the population in a specific place and time of a region. It included the doings and behaviour that shape our daily life. This includes the food that we eat, our leisure activities, the work that we do and interaction with friends, family and people around us. Based on a report by Farhud (2015), he stated, quality of life and individual health with 60% of related elements are linked to lifestyle. An unhealthy lifestyle is followed by millions of people. Hence, they faced death, illness and disability. An unhealthy lifestyle can create problems like hypertension, overweight and metabolic diseases. The relationship between an individual's lifestyle and their health should be very much considered.

### **Dietary Knowledge**

Many undergraduate students are unaware of the importance of dietary knowledge which might hinder them from changing their food choice. Meeting nutritional requirements is very beneficial for undergraduate students to get a healthy diet. It will help most of them improve nutrition knowledge to adopt better dietary habits. There was a research about the effects of a smartphone application on health promotion for university students. It was discovered that most of them had quite less participation in healthy behaviours. They also found that undergraduate students believed that the application helps in promoting healthy behaviour (Miller T et al., 2015).

### **Social Support**

According to Coyle (2016), psychologists have proposed that human advancement is molded by the common association of people and their social surroundings. Based on Angley et al. (2015), social help includes the positive help from family and companions. Adams et al. (2016) stated that financial factor was influenced by the social support towards student health.

### **Student Health**

Health Belief Model (HBM) is the comprehensive framework proven to be effective in disease prevention. HBM reveals the relationship between belief and behaviour and assumes that preventive behaviour is based on personal beliefs. The model argues a person will follow health recommendations when he/she sufficiently motivated. The model can seriously affect their lives when the vulnerability may decrease according to health recommendation and the benefits may outweigh the harms (Tavakoli et al., 2016).

## Research Hypothesis

H1: There is no significant relationship between student health and lifestyle among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

H2: There is no significant relationship between student health and dietary knowledge among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

H3: There is no significant relationship between student health and social support among third year of Faculty Hospitality, Tourism and Wellness students in Universiti Malaysia Kelantan, Kampus Kota.

## Research Framework

A research framework has been conducted to investigate the effect of lifestyle, dietary knowledge and social support in social culture towards health among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

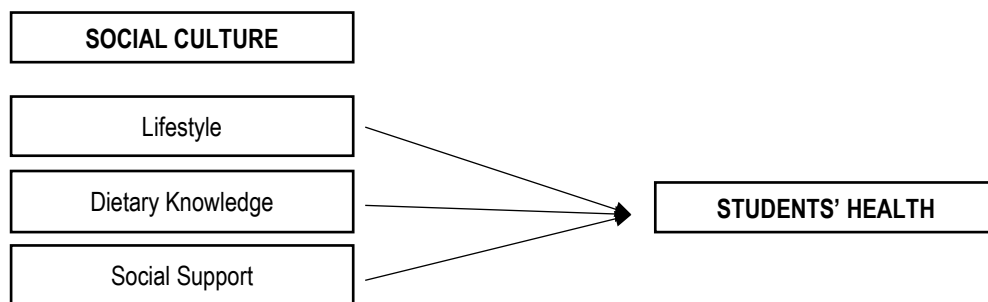


Figure 1: Research framework of the effects of social culture towards student health among third year students of Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota

## METHODOLOGY

### Research Design

In investigating the cause and effect relationship between two variables in this study, the researchers chose to use the causal research. This research design is one of the popular designs used in many types of research nowadays. The study intended to obtain the related data of which student health can be influenced by factors such as lifestyle, dietary knowledge and social support. In getting the variables' information, questionnaires were used as the main instrument.

### Data Collection

Questionnaires were distributed randomly among the third year students of the Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota. Instructions would be read to respondents to make sure the respondents have a general or specific understanding of the study as well as to prevent a social desirability bias. In all instances, as the time given to accomplish the survey, data collection would be completed in less than 10 minutes, as agreed in advance with lecturers (if there is a lecturer in that class) and would not interfere with the lecture session.

### Sampling

The study used the quantitative approach via a questionnaire and a probability technique for the sample size. Simple random sampling and cluster sampling were used in this study. Respondents are third year students who represent three programmes under the Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota. The total number of third year students under Faculty Hospitality, Tourism and Wellness are 394 students. So, the sample size in this study is 210. After dividing the sample size for each programme, it will be 70 students respectively. In achieving a reliable and valid sample

of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three types of data analysis used in this study, that were frequency analysis, descriptive analysis and reliability analysis. The data obtained were analysed by using Statistical Package for the Social Science (SPSS) version 25.

### FINDINGS

#### Reliability Test

Reliability analysis was used to measure the reliability of the questionnaires. Pilot study was conducted on 105 students from three different programmes under Faculty of Entrepreneurship and Business in Universiti Malaysia Kelantan, Kampus Kota which are Retailing (SAR), Logistics and Distributive Trade (SAL) and Islamic Banking and Finance (SAB) programmes in order to check the reliability of the instrument. SAR was represented by 41 respondents, SAL was represented by 20 respondents and SAB with 44 respondents. So, the total students for three different programmes was 105 students. The results from the pilot test are presented in Table 1 below:

Table 1: Pilot Test Report

Factors	M	SD	R
Lifestyle	3.221	0.62	0.73
Dietary knowledge	4.026	0.54	0.76
Social support	3.561	0.65	0.81

From Table 1 above, the reliability for lifestyle is 0.73. The reliability for dietary knowledge is 0.76 while for social support is 0.81. All of the results in reliability have high correlation because according to Mohajan (2017), he stated that if the reliability coefficient is above 0.70 it is considered suitable and while a reliability coefficient above 0.8 can be considered good. He also stated that the reliability can vary from 0.00 to 1.00, which 1.00 points out as perfect reliability and 0.00 points out no reliability. The result gains appropriate reliability, therefore the Health-Promoting Lifestyle Profile Questionnaires (HPLP II) can be used as the questionnaires for data collection.

#### Hypothesis Testing

In hypothesis testing, the probability value (p-value) is used to determine whether a null hypothesis will be accepted or rejected. In order to reject a particular null hypothesis, p-value must be less than or equal to the specific significant level or alpha value ( $\alpha$ ). The hypothesis was tested at 95% confidence or p-value = 0.05. The test is significant and the null hypothesis will be rejected if the p-value is smaller or equal to 0.05. The results showed that there is a significant difference between the dependent and independent variables. While Mann Whitney U Test proved that there is no significant difference between student health in lifestyle among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota. However, the results of Mann-Whitney U Test revealed a significant difference of student health in lifestyle among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota for male (Md=3.7, n=68) and female (Md=3.4, n=142), U=3400.50, z=-3.470, p= 0.001, r=0.7. Thus, it showed that the pattern

of lifestyle will affect the level of students health. It proved that the students with active lifestyle are having better health. Last but not least, students are in good health when they manage to create a healthy lifestyle.

## **DISCUSSION & RECOMMENDATION**

The objectives of the study are to investigate the effects of social culture towards student health among third year Faculty of Hospitality, Tourism and Wellness (FHPK) students in Universiti Malaysia Kelantan (UMK), Kampus Kota and to identify the relationship between student health and social culture among third year Faculty of Hospitality, Tourism and Wellness (FHPK) students in Universiti Malaysia Kelantan (UMK), Kampus Kota.

The result of Mann-Whitney U Test shows that there is a significant relationship between student health and lifestyles among third year of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan ( $p=0.001$ ). This means, the pattern of lifestyles will affect the level of student health. Active lifestyle can make a student's health much better than the passive lifestyle student. This is proven by Mehri, Solhi et al. (2016) where it was stated that lifestyle is the way of living of individuals, families, and societies which can be healthy or unhealthy in terms of personal behaviours such as nutrition, physical activity, and stress management.

The result Mann-Whitney U Test shows that there is no significant relationship between health and dietary knowledge among third year students of Faculty of Hospitality, Tourism, and Wellness in Universiti Malaysia Kelantan ( $p=0.888$ ). This means, higher students' dietary knowledge will not affect their health. Bongers (2016) stated that nutrition knowledge can enhance the proper dietary knowledge, and the more you know about nutrition knowledge the more you are to be aware of taking the food or nutritional supplement that can be in the high risk category and may probably be affected by other illness. The researchers also recommended that high-quality, center-based early education programmes should be more widely implemented. Future interventions should focus on strengthening other processes affecting students' outcomes such as the home environment, school and neighbourhood influences, and also physical health and growth.

Lastly, the result of Mann-Whitney U Test shows that there is significance relationship between health and social support among third year students of Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan ( $p=0.003$ ). In accordance with this finding, students will care for their health with good social support from family and friends. Normally, students with financial family support will have good well-being. This is proven by Mirowsky (2017) where he stated that social status, wealth, and education status are in relation with the health and well-being of students. Thus, the respondents are able to focus and improve their health on the social, environmental, and behavioural conditions that minimizes disability and promote continuous independence and productive activity. Interventions that enhance the social support and self-efficacy of students are particularly promising

## **CONCLUSION**

In conclusion, the findings of the study on the effects of social culture towards student health among third year Faculty of Hospitality, Tourism and Wellness (FHPK) students in Universiti Malaysia Kelantan (UMK), Kampus Kota has significant relationships in terms of lifestyle, dietary knowledge and social support.

This means that third year Faculty of Hospitality, Tourism and Wellness (FHPK) students in Universiti Malaysia Kelantan (UMK), Kampus Kota are having higher lifestyle and social support while lower dietary knowledge that affect their health. The pattern of lifestyles will affect the level of student health. For example, intake the healthy food can make the students' health much better than the passive student. The result with lower dietary knowledge among the students can be solved by providing the nutrition education to the student. Besides, the government should concern the special target groups based on age, gender, race, ethnicity, and social class by having various healthy lifestyle programmes.

The communities should increase healthy environments, promote behavioural change and reduce the exposure of risks with ongoing health promotion efforts which include law, business, education, social services, and the media. Lastly, this current study only mentions about lifestyle, dietary knowledge and social support. Future research may include other factors that can give effects either good or bad to student health.

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## The Factors That Affect the Rate of Obesity Among Year 2 Faculty Hospitality, Tourism and Wellness Students, UMK Kampus Kota

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### ABSTRACT

This study aims to determine the factors that affect the rate of obesity among year 2 students of Faculty of Hospitality, Tourism and Wellness (FHPK) students in Universiti Malaysia Kelantan (UMK), Kampus Kota. The questionnaire were distributed among year 2 students of FHPK in UMK, Kampus Kota. The data collected were analyzed using SPSS version 25.0. The finding of the study shows that eating habit, physical activity and family history do not affect the rate of obesity among year 2 students of FHPK in UMK Kampus Kota. Despite of the result showing no significance effect on the independent variable, the researchers encourage the community to practise a healthy lifestyle.

**Keywords:** *rate, obesity, eating, activity, family, healthy, lifestyle*

### INTRODUCTION

Obesity has become a major problem among Malaysians especially the youth (Juni, 2015). All stages of life are exposed to be an obese. Obese persons are more likely to suffer chronic diseases that lead to mortality. According to Barnes (2015), if an individual is diabetic or has any excess weight in their body, it might increase their risk of death. Practising healthy eating and active physical activities can help to reduce the risk of death and being an obese. This is supported by Arumugam et. al (2015) as they believe that eating a lot of fast food that contains lots of food preservatives can contribute to the rising of obesity rate. The World Health Organization (WHO) considered Malaysia to have a high number of obese people among its citizens as they has ranked Malaysia as the sixth country among with the highest rate of obesity in Asia. The high rate of obesity is mostly caused by consuming too much fast foods which is a type of unhealthy diet. The definition of obese and overweight can be determined by using the Body Mass Index (BMI). A person will be categorized as obese if the BMI of that person is below 18.5 and that person will be categorized as healthy when their BMI is in the range between 18.5-24.9. A person will be categorized as overweight and obese when their BMI is within 25.0-29.9 and 30.0 and above respectively.

In order to reduce the number of obesity in Malaysia, parents and even the government themselves should take actions by inculcating good eating habits in daily diets. Parents play an important role as they should educate their children to eat more healthily by consuming more vegetables and fruits in their diet. A research reported that the children liking a median of four vegetables and three fruits. Parents should find a way to educate their children to eat more vegetables and fruits as it helps to be a healthy person.

There are three objectives of this research:

1. To determine how physical activities can affect the rate of obesity among year 2 FHPK's students in UMK, Kampus Kota.
2. To determine how eating habits can affect the rate of obesity among year 2 FHPK's students in UMK, Kampus Kota.
3. To determine how family history can affect the rate of obesity among year 2 FHPK's students in UMK, Kampus Kota.

### Significance of the Study

#### Students

The students can refer to this study in order to prevent increased obesity rate in the future. The benefit of this study can also lead the students to have a better and healthier lifestyle while they are studying at UMK, Kampus Kota. The result of this study can also give awareness to the highest committee of UMK, Kampus Kota to monitor the main problem faced by the obese students. The increase in awareness of obesity can reduce the discrimination of the public towards obese people.

## **Community**

This research can also be used by the community as they can refer to this research in order to know more about the rate of obesity in Universiti Malaysia Kelantan. This is because, this problem has become a serious problem by most of the people around the world due to the unhealthy diet and eating habit.

## **Government**

The Ministry of Health (MOH) in Malaysia can also refer to this research in order to take some actions and precautions to help in changing the diet pattern which will lead them to be one of the obese people young people to healthy young people. MOH can do some activities to promote physical activities such as holding a marathon among the young people especially for them who tend to do sedentary activity

## **LITERATURE REVIEW**

### **Rate of obesity**

According to Schoepp (2017), obesity is caused by many aspects such as increase of earnings, changes of lifestyles, development and genetic characteristics. Obesity can affect the value of daily life and physical changes like snoring, tiredness and difficulty to do physical activities (Lum, 2018). Factors contributing to obesity are eating habits, lifestyle behaviour, socioeconomic status and physical activity (Addo et al., 2015). Other than that, the level of physical activities and sedentary behaviour which decreases in developed countries also contribute the number of increased obesity in world. (Musaiger, 2016). Obesity can lead to diseases such as Type 2 diabetes, stroke, chronic diseases and cardiovascular diseases which are getting into worrying stages in this country.

### **Eating Habit**

Nutritional intake will give strength to the physical health, reduce the risk of chronic disease and prevent excessive weight gain or obesity (Kabir et al., 2018). Furthermore, food gives human bodies enough energy intake to go through daily activities. Food has also become a part of tradition, culture and emotional component as well (Wax, 2017). However, most university students often consume fast food since the campus area are lack of healthy food and expensive prices of healthy foods due to lack of resources for healthy foods (Loerbroks, 2017).

### **Physical Activity**

Young people can gain a wide range of health benefits from physical activities. It is clear that the same nation which exhibits the lowest agreement with physical activity guidelines will achieve the highest obesity rates, and depressed physical activity is a constant fortune-teller of heightened risk for expansion of obesity in adolescent are showing by the data (Katzmarzyk et al., 2015). Different conditions like job-related, transport-related, leisure-time, and domestic physical activities are normally composed by total physical activity, and will be different between the realm of obesity and physical activity (Wanner et al., 2016).

### **Family History**

Family history can be one of the causes of an obese. Obesity genetic make up is one of the hereditary factors that make up the human body controlling certain process in the body such as appetite of an individual that might lead to the individual's response to energy supply and shortage (Athirah et al., 2018). Some people inherit the obese genes from their father or their mother. Furthermore, children of obese parents could be at an even greater risk of obesity due to the higher genetic susceptibility to the disease and grouping of the influence of dietary habits in the household (Martines et al., 2019).

### **Research Hypothesis**

There are three hypotheses included in this research:

Ho1: There is no significant relationship between the rate of obesity and physical activities among Year 2 students of Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota

Ho2: There is no significant relationship between the rate of obesity and family history among year 2 students in Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

Ho3: There is no significant relationship between the rate of obesity and eating habits among year 2 students in Faculty Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota.

### Research Framework

A research framework has been conducted to determine the factors contributing to the rise of the rate of obesity such as physical activities, eating habits and family history.

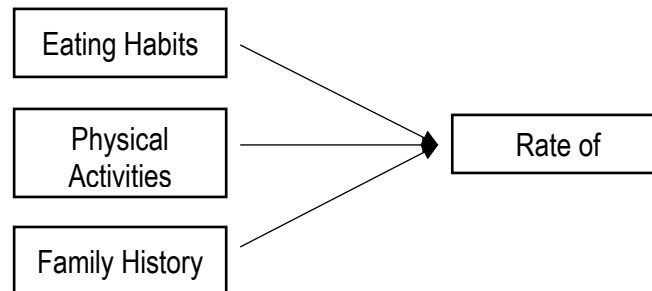


Figure 1.0: Research framework of the rate of obesity, eating habits, physical activities and family history

## METHODOLOGY

### Research Design

In the research design, the researchers have to specify the method and the procedure that the researchers would do to collect data and analyse the information that is needed in the research. The researchers used the descriptive research method in order to collect the data and information from selected respondents who were Year 2 students of FHPK in UMK, Kampus Kota. The researchers used a survey to obtain data related to the research. Questionnaire was used by the researchers as the main instrument to collect data and information from the respondents for the use of the research.

### Data Collection

Data collection took place in UMK, Kampus Kota. Instructions were designed to prevent a social desirability bias and they were read to respondents, who were assured of confidentiality. A convenience sample of 240 students that consist of both males and females who attend classes in UMK, Kampus Kota under FHPK. Questionnaires were distributed by the researchers themselves to selected respondents around the campus. Fifteen minutes were given to the respondents for answering our questionnaires. This helps to ensure that the students could participate on a voluntary basis who have been informed that their participation was both voluntary and anonymous.

### Sampling

The researchers used the probability technique as the sampling technique because models are selected randomly. Simple random sampling was used in this study. The researcher ensured that all the individuals of the population are included in the list and then picked for the preferred amount randomly. Respondents consist of Year 2 students of FHPK in UMK, Kampus Kota. The number of respondent is around 240 students who are randomly picked from Year 2 students from FHPK in UMK Kampus Kota. Researchers distributed the questionnaires to the respondents mostly around the campus.

Researchers selected the respondent randomly from the three main courses in FHPK which are Hospitality, Tourism, and Wellness. The Year 2 students from FHPK in UMK Kampus Kota were being chosen because they can be classed as newbies and still trying to adapt the new lifestyle in Kelantan.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula will be shown as below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$\chi^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

The researcher used a statistical application known as Statistical Package Social Science (SPSS) to determine the best statistical data for the research. The researcher keyed in the data into the SPSS and the SPSS interpreted the data into statistics such as the valid percentage, the cumulative percentage and other data needed for the research. The researchers chose the descriptive analysis to evaluate the data of the research. The objective of this research is to receive a certain number of respondents whose life are associated with the research topic.

The researcher used the AEBQ questionnaire to run this research. This questionnaire tested the respondents in many aspects especially on how they practise their daily diet. This questionnaire tested the respondents on how the parents educate them in their childhood because it might affect the future of the children in terms of daily diet practice

### FINDINGS

In this hypothesis testing part, the researchers used Mann-Whitney U Test to carry out the data and the results are shown in table given.

Ho1: There is no significant relationship between the rate of obesity and physical activity among Year 2 students of FHPK in UMK, Kampus Kota.

	Total Physical Activity
Mann-Whitney U	4343.500
Wilcoxon W	21921.500
Z	-1.374
Asymp. Sig. (2-tailed)	0.169

Table 1: Mann- Whitney U test between males and females in physical activities among Year 2 students of FHPK in UMK, Kampus Kota

Based on Table 1, the results of Mann-Whitney U Test shows no significant difference in the scores of physical activity among second year of FHPK'S students in Universiti Malaysia Kelantan, Kampus Kota for male (Md = 3.40, n= 53) and g=female (Md=3.30, n= 187), U= 4343.500, z= -1.374, p= 0.169, r= 0.169. From the result stated, hypothesis 1 is accepted.

### Pilot Study

Factors	M	SD	r
Physical Activities	3.107	0.5410	0.736
Eating Habits	3.464	0.6282	0.737
Family History	3.465	0.5674	0.727

Table 4: Reliability test physical activities, eating habits and family history factors

From Table 3.1 above, the reliability of eating habits is 0.736 while the reliability for physical activities is 0.737 and the reliability for family history is 0.727. As the result, the reliability is high, so the instrumentation (AEBQ) can be used as our questionnaires for our data collection.

## DISCUSSION & RECOMMENDATION

### Discussion

The results of Mann-Whitney U Test shows that there is no significant relationship between physical activities and the rate of obesity among second year FHPK'S students in Universiti Malaysia Kelantan, ( $p= 0.169$ ). In conjunction with this, higher level of physical activities did not affect the rate of obesity. It is proven that physical activity itself did not affect the rate of obesity because the risk of being obese can be prevented if one can take preventable measures at first. Rising rates of obesity is also influenced by social and environmental factors and it is showed that physical activity developed relatively in the early stage of life. Moreover, social inequality as a results of economic insecurity and environment is one of the causes of obesity. This is proven from findings in the study by Samuels and Peltzer (2014) that higher rate of obesity in university students, is not related to physical activity but also related to other causes such as lack of sleep and stress they had have mainly because of their studies. Overweight or obesity have been linked to various factors such as alcohol intake, socioeconomic conditions and genetic factors. This is proven by Ying Chan et al. (2017), who found that changes in individual lifestyle behaviours such as increased sedentary behaviour that is related to rapid urbanization can also lead to increasing obesity. Students are having busier lifestyle that they need to move to many places like classes so they are moving throughout the day. According to Ozcan, Mantilla and Rahamefy (2014), overweight or obesity among university students is also influenced by socio-demographic factors mainly gender, higher socioeconomic status, social factors and lack of social supports. Moreover, mental health of a person like depression or anxiety is also the reason of weight gain to individuals.

### Recommendation

1. The research should be conducted in a huge number of students as respondents from a several year and courses from Universiti Malaysia Kelantan with the aim to collect more effective result.
2. For future studies, the researchers could include a comparison between a UMK students in Kampus Kota with another campus to examine whether there is a difference in the rate of obesity.
3. The number of the tests should be increased where it can show more results that are related to the rate of obesity such as social or medical factors.
4. The study should contain the newest information of current research, theory and data to support a finding in the framework.
5. The timeline of the study should be increased with the intention to let the researchers to have more time to complete the test and able to add in more findings in the research.

## CONCLUSION

In conclusion, the discoveries of this study show that the influence of the factors on the rate of obesity among Year 2 students of Faculty of Hospitality, Tourism and Wellness in Universiti Malaysia Kelantan, Kampus Kota have no significance relationship on obesity rate

This means that Year 2 students of FHPK students in Universiti Malaysia Kelantan, Kampus Kota are equipped with higher awareness about the effects of physical activities, healthier eating habits and more knowledge about the effects of family history. These findings also indicate that the influences of the rate of obesity are caused by the community, mental and the location.

The result showed that the faculty of the university should take an important role. The faculty of the university should take action to encourage the students in their faculty to practise a healthy lifestyle and avoid sedentary activities by providing enough sport facilities.

Considering the importance of the factors that influenced the rate of obesity, it is highly recommended that intervention programmes be integrated for all university students so they know about their physical activity level, eating habits and family history are important for their health. It is also recommended for private institutions to collaborate with the society inside the faculty to offer students some interesting activities.

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## The Factors Influencing Sugar Consumption Among Second Year Students of Faculty of Hospitality, Tourism and Wellness, University Malaysia Kelantan, Kampus Kota

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### ABSTRACT

The objective of this research is to investigate the mean score of factors influencing sugar consumption which are eating habits, nutrition knowledge and lifestyle among second year male and female students of Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan Kampus Kota. Mann-Whitney U test was used to test the first objective of the study. The purpose is to compare between this group. The sample size is 180 respondents with 81 males and 99 females.

**Keyword:** Sugar Consumption, Eating Habit, Nutrition Knowledge, Lifestyle

### INTRODUCTION

In Malaysia, our sugar consumption is one of the highest in the world. Some of the major factors of this sugar consumption is that sugar comes from drinks like coffee, tea and sweetened condensed milk. These types of sweet drinks are big contributors towards sugar intake in Malaysia. Sugar can be obtained in many kinds of food (Kant et al., 2015) and most of the food that we consume today are high with sugar level and we do not realize it. They do not know that rice is also a source of carbohydrate that contains a high level of sugar (Ried et al., 2016).

Therefore, the main focus of this study is to see the factors influencing sugar consumption among FHPK students at UMK Kampus Kota Pengkalan Chepa, to see whether they know the hidden sugar in the food that they took and the reason why some of them consume or took too much sugar in their diet

### OBJECTIVE

1. To investigate the factor of eating habits on sugar consumption among second year students of Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan Kampus Kota.
2. To investigate the factor of nutritional knowledge on sugar consumption among second year students of Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan Kampus Kota.
3. To investigate the factor of environment on sugar consumption among second year students of Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan Kampus Kota.

### SIGNIFICANCE OF THE STUDY

#### Kementerian Kesihatan Malaysia (KKM)

Indirectly, Kementerian Kesihatan Malaysia (KKM) will benefit most from this study because they can refer to this study in creating awareness among students to reduce sugar consumption. The benefit of this study can lead students to have better knowledge and do some preparation when they want to eat something. The result of this study can also give awareness to the students to decrease the risk of health problems like obesity, diabetes and others.

#### University Malaysia Kelantan

This study will benefit University Malaysia Kelantan as one of the subjects to be studied. This institution will at the end know what are the important strategies and programmes that are needed to promote a healthy lifestyle among students.

#### Students

The result of this investigation can support student programmes in increasing the awareness of proper sugar consumption.

## LITERATURE REVIEW

Sugar is very important in human diet and excessive sugar intake may lead to many kinds of chronic diseases (Fletcher, 2016). Some people do not know the hidden sugar in the food. This is some information that most of us do not know as they only have limited knowledge about some kind of food. Eating habits refer to how and why people eat, the food that they eat, with whom they eat, as well as the way people get, store, use, and dump the food. Individual, cultural, social, economic, religious, political, and environmental factors all affect people's eating habits. Nutrition knowledge is not just a disguised arrangement of explanatory, logical fact but it is declarative knowledge related to nutrition, including procedural and social learning. Against the assumption that increasing consumer nutrition knowledge points may improve nutrition statements over food labels, this paper examined the impact of age and level of formal education on nutritional knowledge and determined whether knowledge levels present any significant differences in healthy dietary behaviour (Miller and Cassady 2015). Lifestyle as commitment in a few related practices that build and express an ordinary piece of self-character (Suzanne et al, 2018).

## RESEARCH HYPOTHESIS

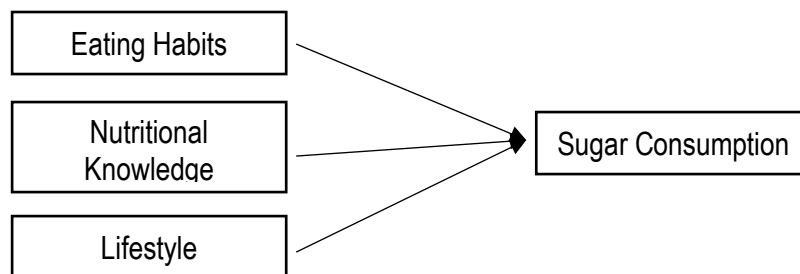
Ho<sub>1</sub>: There is no significant difference in the scores between sugar consumption and eating habit among Faculty Hospitality, Tourism and Wellness student, Universiti Malaysia Kelantan, Kampus Kota.

Ho<sub>2</sub>: There is no significant difference in the scores between sugar consumption and nutrition knowledge among Faculty Hospitality, Tourism and Wellness student, Universiti Malaysia Kelantan, Kampus Kota.

Ho<sub>3</sub>: There is no significant difference in the scores between sugar consumption and lifestyle among Faculty Hospitality, Tourism and Wellness student, Universiti Malaysia Kelantan, Kampus Kota.

## RESEARCH FRAMEWORK

In considering the factors influencing sugar consumption, the research is focused on the level of eating habits, nutritional knowledge and lifestyle whether they will result in a higher or lower level sugar consumption in life.



## RESEARCH DESIGN

A descriptive analysis was done via questionnaires. The numbers of the respondents selected from this study are 299 respondents which involved the second year students of Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Kampus Kota.

## DATA COLLECTION PROCEDURES

Questionnaires were distributed randomly to respondents around the campus of Universiti Malaysia Kelantan. Researchers will provide and distribute questionnaires to respondents and instructions were read to the respondents to make sure that the respondents have a general understanding of the questionnaire. It is important to state that we will collect the data based on the extent of its relevance in research and its effectiveness. Researchers must know the difficulties that may occur throughout the data collection process. To successfully collect the correct data, researchers ensured that they have clear criteria for the selection.

## SAMPLING METHOD

The sampling was done using probability technique because samples were selected randomly. Purposive sampling was used in this study because the researchers identified the exact characteristic that exists in the respondents who are second year students of the Faculty of Hospitality, Tourism and Wellness.

## DATA ANALYSIS

An instrument that was used in analysing the data is a statistical tool or otherwise called Statistical Package Social Science (SPSS) programmed version 25.0 computer software. The SPSS software helps analysts in deciding the best measurable technique to be used.

## FINDINGS

### MEAN SCORE AND STANDARD DEVIATION

Eating Habits Question (10)

Below is the analysis of frequency, percentage, mean score, and standard deviation of respondents according to every item of Eating Habits (n=180)

Table 4.5: Respondent's feedback on items of Eating Habits

Statement	Scale of SQ					M (SD)
	1	2	3	4	5	
1. I often add sugar or any other Sweetener to foods and beverages.	5% 9	11.1% 20	21.7% 39	31.7% 57	30.6% 55	3.72 (1.159)
2. I often eat sweets, cookies, or cakes containing sugar and any other sweeteners.	3.3% 6	10% 18	22.8% 41	47.8% 86	16.1% 29	3.63 (0.980)
3. I often drink regular sodas, diet sodas, diet drinks, sport drinks, and fruit juice.	4.4% 8	13.9% 25	22.8% 41	33.3% 60	25.6% 46	3.62 (1.140)
4. I enjoy something sweet after a meal and have a sweet tooth.	4.4% 8	10.6% 19	18.3% 33	47.8% 86	18.9% 34	3.66 (1.042)
5. I often feel hungry when I am with someone who is eating.	4.4% 8	4.4% 8	17.8% 32	42.8% 77	30.6% 55	3.91 (1.029)
6. I am always looking forward to meal times.	4.4% 8	6.7% 12	18.3% 33	44.4% 80	26.1% 47	3.81 (1.040)
7. I lose control of my appetite whenever I eat with family or friends.	7.8% 14	8.3% 15	18.3% 33	36.1% 65	29.4% 53	3.71 (1.198)
8. I avoid sweets because they contain high level of sugar.	0.6% 1	10.6% 19	29.4% 53	35.6% 64	23.9% 43	3.72 (0.965)
9. I will carefully watch the portion	1.1% 2	7.2% 13	20.6% 37	51.7% 93	19.4% 35	3.81 (1.040)

sizes of my food.	2	13	37	93	35	(0.870)
10. I often eat ice cream and frozen desserts.	3.9%	10.6%	26.7%	33.9%	25%	3.66
	7	19	48	61	45	(1.085)

The results in Table 4.5 above stated that item of Eating Habits 5 (I often feel hungry when I am with someone who is eating) has the highest mean score (M= 3.91, SD= 1.029) while item of Eating Habits 3 (I often drink regular sodas, diet sodas, diet drinks, sport drinks, and fruit juice) has the lowest mean score (M= 3.62, SD= 1.140).

### HYPOTHESIS TESTING

In the following hypothesis testing, the probability value (*p*-value) is used to determine whether a null hypothesis will be accepted or rejected. In order to reject a particular null hypothesis, *p*-value must be less than or equal to the specific significant level or alpha value ( $\alpha$ ). All the hypothesis was tested at 95% confidence or *p*-value = 0.05. Therefore, if the *p*-value is smaller or equal to 0.05, the test is significant and the null hypothesis will be rejected. This means that there is a significant difference between the dependent and independent variables. On the contrary, if the *p*-value is larger than 0.05, the test is not significant and the null hypothesis cannot be rejected which means that there is no significant difference between the variables. In the following hypothesis testing, a Mann-Whitney U Test was carried out on the data and the results are shown in the table given.

Ho1: There is no significant difference in the scores between male and female in eating habits among second year students of Faculty of Hospitality, Tourism and Wellness, University Malaysia Kelantan Kampus Kota.

Table 4.8: Mann-Whitney U Test between male and female in Eating Habits among second year students

		Total Eating Habits				
Mann-Whitney U		2945.500				
Wilcoxon W		7895.500				
Z		-3.064				
Asymp. Sig. (2-tailed)		0.002				
		Subjects	<i>n</i>	Mean Rank	Sum of Ranks	<i>Md</i>
Total Eating Habits	Male		81	103.64	8394.50	4.00
	Female		99	79.75	7895.50	3.60
Total			180			3.8

From Table 4.8, the results of Mann-Whitney U Test revealed a significant difference in the scores of eating habits among second year students, Faculty Hospitality, Tourism and Wellness, University Malaysia Kelantan Kampus Kota. For male (*Md* = 4, *n* = 81) and female (*Md* = 3.60, *n* = 99), *U* = 2945.5, *z* = -3.064, *p* = 0.002, *r* = 0.884. From the result stated, the researchers rejected research hypothesis one.

### RESULT AND DISCUSSIONS

The Influence of Gender on Sugar Consumption among second year students of Faculty of Hospitality Tourism and Wellness, University Malaysia Kelantan, Kampus Kota.

The result of Mann-Whitney U test shows that there is a significance difference of scores between male and female students on sugar consumption (Eating Habit) among Year 2 students of Faculty of Hospitality Tourism and Wellness, University Malaysia Kelantan, Kampus Kota ( $p=0.002$ ). This means that eating habit are influenced female students more and lead to more consumption of sugar in their daily diets. Eating habits play an important role on sugar consumption for the students which means if they do not have a good eating habit they will consume more sugar in their diets. A female student who always often takes sweet food in their daily diet is more exposed to excessive sugar intake and may lead to unhealthy situation. According to (Onyango,2015) women associate sweet food with love and acceptance and they also have low levels of neurotransmitters like serotonin which helps in sending message from the nervous system to whole body and it can only happen by taking sugary food. This will also show why the female students are more influenced to take excessive sugar compared to male students. They also took excess sugar through extra rice and sweet drinks. Other than that, female students also took extra processed food like snacks and junk food after finishing a meal. The role of added sugar in human diet has gained prominence (Gooding et al., 2016) with the introduction of modern food processing method which is the first choice for them. This also contributes to excessive sugar consumption among female students. Most of the female students have been experienced sugar cravings, no matter what time of year or month. Whether it is having something sweet after dinner each night or speeding to their local supermarket for the biggest can of ice cream or chocolate bar, sugar wins with most females.

## RECOMMENDATIONS

Recommendations for further research includes the following:

1. Studies involving larger number of subjects from various university courses should be conducted in future in order to receive more effective result.
2. This study should be conducted in other universities to determine if the results is different from those observed in this study.
3. All university students should be encouraged to have a healthy lifestyle because it will help them to gain healthier body and avoid disease.
4. An evaluation of the students' health level should be conducted to determine the results from various points of view.
5. The timeline of the study should be increased in order to let researchers to have more time to complete the test and able to add in more findings in the research.

## CONCLUSION

In conclusion, the findings of this study show that sugar consumption among University Malaysia Kelantan students has a significance difference towards eating habits, nutrition knowledge, and lifestyle. These findings indicate that the influences of sugar consumption are caused by how the students behave towards their health level. Eating habits, nutrition knowledge, and lifestyle influence more female than male students and lead to more consumption of sugar. This finding does not suggest that the high added sugar consumption among students will reduce to a healthy level. By contrast, the natural tendency to reduce added sugar intake among the students may suggest an opportunity for intervention to direct this change in taste towards healthier foods. It is highly recommended that universities to restrict the availability of sugary foods and drinks among the students.

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## **The Effects of Depression, Anxiety and Stress Towards Academic Performance Among Male and Female Students of Universiti Malaysia Kelantan (Kampus Kota)**

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### **ABSTRACT**

This paper presents a study of factors contributing towards academic performance among Universiti Malaysia Kelantan (UMK) students in Kampus Kota. The objective of this research is to investigate the difference of mean score of factors influencing academic performance. The factors are depression, anxiety and stress. The sample size is 362 respondents with 181 male respondents and 181 female respondents.

**Keywords:** *Academic Performance, Depression, Anxiety, Stress*

### **INTRODUCTION**

The knowledge and education of human is very important. With it, we know whether something it is wrong or right. The great figure, Nelson Mandela said that “education is the most powerful weapon which you can use to change the world”. From that, we should know there are many advantages to having an education in life (Boehmer, 2008).

This study aims to investigate the factors that influence academic performance among male and female students of Universiti Malaysia Kelantan (Kampus Kota). The factors are depression, anxiety and stress.

There are two objectives of this research:

1. To investigate the mean difference of depression, anxiety and stress scores among students of Universiti Malaysia Kelantan (Kampus Kota).
2. To investigate how university students handle their depression, anxiety and stress in their life at the university.

### **Significance of the Study**

Firstly, to help students handle depression, anxiety and stress during studies that affect their academic performance. Secondly, to create awareness of depression, anxiety, and stress among the students. Thirdly, to increase knowledge of Universiti Malaysia Kelantan (Kampus Kota) students about the difference between depression, anxiety and stress problems. Lastly, to ensure students decrease their perception of the lowest academic performance solely due to less focus in their study.

### **LITERATURE REVIEW**

#### **Academic Performance**

Academic performance is the outcome of education. It is the extent to which a student, teacher or institution has achieved their educational goals. Thus, academic performance is characterized by performance on tests associated with coursework and the performance of students on other types of examinations (Kyoshiba, 2009). Some of the universities have different marks to get the best grade. This will make the students stress in order to maintain their results or to make an improvement to achieve a higher grade. University students of Lahore University in Pakistan are reported that specifically, women have test anxiety which affects their GPA (Khalid & Hasan, 2009).

#### **Depression**

According to the Diagnostic and Statistic Manual, Fourth Edition (DSM-IV), individuals must exhibit five of the following symptoms to meet the criteria for major depressive disorder which are depressed mood, diminished interest or pleasure, significant weight loss, insomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive guilt, diminished ability to concentrate, and recurrent thoughts of death. One symptom should be either depressed mood or loss of interest or pleasure (Sidana et al., 2012).



## Anxiety

Anxiety is defined as the expectation of future risk which is recognized from dread (peur; Furcht), the enthusiastic reaction to saw fast approaching danger. The word tension gets from the Latin substantive angor and the comparing verbango (to constrict). Acognate word is angustus (narrow). These words are derived from an Indo-European root that has produce Angst in current German (and related words in Dutch, Danish, Norwegian, and Swedish) (Crocq, 2015).

## Stress

Stress is considered as a state of individual interaction with surroundings that is perceived too stressful and changing their well-being (Yasin et al., 2011). Stress is the most common factor that gives impact to academic performance, psychological and physical health (Dwyer & Cummings, 2001). Students' academic performance is affected by the presence of stress. The lower the academic performance, the higher the stress level (Yasin et al., 2011).

## Research Hypothesis

In this study, there were three hypotheses of the effects of depression, anxiety and stress towards academic performance among male and female students of Universiti Malaysia Kelantan (Kampus Kota).

H1 - There is a significant difference in the scores of depression among Universiti Malaysia Kelantan (Kampus Kota) male and female students towards their academic performance.

H2 - There is a significant difference in the scores of anxiety among Universiti Malaysia Kelantan (Kampus Kota) male and female students towards their academic performance.

H3 - There is a significant difference in the scores of stress among Universiti Malaysia Kelantan (Kampus Kota) male and female students towards their academic performance.

## Research Framework

A research framework has been conducted to investigate the connection between depression, anxiety and stress towards academic performance. Therefore, the three dimension factors are the Independent Variable (IV) and academic performance is the Dependent Variable (DV).

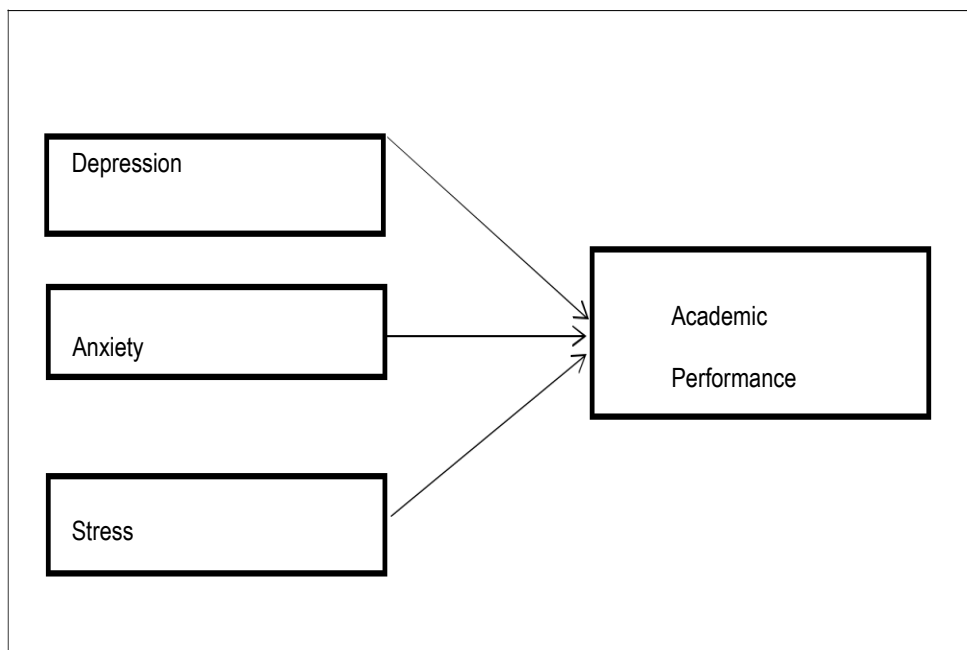


Figure 1: The effects of depression, anxiety and stress between male and female students of UMK Kampus Kota towards academic performance

## METHODOLOGY

### Research Design

This study used the quantitative method. In this descriptive study, it studied and identified the attitude of humans on health. The respondents were the students of Universiti Malaysia Kelantan (Kampus Kota).

### Data Collection

The data collection was done in fieldwork. A set of questionnaires were distributed to the population to collect data. A total of 362 questionnaires were given to students in this study.

### Sampling

The sampling method used in this study was simple random sampling. This sampling is the most basic form of probability sampling. The sample is drawn from the target population in such a way that each and every member of the population is an equal and have a known chance of being the subject.

In achieving a reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown below:

$$S = \frac{\chi^2 N p (1 - p)}{e^2 (N - 1) + \chi^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

= chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three data analyses in this study which are frequency analysis, descriptive analysis and reliability analysis. The data obtained were analyzed by using Statistical Package for the Social Science (SPSS).

## FINDINGS

Table 1.1: Pilot Test Report

Factors	<i>M</i>	<i>SD</i>	<i>r</i>
Depression	3.094	1.1042	0.750
Anxiety	2.868	1.1066	0.898
Stress	3.160	1.1730	0.820

From Table 1.1 above, it is evident that the reliability for depression is 0.750. The reliability for anxiety is 0.898 while for stress is 0.820.

### Mean Score and Standard Deviation

Table 1.2: Total mean score and standard deviation of academic performance (n=362)

Factors	<i>M</i>	<i>SD</i>
Academic Performance 1	3.8508	0.9789
Academic Performance 2	3.8591	0.9324
Academic Performance 3	4.3508	0.7707
Academic Performance 4	3.8260	0.9056
Academic Performance 5	3.4337	1.1685
<b>TOTAL ACADEMIC PERFORMANCE</b>	<b>3.8641</b>	<b>0.9512</b>

Table 1.2 shows the total mean scores and standard deviations of academic performance. There were 5 questions in the academic performance sub-scale. For academic performance 1, the mean score is 3.8508 and the standard deviation is 0.9789. The mean is 3.8591 and the standard deviation is 0.9324 for academic performance 2 while academic performance 3 recorded the mean score of 4.3508 and the standard deviation of 0.7707. For academic performance 4, the mean score is 3.8260 and the standard deviation is 0.9056. The mean is 3.4337 and the standard deviation is 1.1685 for academic performance 5. The total academic performance stated that the total mean score is 3.8641 and the standard deviation is 0.9512. The high mean score shows that the level of academic performance among the respondents is low.

Table 1.3: Total mean score and standard deviation of stress (n=362)

Factors	<i>M</i>	<i>SD</i>
Stress 1	2.7541	1.3696
Stress 2	3.0304	1.3006
Stress 3	2.7652	1.2665
Stress 4	3.2762	1.2504
Stress 5	2.8481	1.2283
Stress 6	2.7983	1.2547
Stress 7	2.7735	1.2929
Stress 8	2.4641	1.1933
Stress 9	2.5608	1.2947
Stress 10	2.8425	1.2935
<b>TOTAL STRESS</b>	<b>2.8113</b>	<b>1.2745</b>

Table 1.3 above shows the total mean scores and standard deviations of stress. There were 10 questions in the stress sub-scale. For stress 1, the mean score is 2.7541 and the standard deviation is 1.3696. The mean is 3.0304 and the standard deviation is 1.3006 for stress 2 while for stress 3, the mean score is 2.7652 and the standard deviation is 1.2665. For stress 4, the mean score is 3.2762 and the standard deviation is 1.2504. The mean score is 2.8481 and the standard deviation is 1.2283 for stress 5 while for stress 6, the mean score is 2.7983 and the standard deviation is 1.2547. Stress 7 showed that the mean score is 2.7735 and the standard deviation is 1.2929 while stress 8 showed the mean score of 2.4641 and the standard deviation of 1.1933. Stress 9 stated that the mean score is 2.5608 and the standard deviation is 1.2947 while for stress 10, the mean score is 2.8425 and the standard deviation is 1.2935. The total stress stated that the total mean score is 2.8113 and the standard deviation is 1.2745. Since the mean score for stress is high, it means the level of stress among the respondents is low.

### Hypotheses Testing

H3 - There is a significant difference in the scores of stress among Universiti Malaysia Kelantan (Kampus Kota) male and female students towards their academic performance.

Table 1.4: Mann-Whitney U Test between academic performance and stress among male and female students of Universiti Malaysia Kelantan (Kampus Kota).

Mann-Whitney U	13136.500
Wilcoxon W	29607.500
Z	-3.262
Asymp. Sig. (2-tailed)	.001

	Gender	n	Mean Rank	Sum of Ranks	Md
Total Stress	Male	181	199.42	36095.50	35
	Female	181	163.58	29607.50	32
	Total	362			34

From Table 1.4 given, the results of Mann-Whitney U Test revealed a significant difference in stress among Universiti Malaysia Kelantan (Kampus Kota) for male ( $Md = 35$ ,  $n = 181$ ) and female students ( $Md = 32$ ,  $n = 181$ ),  $U = 13137$ ,  $z = -3.262$ ,  $p = 0.001$ ,  $r = 0.845$ . From the result stated, researcher confirmed to reject research hypothesis three.

## DISCUSSION & RECOMMENDATION

The result of Mann-Whitney U Test shows that there is a significant relationship between academic performance and stress among students in Universiti Malaysia Kelantan (Kampus Kota) ( $p=0.001$ ). This means that stress gives an effect on students from achieving a higher score in academic performance. Male students have higher stress level than female students. It is proven based on Table 1.5; the median for male students is 35 while female students is 32. These experiences can potentially be attributed to the transition into college, lack of preparedness or losing the motivation to continue while attending college (Monda et al., 2015). Stress is normal to all people. It depends on how people handle it. Students face some challenges including developing independence, maintaining relationships with family and friends, financial pressures, and adjusting to a new environment (WHO, 2014). These problems are related to students until they get stress and can affect their academic performance. If one has stress, they cannot perform well in academic performance and can make their grade go down.

The recommendations for further research include studying more university students in Malaysia facing depression, anxiety and stress for more statistical data. In the future, the research may also give tips or guidelines for students as a solution to solve this problem.

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**Nurturing and Managing Talent of Sport Participants Among Students In University Malaysia Kelantan (UMK),  
Pengkalan Chepa in Kota Bharu, Kelantan.**

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**ABSTRACT**

In this study, an in-depth interview was conducted with the sports participants of University Malaysia Kelantan, Pengkalan Chepa, Kota Bharu, Kelantan. This research was conducted to help better understand how the talents of these sports participants can be nurtured and managed properly. An interview was done on a random sports participant who had studied in University Malaysia Kelantan and had proper qualifications and were considered sports participants. Based on the result of data analysis, the problems faced by sports participants were the lack of transportation, lack of facility, lack of training, and lack of a good and experienced coach.

**Key words:** *Sport participants, Talents, Nurtured and Managed.*

**INTRODUCTION**

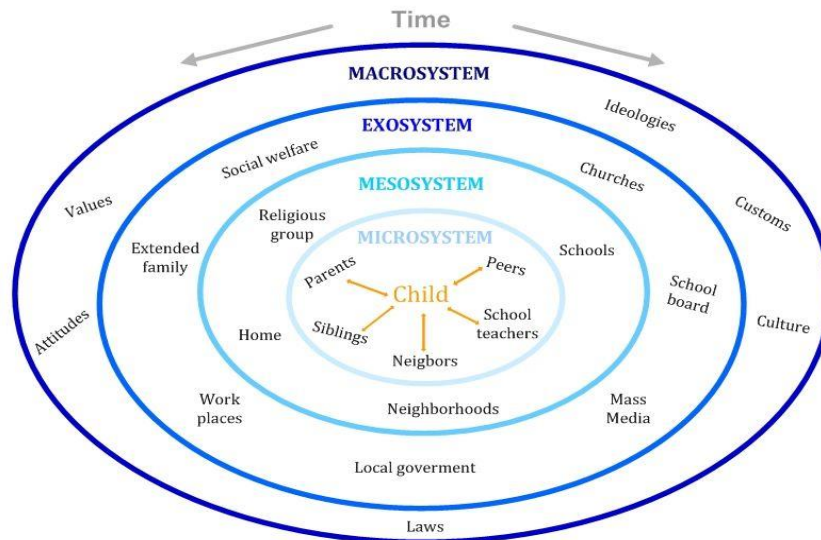
The phrase 'nature and nurture' is overused in promoting a high level of human achievement (Galton Francis, 1874). Nurturing a talent usually requires starting at an early age. Sports are among the most popular leisure activities for youth (Ntoumanis et al. 2012). Participating in higher education sports activities can help promote a physically active lifestyle. The higher education sports participation rate has increased from approximately 4 million participants in the 1971 academic year to an estimated 7.2 million in 2006 (Wapner, S., & Craig-Brey, L., 2006).

The unique relationship between sports, academic fields and the position of higher education institutions in sports is still controversial (Hellstedt, J. C. 1987). Chartland and Lent (1987) discuss the inherent role conflicts that many student sport participants face at the beginning of a university experience because the main identifying factors of "sport participant" often obscure that of "student". In Malaysia, there is compulsory education up until the age of 16 or 17 years of age, and most student sport participants will face significant overlap between their academic and sports developments (De Knop et al., 1999).

A person who will give a significant influence on a sports person's experience is their coach (Vallée Bloom 2016). The interaction among coach and sport participants will give result in behavioral, technical, tactical and, most importantly, the skill that is needed by a sport participants.

According to (Hodges, N., & Starkes, J., 1996), sports training is a science-based teaching process; the principle is to train sport participants to achieve higher performances in sports competitions. It organizes the preparation systematically with the help of practice, which is actually teaching organized control of the sport participant's development process (Macarthur, D., & Norht, K0., 2011).

Good facilities in higher education will play a key role to attract students to join sports and at the same time, can nurture talents within the sports participant since a comfortable environment can give satisfaction when sports participant engages with it. Kirk and Gorely (2000) claims the relationship between physical education and sports often seem to be taken for granted. The teaching content must be relatable to the sports so that students, especially the sportsperson in higher education, will easily accept the lesson and be easily nurtured.



Bronfenbrenner's Ecological System  
Sources: Bronfenbrenner (1989)

The theory describes that a person's development is due to the context in the system of relationship that is formed from the person's current environment. In this theory, it is defined that the environments' complex "layers" each have their own effect on a person's development. This theory states that the genes of the person's body are the main environment that ensures the improvement of the person's development. Each factor of the theory's chart intersects with each layer, such as his family, the societal landscape and the environment.

### Problem Statement

When it comes to nurturing the talents of sports participants in higher institutions, the lack of attention given can be the main cause of the deterioration of skills and talents of the individual's ability to achieve a higher achievement. Students may face many problems including, training, transportation, coaching, and environment.

Many people are able to identify talents but when it comes to managing talents, it is a different story. When it comes to identifying talents, it is done by going through a screening process of tests and it is usually spotted quite easily as talents tend to show when faced in either challenges or competitions. However, when it comes to the main issue of talent management, this is actually a complex process as the person who moulds the talent of these sports participants are usually the coaches and to be able to teach or manage one's talents, one needs to have the necessary skills to mentor, empower and sponsor the sport participants. Besides a coach, there are a few steps that can be taken to help nurture and manage the talents of these young sports participants.

In many universities in Malaysia that are under the government's major sponsored universities, the facilities and conditions are not suitable for sports participants. With all these problems, appropriate measures or methods can be taken to help nurture the talents of all these young sports participants.



## **Research Questions**

- i) What are the ways to help nurture the talents of sports participants?
- ii) How to manage the talents of sports participants?

## **Research Objectives**

- i) To explore the needs of sports participants in University Malaysia Kelantan to help them nurture their talents and skills.
- ii) To know the problems faced by sports participants in University Malaysia Kelantan.

## **METHODOLOGY**

This research is a qualitative study that focuses on how to nurture and manage the talents of sport participants among students in University Malaysia Kelantan. There are several sport participants that had been selected to be interviewed to collect data. Research methodology plays a significant role in helping the researchers structure the research in a way to find the solutions for the problems faced. This chapter will identify and describe appropriate research methods for exploring problems and provide research results. This chapter also discusses methods for obtaining information and methods for processing and analyzing data.

### **Research Design and Sampling Strategy**

The research took place in University Malaysia Kelantan, Pengkalan Chepa, Kota Bharu. They are being chosen because it was quite easy for the researcher to understand their class schedules and get them interviewed. Most of these sport participants have joined universities open games. So, there are easily recognized as a university athlete. They can also be seen at the public court or field during training sessions.

In this study, researchers were looking for sports participants among university students. So, researchers tended to look for the people who are playing sports. There are two main sampling: probability sampling and non-probability sampling. In this research, non-probability sampling had been used to collect data.

### **Non-Probability Sampling**

In this study, researchers are using two types of non-probability sampling techniques which are convenience sampling and snowball samplings. The researcher chose some of the university's sports participants that had joined many competition as a convenience or accidental sampling. For snowball sampling, the researcher asked previous interviewees, or sports participants to suggest the names of other sports participants that they know who could be interviewed.

### **Data Collection Method**

Data collection is the ideal process of collecting the desired information, with minimized distortion, so that the analysis can provide the answer which is believable and logical. (Sapsford & Jupp, 2006). In the present study, the researchers chose to follow qualitative methods, including interviews. Qualitative data, which is also known as descriptive data, is non-numeric data that captures opinions and concepts. This qualitative method allows the respondents to freely express their opinions without having to choose from fixed responses. Researchers established and created the questions based on the research questions to achieve the research objectives.

Researchers used interview methods such as structured interviews which is a kind of strict procedure in asking questions and the questions listed are predetermined upon participants. Semi-structured interviews were conducted, where the interviewer (who was actually the researcher) asked some predefined questions but then probed the respondent further thus leading to a better data collection and provided better insights regarding the topic. The third method is an unstructured interview which is more spontaneous and does not follow the design of questions listed. The responses of the interview provide more powerful data and will help the most when seeking any issues. It may pertain towards an area of which little knowledge exists, it seeks different perspectives. (Bailey, 2008).

### **Data Analysis Process**

The data analysis process systematically searched and arranged the interview transcripts, observation notes, or other non-textual materials. In order to generate the result of translating raw data into new knowledge, qualitative researchers must

participate in an active and demanding analytical process at all stages of the research. Therefore, understanding these processes is not only an important aspect of qualitative research but also an important aspect of reading, understanding and interpreting these processes. In this research, the researchers need to go through four steps in the data analysis process. Starting with raw material, researchers need to interpret all the information provided by the informants. Every piece of information provided by the informants needs to be reviewed by the researchers to classify the information that accurately answers the research questions and meet the research objectives. This process ensures that the required information and research-related information are well interpreted and documented in order to obtain valid results. The results will be based on most of the expectations of informants.

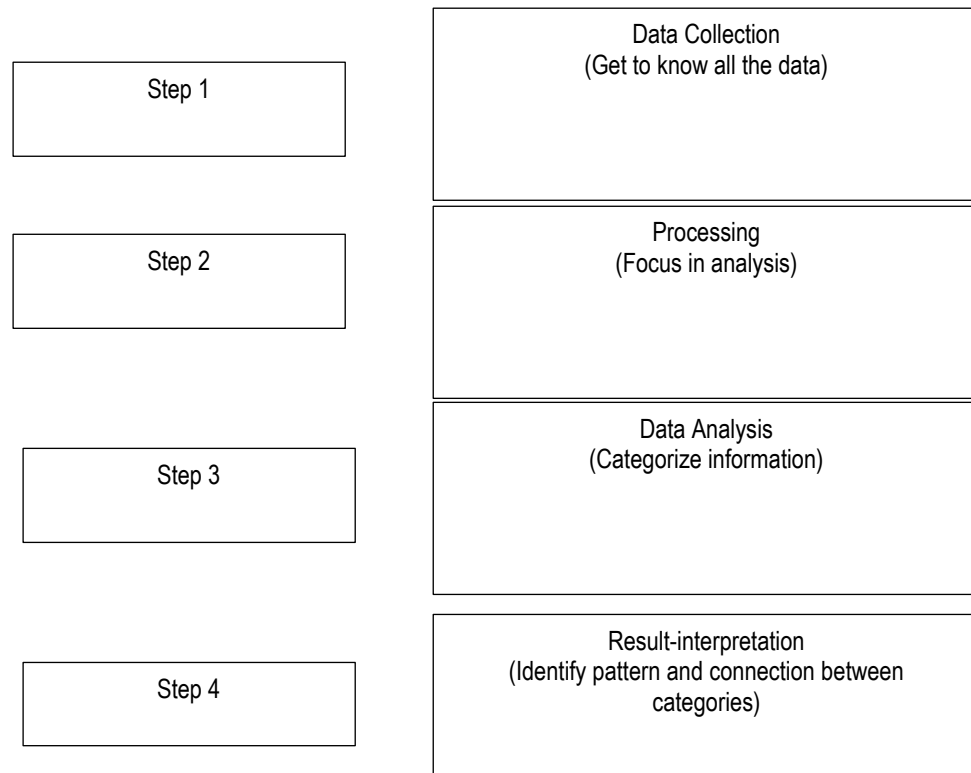


Figure 2.1: Steps of Data Analysis  
Sources: Ellen Taylor & Marcus Runner (2003)

## FINDING AND DISCUSSION

This chapter presents the results of the data analysis. From the interview session, there are four main themes that the informants provided based on their experience and professional opinion. This chapter explores the equation between The Needs and Problems of Sports Participants Faced with the Nurturing and Managing Talents of Sports Participants among Students in University Malaysia Kelantan. The data and results were analyzed by Thematic Analysis. Thematic Analysis emphasizes on identifying, analyzing, and interpreting the pattern of meaning of themes within qualitative data.

### Data Analysis on Coaching

A coach is a person who is skilled and experienced enough to help sports participants to be more committed to their sports by training according to the timelines and helps to keep them on track. A coach is also responsible for the development of sports participants' skills and support them in achieving their goals. Coaches are also responsible for maintaining sport participants' performance during their practice sessions and make sure they are prepared enough to face the competition.

"...That's the recommendation I got. And ... to play archery you actually a very good coach" (INFORMANT 1).

### Data Analysis on Training

Training was the basic concept of human resource development. It involves the development of specific skills to the desired standards through practice. Training is a very useful tool that puts sport participants in a position to play sport correctly, conscientiously, and efficiently. Training refers to the act of increasing the proficiency and skills of sport participants in specific types of sport. Sports training is physical exercise. Like some other experts, physical exercise was a form of technical training, strength training, interval training, and tactical training. A system of sports training can improve the fitness level of sport participants. The physical exercise used in the training had an impressive impact on the physical development of sport participants.

"...like last month I have competition on the end of February, I sacrificed my Chinese New Year, I came back and train for 3 weeks. 3 weeks of non-stop training" (INFORMANT 1).

### Data Analysis on Facilities

A facility is a vital element needed to be fully equipped so that it can boost sports participant's talents in universities to commit to training. A sporting facility is defined as the courts, stadium that was in the university vicinity in order to house or provide a suitable place for major league professional athletic or sports teams, activities or any tournaments. Facilities can motivate sports participants to do training routinely as facilities can act as a kind of encouragement for them to enjoy practicing any sports they were involved with.

"...emm for now I can't play it every day because they don't have facilities here unless I move to Bachok for training" (Informant 1)

### Data Analysis on Teaching Content

Video is a good medium for communicating facts or procedure demonstrations to assist in learning and views complex procedures, repeating as many times as they want until they understand it better. The interaction of videos created on the internet helps to attract students to learn more. The creative use of image, movement, and sound for some meaningful topics also encourages students to be more innovated in filmmaking skills.

"...I joined this sports because I watched this game in tv, because of Olympic in Beijing 2008 and I was impressed with this sports so I joined this in my secondary school, so once I join this sports I feel it was fun, going there training there every weekend and fall in love with archery" (INFORMANT 1).

## SUMMARY AND CONCLUSION

In summary, the research was on nurturing and managing talents of sports participants among students in University Malaysia Kelantan, Kota Bharu, Kelantan focusing on the variables that impact the process of nurturing and managing talents of sports participants among students. Four main variables had been mentioned by 6 respondents which were training, coaching, facilities and also teaching content. 6 respondents had revealed some problems they were facing when they were playing sports in University Malaysia Kelantan. The results showed that university authority could take a significant responsibility to nurture and manage the talents of sport participants among students. Professional coaching, specialty training, high-quality facilities, and effective teaching content should be provided by university authorities. In conclusion, sports participants among students in University Malaysia Kelantan expect that their requirements can be fulfilled by university authorities. Last but not least, as a researcher, we wished that this study will be one of the resources of references for any potential, similar study in the future.

## ACKNOWLEDGMENT

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## CONFLICTS OF INTEREST

There were no conflicts of interest regarding the publication of this article.

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## Factors Influencing Health and Life Insurance Consumption Among Johor Citizens

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### ABSTRACT

Health and life insurance in Malaysia has grown rapidly throughout the 21st century. Health and life insurance are a form of economic stability and elements of budgeting. The objectives of this study are to examine the relationship between the income level on consumption of health and life insurance and to examine the relationship between the level of education on consumption of health and life insurance among Johor citizens. A cross-sectional study was conducted and a total of 384 respondents were involved in this study. The findings of this study showed that the significant associated factors of consumption of health and life insurance were income level ( $p=0.001$ ) and education level ( $p=0.001$ ). The significant associated factors of the consumption of health and life insurance were income and education level. Future research could include these two significant factors in the development of educational programs to create awareness on the importance of health and life insurances.

**Keywords:** health and life insurance consumption, education, income

### INTRODUCTION

The market for Malaysian domestic insurance can be ordinarily isolated into two sectors which are life and general insurance. Life insurance ensures the protection of the customer's family members, creditors, or anyone who is insured from the loss of the policyholder earning capacity in the event of their death or severe injury.

According to Bank Negara Malaysia Annual Insurance Statistics (2010), Malaysian purchasing of insurance rose by 128 percent from RM338 to RM771 per capita from the year 2014 to 2018. It suggests that Malaysians have become aware of the importance of insurance in the past 10 years. In addition, new health and life insurance policies had also raised the quantity of 1,367,856 policies to 1,401,202 policies which is an increase of around 2.44 percent in the previous three years. There was a large undiscovered life insurance market in Malaysia compared with other Asia countries which showed that the GDP for health and life insurance in Malaysia is low, at 2.9 percent. Moreover, health and life insurance were well-attaching importance by consumers compared to developed countries because they had a greater opportunity in receiving higher education. As indicated by Sarwar and Qureshi (2013), the most critical boundaries in buying health and life insurance were lack of information in that area.

The total premium for the in-force life insurance policy was increased by 1.78 percent compared to the year 2017 based on the statistical study of Life Insurance Association of Malaysia (LIAM) in the year 2018. The total premium collected from the life insurance policy, including individual life and group policy, had increased from RM10,123.7 million to RM10,303.5 million for the year 2017 to the year 2018 (LIAM, 2018).

This study aimed to investigate the factors that influence the consumption of health and life insurance. There are several factors that influence the consumption of health and life insurance, for example, income level and level of education.

The two objectives of this research:

1. To examine the relationship between the income level and consumption of health and life insurance among Johor citizens.
2. To examine the relationship between the level of education and consumption of health and life insurance among Johor citizens.

### Significance of the Study

The significance of this study is to contribute to the body of knowledge of the factors associated with the consumption of health and life insurance. Furthermore, these studies are also important for future studies in developing a module such as a health promotion module for improving the awareness of health and life insurance.

## LITERATURE REVIEW

### Consumption of Health and Life Insurance

Health insurance has played a significant role in developing countries' health care funding schemes (Pauly, 2010). Consumption of health insurance can be clarified by two theories which are traditional theory and alternative theory. Firstly, the traditional theory suggests that the reason a person purchased health insurance is because they desired specific risks to unspecified risks with the same degree as anticipated. Secondly, the alternative theory of treating health insurance was purchased. This is because when people are sick, they will need an income to transfer.

Health insurance as a funding system for health care achieves greater acceptance and offers the health insurance sector better opportunities. Health insurance that covers the cost of medical treatment helps smooth spending and lower new debt while helping to increase quality and improve health. Nevertheless, this sector and its members' success focused on consumer awareness levels. There were many opportunities in the health insurance industry as there was government support that can provide good healthcare infrastructure and insurance coverage in terms of tax exemption and more involvement from the private sector (Krueger and Kuziemko, 2011).

Truett and Truett (2005) have shown that life insurance used was influenced by factors such as varying levels of education and income. In addition, Burnett and Palmer (2005) used Multiple Classification Analysis to analyze how well demographic and psychographic attributes contributed to various levels of ownership of life insurance. In particular, Life Assured consumers had higher education, a greater number of family members, and higher income. We may not be a representative of thought and a risk-taker. When purchasing life insurance policy, costs may not be taken into consideration. In addition, they do not depend on financial support from the government. The researchers have proven significant to forecast life insurance use is the demographic and psychographic variables.

### Income Level

In this period, the interest of consumers towards health and life insurance was generally affected by the representative's compensation. There were two sorts of workers, one was hands-on and the other one was desk-based work. Furthermore, Pliska and Ye (2007) had a similar perspective with interest in buying life insurance will altogether be influenced by how wealthy the wage earners are. White-collar had a steady employment rate and a stable salary, whereas, for manual workers, they don't have the foggiest idea about their future payments on as their pay was hourly basis. In the event that they would not be able to work for a specific day, their salary for that particular month will be lesser. However, this is not the case for the white-collar as they can call for therapeutic leave on the off chance that they fall in debilitated. Over the long run, white-collar workers had a superior and stable salary and therefore more desirable to consume life insurance.

Several empirical studies found that income was the most important element which significantly affects the consumption of life insurance. It was shown that the ability to pay a life insurance premiums is related to the level of income. As revenue increases, insurance becomes much more affordable. In the case of the breadwinner's premature death, a higher income may also result in a greater expected loss to the dependents. This study used real GDP per capita to represent disposable income after most previous work (Hendon, 2014). It was hypothesized that income had a positive effect on the consumption of health and life insurance.

The decision taken at an individual level to purchase life insurance was determined by a country's average income level (Eck and Nizovtsev, 2006). The studies adopted the Gini coefficient, which reflects the income distribution of a nation's residents as a measure of income inequality, in considering the distribution of wealth across households.

### Level of Education

Education was the path toward empowered learning, or the securing of information, aptitudes, characteristics, convictions, and propensities. Instructive techniques join together describing, trade, teaching, getting ready, and composed research. Training a significant part of the time occurs under the heading of educators and besides understudies may in like manner instruct themselves (Dewey, 1944). It was vital as it demonstrated constructing more awareness among the respondents of health insurance will have a staggering impact on the probability of purchasing health care coverage (Bhat and Jain, 2006).

Salthouse (2002) communicated that education can have a prompt effect on the knowledge of insurance. The level of education is decidedly identified with the interest of life insurance in two regards. Truett and Truett (2005) proposed that

individuals with advanced education opportunity is related to a more grounded desire and attention to ensure wards and defend their way of life.

Liebenberg, Carson, and Dumm (2012) indicated that while the findings on the impact of education are mixed, many studies show that professional, self-employed, and managerial people had relatively more holdings of life insurance. This supports the idea that education level does not decide the consumption of life insurance, but the level of economic education had influenced the consumption of life insurance.

This level of education was the variable to identify how many Malaysians understand life insurance and how they can use their knowledge and level of education to find and help insurance for future lives. This is because most of the elderly today who are less educated do not know what life insurance is and they also do not partake in buying life insurance. In today's world, the average young age of the 20's to 30's had a stand-alone life insurance. This is because their level of education was higher than the current level of education of the elderly. When they have little understanding of what life insurance was, they do not understand the importance of life insurance for the long term. Therefore they do not want to consume life insurance.

### Research Hypothesis

In this study, there were two hypotheses developed.

H1: There is a significant association between income level and consumption of health and life insurance among Johor citizens.

H2: There is a significant association between the level of education and consumption of health and life insurance among Johor citizens.

### Research Framework

The conceptual framework was developed to illustrate the association between income and education level with the consumption of health and life insurance among Johor citizens.

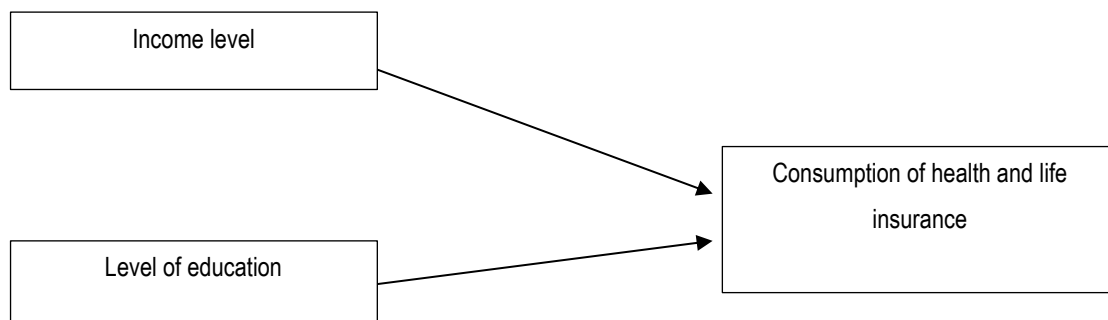


Figure 1: Research framework of factors influencing health and life insurance consumption among Johor citizens

## METHODOLOGY

### Research Design

A cross-sectional study was the study design for this study.

### Data Collection

A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. Questionnaires provide a relatively cheap, quick and efficient way of obtaining a large sample of a specific population. A set of questionnaires was distributed to the population online for data collection.

## Sampling

The sampling method used in this study was the non-probability method. It referred to the samples that gathered in a process that does not give every individual an equal chance of being selected in population. The reason for using non-probability in this study is due to the large population of Johor making it difficult to collect from the entire population. Therefore, choosing non-probability as the sampling technique, which is using personal knowledge, convenience sampling and based on judgment to choose the elements in the large target sizes, was better utilized in this study. It would also save time and costs.

## Data Analysis

The data obtained were analysed by using the Statistical Package for Social Science (SPSS). A reliability test was performed to determine the reliability of the questionnaire. Socio-demographic data were analysed descriptively. Prior to the implementation of correlation analysis, a normality test was conducted to determine the distribution of data. Pearson correlation was used to determine the relationship between income and education level with the consumption of health and life insurance.

## FINDINGS

Table 1 shows the result of Cronbach's Alpha for the consumption of health and life insurance (Dependent Variable), income level (Independent Variable I) and education level (Independent Variable II). High internal consistency for all questionnaires used for this study has been demonstrated (Cronbach's  $\alpha$  ranging from 0.866 to 0.914 alpha coefficient). In measuring the variables that influence the consumption of health and life insurance, the result of Cronbach's Alpha was shown reliable that coefficient obtained from the Likert- Scale.

Table 1: Reliability Analysis

Variables	Cronbach's Alpha	No of items
Consumption of health and life insurance	0.914	5
Income level	0.866	4
Educational level	0.912	5

Table 2 shows the result of the normality test based on skewness and kurtosis. The data for all variables were normally distributed. According to Alderson and Bachman (2004), based on the rule of thumb, if the skewness and kurtosis are between -2.0 and +2.0, it indicated a reasonably normal distribution.

Table 2: Normality Test

Variables	Skewness	Kurtosis
Consumption of health and life insurance	-0.006	-1.126
Income Level	-0.019	-0.773
Education Level	0.001	-0.884

The socio-demographic characteristics of respondents are shown in table 3. A total of 384 respondents were involved in the questionnaires. The majority of respondents were male (50.3%). In this research, respondents age 25 years old and below were the highest frequency which is 111 respondents (28.9%) and respondents age 31 to 35 years old was lowest in this study, which is 21.9%. Table 4.3 represented the level of education among respondents from the survey where the highest frequency being the 124 respondents (32.3%) who possessed a Bachelor's Degree and the lowest frequency, 3 respondents (0.8%) were STPM holders. The table also illustrated the income level of 384 respondents. The majority of the respondents were having income in the range of RM1,001 to RM2,500 (30.5%) or 117 respondents while the least being respondents having an income of more than RM 7,000 which were 25 respondents (6.5%).



TABLE 3: Number of Respondent by Demographics

Demographics	Frequency (n= 384)	Percentage (%)
<b>Gender</b>		
Male	193	50.3
Female	191	49.7
<b>Age</b>		
≤ 25 years old	111	28.9
26 – 30 years old	99	25.8
31 – 35 years old	84	21.9
36 – 40 years old	90	23.4
<b>Education Level</b>		
SPM	97	25.3
Diploma / Advanced Diploma	104	27.1
Bachelor Degree	124	32.3
Master Degree	56	14.6
Other: STPM	3	0.8
<b>Income Level</b>		
≤ RM 1,000	46	12.0
RM 1,001 – RM 2,500	117	30.5
RM 2,501 – RM 4,000	101	26.3
RM 4,001 – RM 5,500	58	15.1
RM 5,501 – RM 7,000	37	9.6
> RM 7,000	25	6.5

Table 4 showed the mean for the independent variables, the income level and level of education as well as for the dependent variable, the consumption of health and life insurances. Based on Table 4, the education level was the highest mean value (14.26), followed by the consumption of health and life insurance (14.13). Lastly, the income level was the lowest mean value which was 11.67 in this study.

Table 4: Mean for the independent variables and dependent variable

Variables	Mean
Income level	11.67
Education level	14.26
Consumption of health and life insurances	14.13

In this study, the researcher used simple linear regression to identify the correlation between income level and level of education (Independent variables) and consumption of health and life insurances (Dependent variable).

**Equation 1**

$$\text{Consumption of Health and Life insurance} = \text{regression estimate (b)* income level} + \text{constant (a)} + \text{error term } (\hat{a})$$

The regression estimate (b) and the constant (a) were derived from the data (using the method of least-squares) and the error term ( $\hat{a}$ ) is to factor in the situation that two persons with the same income level need not have the same consumption of health and life insurance (Kleinbaum, Kupper, Muller and Nizam, 1998).

**H<sub>1</sub>: Income level has a significant relationship on the consumption of health and life insurance among Johor citizens.**

Table 5: Model Summary of Equation 1

Model	R	R Square
1	0.818 <sup>a</sup>	0.668

a. Predictors: (Constant), Income Level

Table 6: ANOVA of Equation 1

Model	Mean Square	F	Sig.
1 Regression	3439.863	769.840	0.001 <sup>b</sup>

- a. Dependent Variable: Consumption of health and life insurance
- b. Predictors: (Constant), Income Level

Table 7: Coefficient of Equation 1

Model		Unstandardized Coefficients (B)	Standardized Coefficients (B)	Sig.
1	Income Level	1.161	0.818	0.001 <sup>b</sup>

- a. Dependent Variable: Consumption of health and life insurance

Referring to Table 5 above, R was the square root of R-Squared and the correlation between the observed and predicted values of dependent variable R-Square is the proportion of variance in the consumption of health and life insurance (dependent variable) which were predicted based on the income level (independent variable). It showed that the R-squared was 0.668. Moreover, the correlation coefficient between the consumption of health and life insurance (dependent variable) and income level (independent variable) was 0.818. As shown in Table 6, the simple regression model (F=769.840) defined a significant interval between the consumption of health and life insurance while the P-value of income level at (0.001) <0.01.

Based on Table 6, the P-value (0.001) of income level showed a positive relationship to the consumption of health and life insurance. It revealed that the increasing income level will lead to increased consumption of health and life insurance. The regression coefficients for income level was 1.16. This showed that the consumption of health and life insurance increased by 1.161 if income level increased by RM1, while the other variables remain constant. P-value (0.001) of income level is less than 0.01; this indicated that there was a significant positive relationship between income level and consumption of health and life insurance. Therefore, H<sub>0</sub> was rejected.

### Equation 2

$$\text{Consumption of Health and Life insurance} = \text{regression estimate (b)} * \text{education level} + \text{constant (a)} + \text{error term } (\hat{a})$$

The regression estimate (b) and the constant (a) will be derived from the data (using the method of least-squares) and the error term ( $\hat{a}$ ) is to factor in the situation that two persons with the same education level need not have the same consumption of health and life insurance (Kleinbaum, Kupper, Muller and Nizam, 1998).

**H<sub>1</sub>: Education level has a significant relationship on the consumption of health and life insurance among Johor citizens.**

Table 8: Model Summary of Equation 2

Model	R	R Square
1	0.771 <sup>a</sup>	0.594

- a. Predictors: (Constant), Education Level

Table 9: ANOVA of Equation 2

Model		Mean Square	F	Sig.
1	Regression	3058.270	559.383	.001 <sup>b</sup>

- a. Dependent Variable: Consumption of health and life insurance
- b. Predictors: (Constant), Education Level

Table 10: Coefficient of Equation 2

Model		Unstandardized Coefficients (B)	Standardized Coefficients (B)	Sig.
1	Level of education	0.830	0.771	0.001 <sup>b</sup>

a. Dependent Variable: Consumption of health and life insurance

From Table 8, R was the square root of R-Squared and the correlation between the observed and predicted values of dependent variable R-Square was the proportion of variance in the consumption of health and life insurance (dependent variable) which can be predicted from the education level (independent variable). It showed that the R-squared is 0.564. Moreover, the correlation coefficient between the consumption of health and life insurance (dependent variable) and education level (independent variable) was 0.771. As shown in Table 9, the simple regression model ( $F=559.383$ ) defined a significant interval between the consumption of health and life insurance while the p-value of education level at  $(0.001) < 0.01$ .

Based on Table 9, the P-value (0.001) of education level showed a positive relationship to the consumption of health and life insurance. It revealed that the increasing education level had led to increased consumption of health and life insurance. The regression coefficients for income level was 1.161. This showed that the consumption of health and life insurance had increased by 1.161 if education level increased by 1 unit, while other variables remain constant. P-value (0.001) of income level was less than 0.01; this indicated that there was a significant positive relationship between education level and consumption of health and life insurance. Therefore,  $H_0$  was rejected.

## DISCUSSION & RECOMMENDATION

Based on the findings, it indicates that more than half of respondents are male and majority of respondents are less than or equal to 25 years old. According to the Office for National Statistics (ONS) 2005, the mortality rate increases with age and is higher for males than for females of the same age. Again, the similarity to the pattern of premium suggests that the gender-based differentials in premiums can be explained by differences in the risks and costs of insurance provision. Next, almost all of the respondents possessed a Bachelor's degree. On the other hand, the levels of respondent's income were between RM1, 001 to RM2, 500 in this study. If unexpected circumstances happen to them, it will bring a greater understanding of the value of health and life insurance to protect their family members. It also gives the message that when a person is more highly educated, they were more likely to let their family maintain the current standard of living, and were more prepared for their future.

Next, the findings revealed that the income level and education level were positively influencing the consumption of health and life insurance. The income level showed a significant relationship on the consumption of health and life insurance among Johor citizens based on the study's hypothesis. The hypothesis illustrated that the level of income was positive and affects the demand for health and life insurance significantly. The result of multiple linear regression stated that the P-value is 0.005 which was lower than the significant level (0.01) so that  $H_1$  was supported. Therefore, it can be concluded that the findings in the review from the literature were consistent with the outcome of this research.

Based on previous research, Saliba and Ventelou (2007) stated that the consumption of health insurance was influenced by an individual income. In the case of the breadwinner's premature death, a higher income may also result in a greater expected loss to the dependents. This study uses real GDP per capita to represent disposable income after most previous work (Hendon, 2014). It was found that disposable household income was positively associated with household savings.

The level of income has been shown to be linked positively to the consumption of health and life insurance. Furthermore, health and life insurance marketers could concentrate on marketing strategies on people who have a high level of income as these were the individuals who might able to consume health and life insurance. Moreover, while in this situation, the low-level income earners might be overlooked as these people were most usually the least covered. Insurance firms have highlighted the significance of health and life insurance for this community of people and encouraged a relatively cheaper term life insurance compared to life insurance and investment-related plans. Lower insurance rates allow people on low incomes to access coverage and eventually increase availability of life insurance in Malaysia.

But, based on several previous studies, namely, Ferber and Lee (1980) and Goldsmith (1983), they found that this relationship to be negative. Normally, studies have proven that the income level of the insured positively affects the consumption of health and life insurance.

Beenstock, Dickinson, and Khajuria (2009) discovered a negative relationship between the Gini coefficient and life insurance demand. The researchers reached a decision that wealthy people do not have protection from insurance, and poor people had limited demand since they were operating under financial constraints. Therefore, the researchers concluded that the middle class with income level has the greatest interest in health and life insurance services because they have an income level from which these products have become accessible. Eck and Nizovtsev (2006) described these divergent views as a point of origin of imbalance in the distribution of income to the proportion of households with high or low income. The researchers indicated that the Gini coefficient delivers good outcomes in conjunction with per capita income for countries with a similar income level, as it strongly affects the market for consumption of health and life insurance.

The hypothesis of this study was that the level of education positively influenced the increase consumption of health and life insurance, proven by the p-value is 0.000 which is smaller than alpha level (0.01). So,  $H_1$  was supported. The hypothesis shown above was proven by Sarwar and Qureshi (2013), which found lack of insurance knowledge was the most significant barrier in obtaining well-being and life coverage, which incorporates the respondent's ignorance about it; nobody has recommended it and not taken by companions, family, and relatives. In other words, according to Outreville (2009), people with a higher education level are far more conscious of risks and risk management importance. Thereby, education increases risk aversion and motivates people to consume health and life insurance.

Furthermore, higher-educated individuals have higher incomes and they can expect incomes to continue to rise in the long-term compared to those with lower-level education. The educational level was strongly linked to the market for life insurance in two ways. Truett and Truett (2005) indicate that higher-educated people were correlated with greater willingness and sensitivity to protect dependents and protect their living standards. Browne and Kim (2014) clarified that higher education contributes to a greater awareness of the complexity of life.

Consequently, more life insurance will be purchased by more educated individuals. Referring to Truett and Truett (2005), Hwang and Greenford (2005), Li et al. (2007), factors such as income and education have a significant impact on the consumption of life insurance. Syed, Anisur, Shahab (2015) showed the influence of demographic variables on the insurance sector in India. It was found that there was a significant impact of demographic factors such as sex, level of education, income level and profession on the areas like saving, investment, risk and protection tax benefit and children's education and marriage to purchase e-insurance products.

Other than that, Liebenberg, Carson, and Dumm (2012) indicated that while the findings on the impact of education are mixed, many studies show that professional, self-employed and managerial people have relatively more holdings of life insurance. This supports the idea that education level does not decide the consumption of health and life insurance, but the level of economic education has influenced the consumption of health and life insurance.

The research indicated that the educational level was strongly linked to the market for health and life insurance, where there was a higher consumption for life insurance for people with a high level of education. This result reflects Li, Moshirian, Ngyugen and Wee (2010) who suggested that more educated people were becoming more aware of life insurance benefits and may have quicker access to health and life insurance from banking and financial agents compared to those with low education levels. Health and life insurance companies should, therefore, increase marketing efforts directed at less educated individuals and increase insurance penetration among these people.

A major portion of scientific literature considered that there is insufficient education for the market for health and life insurance. In a cross-sectional analysis of 48 developed countries, Outreville (2009) demonstrated that people with better education levels were more conscious of the danger and value of risk management.

Treerattanapun (2011) indicated that high level of education was not a useful indicator for an individual's ability to know the nature of insurance products because it was not possible to teach awareness of these products in universities. Other than that, Ofoghi and Farsangi (2013) indicated that for those without insurance knowledge, the rate of risk aversion was higher for individuals with insurance awareness. Liebenberg, Carson, and Dumm (2012) suggested that even the data on the impact of education were mixed; most research showed that academic, conscience-employed, and administrative persons had comparatively more holdings of life insurance. It supported the theory that education level would not decide the consumption of health and life insurance, but the level of economic development has affected the consumption of health and life insurance.

## CONCLUSION

From the result of this study, it concluded that the factors influencing the consumption of health and life insurance were income and education level. From the data, it can be concluded that among all respondents, consumption of health and life insurance increased when income level increases, while other variables remained constant. It indicated that the increase income level will lead to an increase in the consumption of health and life insurance.

Other than that, the level of education was positively related to the consumption of health and life insurance. It can conclude that the consumption of health and life insurance will be increased if the education level increases, while other variables remained constant.

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## Factors that are Associated with Internet Addiction Among Generation Z in Malaysia

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### Abstract

In the fourth industrial revolution era, the internet offers many benefits, especially for information, communication, and social interaction. However, internet addiction has become a public health concern when internet usage is excessive and uncontrolled. This study aims to determine the factors associated with internet addiction. A cross-sectional study was conducted among the Z generation in Malaysia. A total of 384 respondents were selected using the convenience sampling method. A set of questionnaires were used for data collection. Data were analysed using SPSS. A Pearson Correlation was performed to determine the association between lifestyle and mental health factors with internet addiction. The findings of this study revealed that there were significant associations between lifestyle and mental health. In conclusion, the significant factors associated with internet addiction were lifestyle and mental health, including depression, anxiety, and stress.

**Keywords:** *Internet Addiction, Lifestyle, Depression, Anxiety, Stress*

### INTRODUCTION

For the purpose of a comprehensive and inclusive understanding of the potential disorder, in this systematic literature review, Internet addiction will be referred to as encompassing Internet-use related addictions and problematic Internet use, including Internet Gaming Disorder. It is argued that until this concept is understood more fully (including nosology, ethology, and diagnostic criteria), limiting our understanding of Internet-use related addictions to Internet gaming-related problems neither pays sufficient respect to the affected individuals' personal experience nor to the variety of online behaviours that can be engaged excessively online.

According to the Malaysia Communication and Multimedia Commission (2013), Malaysia has 29.71 million internet users. They found that the age group between 20 to 25 use the internet more frequently compared to any other age group, and based on other reports of Malaysian Internet Usage Statistic, Malaysians spend 20 hours per week online for entertainment including listening to music, watching videos and surfing social network sites.

The Department of Statistics Malaysia, Official Portal (2017) showed that in 2017, the percentage of individuals in Malaysia age 15 and above who used the internet was 80.1%, an increase of 9.0% compared to 71.1% in 2015. Meanwhile, 97.7% of individuals were using mobile phones in 2017 compared to 97.5% in 2015. In 2017, among the popular internet activities carried out by the internet user were participating in social networks (86.3%), downloading images, films, video or music; playing or downloading games (81.2%), getting information about goods and services (80.4%), downloading software or applications (74.5%) and sending or receiving e-mails (70.4%). Other activities carried out by internet users were internet banking (37.6%) and purchasing or ordering goods or services (23.3%).

Bangladesh is largely dependent on youth or Generation Z (Gen Z) for the transformation in becoming a developed country, where their youth represent a potential and maximum number of human resources. For example, more than 50% of the Bangladesh population (166.7 million) is under the age of 24 (United Nations, 2018). However, a large percentage of Gen Z in Bangladesh are less educated or uneducated, and less skilled or unemployable. The majority of them appear to be distracted by digital devices and technologies which may present risks of physiological and psychological problems, as well as hinder their motivation to live a normal social life.

### RESEARCH OBJECTIVES

1. To examine the association between lifestyle and internet addiction among generation Z in Malaysia.
2. To identify the association between depression and internet addiction among generation Z in Malaysia.
3. To identify the association between stress and internet addiction among generation Z in Malaysia.
4. To identify the association between anxiety and internet addiction among generation Z in Malaysia.

## RESEARCH QUESTIONS

1. Is there any relationship between addictions to the internet on mental health among generation Z in Malaysia?
2. Is there any relationship between addictions to the internet on depression among generation Z in Malaysia?
3. Is there any relationship between addictions to the internet on anxiety among generation Z in Malaysia?
4. Is there any relationship between addictions to the internet on stress among generation Z in Malaysia?

## SIGNIFICANCE OF THE STUDY

This study is necessary because internet addiction is giving negative influences on mental health and lifestyle among users day by day. Internet addiction has influenced society through its educational resources, social media websites, web applications, shopping sites, online business, internet marketing, research, and social skills both positively and negatively.

## INTRODUCTION

This chapter will discuss the related literature and studies as well as presenting the theoretical and conceptual framework to fully understand the research. It will also discuss the relationship between internet addiction to mental health and lifestyle among generation Z.

### Addiction to Internet

Internet addiction is considered to be a kind of technological addiction and is a subset of behavioral addictions such as compulsive gambling. It consists of at least three subtypes, i.e., excessive gaming, sexual preoccupations, and email/text messaging. All these subtypes are characterized by excessive use (Kuss JD, Griffiths DM, Karila L, et al, 2014).

In relation to the debate about addictions on the Internet versus addiction to the Internet, Davis's model of pathological Internet use (PIU) was the first to differentiate between generalized pathological Internet use (GPIU) and specific pathological Internet use (SPIU). Davis considers SPIU as a type of IA, where people pathologically engage in a specific function or application of the Internet such as gambling, gaming, shopping, etc., whereas GPIU is a more general, multi-dimensional pathological use of the Internet. Davis introduced concepts such as the distal and proximal contributory causes of PIU. Distal causes may include pre-existing psychopathologies such as social anxiety, depression, substance dependence and behavioural reinforcement (Montag et al., 2014).

### Mental Health

Previous research showed that technology's effect on mental health is still emerging, however various studies and significant evidence from mental health professionals and experts in other fields point to numerous effects related to technology overload (Shaw and Black, 2008; Weinstein, 2010; Young, 2009). These effects may be direct or may increase the severity of other presenting mental health issues. Relevant issues resulting from excessive use of technology can impact a person on multiple levels and in multiple areas including affective, cognitive, and behavioural concerns (Fisher, 2010).

#### *Depression*

Depression and anxiety are two of the most prevalent psychiatric disorders among adolescents and may lead to suicide which is often closely related to these disorders and is the second leading cause of death in the world among 15 to 29-year-olds (World Health Organization, 2014). A major line of research has linked mental health problems to what has been termed problematic Internet use (or pathological or compulsive Internet use) which is conceptualized as an impulse control disorder similar to gambling addiction and other behavioural addictions. Internet use resulting in clinical impairment or distress which is feeling preoccupied with the Internet, inability to control or reduce Internet use, feeling moody or depressed when attempting to stop or reduce Internet use, staying online longer than usual, and lying about excessive Internet use.

#### *Anxiety*

Anxiety is a normal reaction to stress and can be beneficial in some situations. It can alert us to dangers and help us prepare and pay attention. Anxiety disorders differ from normal feelings of nervousness or anxiousness and involve excessive fear or anxiety. Anxiety disorders tend to be the most common mental disorders and affect nearly 30 percent of adults at some point in their lives. But anxiety disorders are treatable and a number of effective treatments are available, (Ranna Parekh, M.D., M.P.H, January 2017)



There are different types of internet addiction; web surfer, pornography, chatting and video games and can be characterized by dry eyes, headache, sleep disturbance, neglect of family, problems with school, occupation, etc. (ASAM, 2012). Clinicians should consider anxiety during childhood in order to prevent internet addiction (Cho & shin, 2013).

### Stress

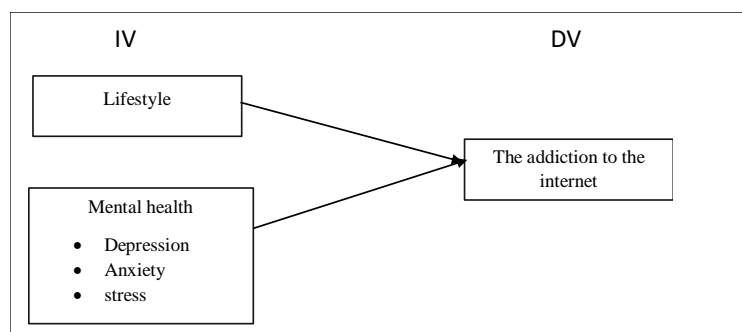
Although these results suggest that stressful life events are crucial to the development of IA, stressful life events do not lead to the same degree of IA for all youths, probably because of individual differences in responses to life stress. For example, an avoidant coping style and maladaptive cognitions could mediate the relationship between stressful life events and IA (Li et al., 2009; Li et al., 2010). Life stress is an important factor that has an effect on many psychiatric conditions.

### Lifestyle

Digital Device Addiction has an effect on the lifestyle of generation Z students in Bangladesh. In this regard, a gap has been seen in literature and present research that tends to focus on youths especially on generation Z who were the first to come of age with cable-TV, Internet services and mobile phones ( Hoque et al., 2018 ). On the other hand, digital addict refers to an individual whose contact with digital technology is on the extreme, engrossing their attention above all else and subsequently having an undesirable impact on the wellbeing of the user (Ozkan & Solmaz, 2015)

Many researchers have actually claimed that the utilization of any technology can have an effect on lifestyle either indirectly or directly and the effect may be negative or positive. Muduli (2014) said that digital addiction is a source of depression, disrupted sleep and social isolation of Gen Z, resulting in negative effects on their health (Boothroyd (2014).

### CONCEPTUAL FRAMEWORK



### HYPOTHESIS

H<sup>1</sup> = There is an association between mental health and internet addiction among Generation Z in Malaysia.

H<sup>2</sup> = There is an association between lifestyle and internet addiction among Generation Z in Malaysia.

H<sup>3</sup> = There is an association between depression and internet addiction among Generation Z in Malaysia.

H<sup>4</sup> = There is an association between anxiety and internet addiction among Generation Z in Malaysia.

H<sup>5</sup> = There is an association between stress and internet addiction among Generation Z in Malaysia.

### METHODOLOGY

#### Research design

A cross-sectional study design was used in this study.

#### Target population

The target population of this study was the Z generation in Malaysia.

#### Unit of analysis

The unit of analysis of the study is generation Z in Malaysia who was born from the year 1995 to 2000.

### *Sample size*

According to determining sample size for Research Activities by Krejcie & Morgan, a total of 384 respondents participated in this research.

### *Sampling method*

A convenience sampling method was used in this study. A non-probability technique was used to choose a sample of subjects or units from the population. Convenience sampling is a type of non-probability or non-random sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study. (Dornyei, Z, 2007). However, non-probability sampling is not a good generalization of the study sample.

### *Data collection*

A set of questionnaires was used for data collection in this study. The questionnaires were distributed to the respondents online and through media social applications such as Whatsapp, Facebook, and by hand via face-to-face sessions. Google form was also used to collect data.

### *Research instrument*

The questionnaire consists of 3 sections, Section A, B, and C.

In section A, the question relates to the socio-demographic profile of the respondent, namely gender, age, ethnicity or race and education.

In section B, the questionnaire contains questions regarding internet addiction and lifestyle and was adopted from the Journal of Medical Internet Research known as The Internet Addiction Test (IAT) by Kimberly Young. The question of Internet Addiction includes questions 3,4,8,10,11,12,13,14,15,18,19 and 20 while the question of lifestyle relates to questions 1,2,5,6,7,9,16 and 17.

In section C, the Depression Anxiety and Stress Scale (DASS-21) was used to measure the mental health status of the respondents. DASS-21 consisted of 21 items; 7 items measured depression (questions 3,5,10,13,16,17 and 21). While 7 items measured anxiety (question 2,4,7,9,15,19 and 20) and the remaining 7 items measured the stress levels of the respondents (question 1,6,8,11,12,14 and 18.)

## **RESULT**

### *Descriptive Statistic*

The descriptive statistic in this study referred to the mean score of all variables. Table 1 shows the mean score of each variable.

Variables	Mean ( $\pi$ )
Internet Addiction	44.75
Lifestyle	30.13
Depression	19.61
Stress	20.05
Anxiety	20.21

#### *Reliability Test*

A reliability test was carried out to determine the reliability of the questionnaires. The Cronbach Alpha coefficient value of internet addiction, lifestyle and mental health showed more than 0.7, which indicated good reliability.

#### *Pearson Correlation*

The Pearson Correlation analysis was used in this study to determine the association between lifestyle and mental health with internet addiction. The findings of this study revealed that the significant associated factors of internet addiction were lifestyle (0.001), depression (0.001), anxiety (0.001) and stress (0.001).

Variables	Pearson correlation coefficient value	p-value
Lifestyle	0.896	0.001
Depression	0.747	0.001
Anxiety	0.764	0.001
Stress	0.763	0.001

There is a positive association between lifestyle, depression, stress, and anxiety with internet addiction. P-value was less than 0.05 which shows significance. The Pearson Correlation showed significance between lifestyle and internet addictions (0.896), depression and internet addictions (0.747), stress and internet addictions (0.764), and anxiety and internet addictions (0.763).

<b>Sociodemographic characteristics</b>	<b>Frequency (n)</b>	<b>Percentage (%) / Mean, (<math>\mu</math>)</b>
<b>Gender</b>		
• Female	218	56.8
• Male	166	43.2
<b>Race</b>		
• Malay	154	40.1
• Chinese	171	44.5
• Indian	57	14.8
• Other Race	1	14.8
<b>Age</b>		
• 19	16	3.93 $\pi$
• 20	64	
• 21	72	
• 22	94	
• 23	80	
• 24	34	
• 25	24	
<b>Educational level</b>		
• STPM/Diploma	117	30.5
• Degree	228	59.4
• Master	32	8.3
• PhD	5	1.3
		0.5
<b>Occupational</b>		
• Government Sector	30	7.8
• Private Sector	113	29.4
• Self-Employment	66	17.2
• Student	159	41.4
• Unemployment	16	4.2

The table 4.3.1 shows the sociodemographic characteristics of respondents. The Majority of respondents were female (56.8%), Chinese (44.5%), degree holders (59.4%) and students (41.4%).

## DISCUSSION

In this research, the researcher had to figure out four independent variables and one dependent variable. The four variables were depression, anxiety, stress and lifestyle that are associated with internet addiction. The dependent variable was internet addiction among the Z generation in Malaysia. The findings of this study showed that the significance associated factors of internet addiction were lifestyle, depression, anxiety, and stress.

Lifestyle is the way how they manage daily life. A negative lifestyle will occur if the respondent shows internet addiction, such as remaining online longer than they intended, neglect household chores, and spend more time online. Respondents also suffer in their work due to the amount of time they spend online.

Differences in diagnostic procedures aside, numerous studies have found problematic Internet use to be correlated with DSM Axis I disorders; mainly depression but also social phobia and anxiety, substance use, attention-deficit hyperactivity disorder and certain personality disorders such as hostility.

Students who faced anxiety will experience breathing difficulty due to excessive rapid breathing, breathlessness in the absence of physical exertion. They will also experience trembling hands due to their addiction to the internet. Additionally, respondents may also worry about the environment which might trigger panic and make them feel foolish.

Besides depression and anxiety, stress is also a factor that is associated with internet addiction, especially among students in Malaysia. According to DASS21, students are difficult to wind down and tend to over-react to a situation which they cannot control while feeling stressed at the same time. Due to intense stress, students use a lot of energy when they feel nervous, making it hard for them to relax.

Internet addiction was measured using the Online Cognition Scale (OCS) based on Akin, A. and Lskender, M.(2011). This scale contains 36 items on a 7-point Likert-type scale. It was developed by Davis, Flett, and Besser (2002) to assess internet addiction and it has four sub-dimensions: loneliness and depression, diminished impulse control, distraction, and social comfort. The depression, anxiety, and stress were measured by using a Turkish version of the Depression Anxiety Stress Scale (DASS) (Lovibond & Lovibond, 1995). Turkish adaptation of the DASS had been done by Akin and Çetin (2007). The DASS is a 42-item, self-report inventory that provides scores on three subscales: Depression (14-items), anxiety (14-items), and stress (14-items). Each item was rated on a 5-point scale. According to Hatice Koksall (2017), researchers used the Internet Addiction Test (IAT) and found that it was a reliable and valid Internet dependency measurement tool developed by Dr. Kimberly Young (1998) to measure the internet tendency and also use the DASS Question to measure the depression, anxiety, and stress.

The results of these studies showed a positive correlation between Internet Addiction and Depression, Anxiety and Stress. The result for the Akin, A. and Lskender, M. showed there are significant correlations between internet addiction and depression, anxiety, and stress. Internet addiction related positively to depression ( $r=.67, p<.01$ ), anxiety ( $r=.63, p<.01$ ), and stress ( $r=.63, p<.01$ ). As expected, depression, anxiety, and stress were positively related to internet addiction. Recent studies on internet addiction demonstrated that internet addiction related positively to a decrease in social interaction, increased depression and loneliness, and lower self-esteem (Ko, Yen, Chen et al., 2005; Kraut et al., 1998).

The finding of this study showed that there is a significant association between lifestyle and internet addiction. This finding was supported by previous studies from Toda, M., Monden, K., Kubo., and Morimoto, K. (2006) which stated that internet addiction is associated with loneliness, depression, poor self-esteem, shyness, and low life satisfaction.

Moreover, the previous study by Walker (2004) claimed that internet addiction also empowers better sources for learning and inspires youth, especially Gen Z, to enjoy learning and it has conveyed chances for students all over the world to obtain education online, while still continuing work schedules and family normally. Internet addiction was also for fun and entertainment which support and distract them from daily strains of life. Many researchers claimed that the utilization of any technology has an effect on lifestyle indirectly or directly and the effect may be negative or positive. When it takes the pattern of addiction, then the effect may be negative. Muduli (2014), claimed that internet addiction is a source of depression, disrupted sleep, and social isolation of Gen Z. Muduli (2014) also claimed that there are severe negative effects on their health.

The Result for the Hatice Koksall showed that there is a statistically significant, positive and weak correlation between internet addiction and depression, anxiety, and stress which means that students who have a higher level of depression anxiety and stress have a tendency to be exposed to a high level of internet addiction or vice versa. The research showed no statistically significant correlation between internet addiction and depression, anxiety, and stress among IUS students. They used Pearson's coefficient of correlation to determine the result. The first result indicated that there is a statistically significant, positive and weak correlation between internet addiction and depression, anxiety, and stress which means that students who have a higher level of depression anxiety and stress have a higher tendency to be addicted to the internet or vice versa. Agreeing on the research, a significant correlation was found between these variables, and for this reason, the first hypothesis was not accepted. Although the hypothesis shows a statistically significant correlation between internet addiction and depression, there is no significance between anxiety and stress and is therefore refused by this research results.

#### *Limitations of the study*

There are many advantages to this research including easy access and low cost for data collection. Researchers also faced difficulties during data collection when some respondents did not give their full cooperation. Moreover, limitation of time for the researcher lead to a narrowed down the data collection. There were also cost limitations in which there were higher expenders rate and the cost spent on this research can expand into more areas. Occasionally, the researcher needed to purchase the necessary equipment for study including data collection and specific statistical software.

### Recommendations

1. Balance activity and productivity with healthy stress management.
2. Nurture pro-social identity development in the real world.
3. Impatient treatment for technology addiction starts by removing a teenager from both the internet and the surroundings that allowed a technology addiction to occur in the first place.

### CONCLUSION

In conclusion, depression, anxiety, stress, and lifestyle were the factors that are associated with the internet addiction towards generation Z in Malaysia which regards the results in descriptive statistics, reliability test, Pearson correlation coefficient which is a significant relationship. Therefore, all the hypotheses were accepted.

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## Factors Associated With Students' Academic Achievement Among Students of Universiti Malaysia Kelantan Kampus Kota

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### ABSTRACT

The aim of this study is to identify significant factors associated with student academic achievements among Universiti Malaysia Kelantan Kampus Kota students. This study aimed to determine the association between academic self-efficacy, social self-efficacy and emotional self-efficacy with academic achievement. A set of questionnaires were used for data collection. A total of 355 students of the Universiti Malaysia Kelantan Kampus Kota were involved in this study. A reliability test was performed to determine the reliability of the questionnaire. Socio-demographic data were analysed descriptively. Prior to conducting inferential analysis, normality was carried out to determine the distribution of data. Spearman correlation analysis was used to determine the association between academic self-efficacy, social self-efficacy and emotional self-efficacy with academic achievement. It is recommended that students should be aware of their own self-efficacy for improvements in academic achievement. For future study, it is recommended to use other suitable measurement tools to assess academic achievement.

**Keywords:** *self-efficacy, academic, emotional, social, academic achievement*

### INTRODUCTION

The relationship between self-efficacy and academic performance has been studied extensively in literature. The pioneer of the definition of 'self-efficacy', Bandura (1977), defined self-efficacy as "belief in the individual ability to do tasks successfully". Recent research of self-efficacy states that it is how a person behaves and the way he or she acts in order to achieve the outcome or results that they expect, to the state where they are able to predict the performance achieved in a specific domain (Younesi et. al, 2014).

In an academic context, self-efficacy is commonly used in terms of describing academic self-efficacy where it is defined as an individual's judgments of their abilities to manage and successfully achieve attained educational goals (Elias & MacDonald, 2007). Goroshit and Hen (2014) stated that emotional self-efficacy is the individual's ability in processing his or her emotional information properly and effectively because it is the most powerful element that affects the emotional state of the individual and his or her performance. Social self-efficacy is defined as a level of social confidence which plays active roles in every aspect of an individual's life. Belief in social self-efficacy contains the power to trigger an individual's performance in their academic tasks (Patrick, Hicks & Ryan, 1997; Malik & Amjad, 2010). Whereas social self-efficacy has been studied to give some impact on the domain of an individual's life experience and one of them is academic performance and their achievement (Ferrari & Parker, 1992).

This study aims to investigate the factors associated with student academic achievements such as academic self-efficacy, social self-efficacy, and emotional self-efficacy.

There are three objectives of this research:

1. To determine the relationship between academic self-efficacy and academic achievement among UMK students.
2. To determine the relationship between emotional self-efficacy and academic achievement among UMK students.
3. To determine the relationship between social self-efficacy and academic achievement among UMK students.

### Significance of the Study

The significance of this study is to contribute to the body of knowledge, especially in regard to the factors associated with academic achievement. It is also to impoverish the study of self-efficacy in the academic achievement scope. Furthermore, this study is also important in order to be used in a future study to develop an intervention module in improving academic achievement.



## LITERATURE REVIEW

### Academic Self-efficacy

Academic self-efficacy refers to an individual's belief that they can successfully achieve or attain a specific goal of a designated level in academics (Bandura, 1997). Academic self-efficacy is significantly associated with students' learning, scientific thinking, cognitive engagement, strategy, the perseverance of academic commitment, susceptibility to negative achievement and emotion (Linnenbrink & Pintrich, 2003). In the academic context, student's beliefs in their personal efficacy to control their own educational processes, academic results and to become skillful in challenging subject matter, is likely to have a greater effect on their educational motivation, interest and educational performance.

### Social Self-efficacy

According to Smith and Betz (2000), social self-efficacy is defined as an individual's confidence in his or her ability to engage in social interactional tasks necessary to initiate and maintain interpersonal relationships.

### Emotional Self-efficacy

Emotional self-efficacy is an individual's beliefs and provisions towards his or her abilities to distinguish emotional situations and to be able to understand what others are feeling as well as to identify positive and negative expressions with level of self-confidence in an ability to adapt with emotion effectively and also to adapt to the surrounding events and the ability to control anger, frustration and negative emotion and face success with positive emotions and express it in a positive manner (Zhao et al., 2013).

### Research Hypothesis

This study contains three hypotheses:

- Ha1 - There is a significant relationship between academic self-efficacy and student academic achievement.
- Ha2 - There is a significant relationship between social self-efficacy and student academic achievement.
- Ha3 - There is a significant relationship between emotional self-efficacy and student academic achievement.

### Research Framework

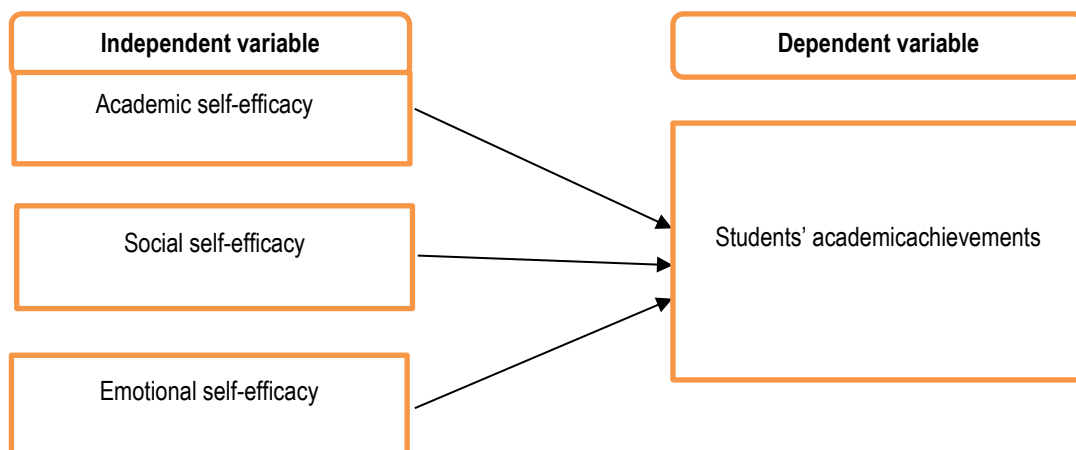


Figure 1: The Relationship between Academic self-efficacy, Social Self-Efficacy and Emotional Self-Efficacy on Student Academic Performance.

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## METHODOLOGY

### Research Design

This study used a quantitative technique. A cross-sectional study design was used as a study design.

### Data Collection

In this study, the questionnaire was adopted from a few researches. The questionnaire was given by hand to the Universiti Malaysia Kelantan Kampus Kota students who were then asked to answer the questionnaire. The respondents answered the questionnaire on the spot after it was given to them which was more proper in giving a high level of confidence in the collected data for this study.

### Sampling

A total of 355 students from three faculties in Universiti Malaysia Kelantan Kampus Kota were randomly selected using a simple random method. The respondents were chosen from the Faculty of Hospitality, Tourism and Wellness (FHPK), Faculty of Entrepreneurship and Business (FKP) and Faculty of Veterinary Medicine (FPV) using Krejcie & Morgan (1970) in order to obtain a reliable and valid sample size. The questionnaire, based on Muris's (2001) involving self-efficacy was distributed to the respondents. All items used five-point Likert scale ranging from; 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

### Data Analysis

A reliability test was used to determine the reliability of the questionnaire. A normality test was conducted prior to performing descriptive and inferential analyses. The data obtained were analyzed using the Statistical Package for Social Science (SPSS) version 19.0.

## FINDINGS

### Reliability Analysis

Table 1 below shows the reliability test results for academic self-efficacy as 0.69, social self-efficacy as 0.70 and emotional self-efficacy as 0.77. All of the results are acceptable because the value of the reliability coefficient for all three independent variables reached at least 0.70 for sufficient reliability.

Table 1: Reliability of Independent Variables

Independent Variables	Cronbach's Alpha	N of Items
Academic Self-efficacy	0.691	6
Social Self-efficacy	0.704	6
Emotional Self-efficacy	0.773	6

### Descriptive Analysis

Table 2 below presents the total mean value for the dependent variable, which is the academic achievement by CGPA (3.21) and three mean independent variables which are academic self-efficacy (3.95), social self-efficacy (3.88) and emotional self-efficacy (3.65). All independent variables have scored 3 for the mean value, where the respondents agreed that these three independent variables influenced academic achievement.

Table 2: Descriptive Analysis

Variables	Mean	Std. Deviation	N
Academic Achievement	3.2135	.33241	355
Academic Self-efficacy	3.9540	.58658	355
Social Self-efficacy	3.8817	.59707	355
Emotional Self-efficacy	3.6549	.66035	355

### Normality Test

Table 3 below shows that a normality test was used to determine that the sample data has been drawn from a normally distributed population. In statistics, normality tests are used if the data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. In this study, the normality test used is the Kolmogorov-Smirnov normality test.

Table 3: Kolmogorov-Smirnov Normality Test for Variables

Variable	Statistic	N	Sig.
Academic Self-Efficacy	0.100	355	0.001
Social Self-efficacy	0.082	355	0.001
Emotional Self-efficacy	0.082	355	0.001
Academic Achievement (CGPA)	0.066	355	0.001

Based on the table, the total sig (p-value) for academic self-efficacy, social self-efficacy, and emotional self-efficacy are 0.000 while academic achievement by CGPA is 0.001 which means all variables are not normal or non-parametric. Therefore, the Spearman correlation has to be used in this data to find the significance of variables.

### Spearman Correlation

Based on Table 4 below, the results show that there is a significant relationship between academic self-efficacy and academic achievement among students with a result of ( $r = 0.275, p < 0.01$ ). The p-value of academic self-efficacy is 0.000 which is less than the highly significant level 0.01. It also shows the significant relationship between social self-efficacy and academic achievement among students with the result of ( $r = 0.122, p < 0.02$ ). The p-value for social self-efficacy is 0.022 which is less than the highly significant level 0.05. There is also a significant relationship between emotional self-efficacy and academic achievement among students with a result of ( $r = 0.189, p < 0.00$ ). The p-value for social self-efficacy is 0.000 which is less than the highly significant level 0.01. Therefore, there is a positive relationship and a highly significant level between three independent variables with the dependent variable.

Table 4: Relationship between emotional self-efficacy and academic achievement.

Variables	Correlation coefficient value	p-value
Academic Self-efficacy	0.275	0.000
Social Self-efficacy	0.122	0.022
Emotional Self-efficacy	0.189	0.000

## DISCUSSION & RECOMMENDATION

The three factors that have been studied are academic self-efficacy, social self-efficacy, and emotional self-efficacy. Through the reliability test, all three factors are reliable and valid to be used as the independent variables for the study. A normality test has been used to determine that the sample data has been drawn from a normally distributed population. All variables' p-value showed that the data was not normal or non-parametric. Therefore, a Spearman correlation was used to find significant factors in academic achievement. The results from the Spearman correlation showed that all of the independent variables have a positive relationship and high significant level with the dependent variable.

For academic self-efficacy, this finding was supported by previous systematic reviews from Honicke and Broadbent (2016), Robbins et al. (2004) and Richardson et al. (2012) where all previous studies found a significant association between academic self-efficacy and academic achievement. This is due to the fact that the system for calculating CGPAs is similar throughout all countries.

In terms of social self-efficacy, similar findings were supported by a previous study, İskender and Akin (2010), who had reported that there is a significant association between social self-efficacy with academic achievement. This could be due to the use of a similar target population, the university students.

Lastly, in regards to emotional self-efficacy, the result of this study was supported by Pool and Qualter (2012) whereby emotional self-efficacy is important for any work-related outcome. This is due to the fact that most of the respondents' marital status is single. Therefore, it can be assumed that those respondents have a stable emotional state since they did not have other commitments and are able to focus more on academic performance.

The CGPA is used as a measurement for academic achievement. As a recommendation for future research, future researchers can add other alternatives to measure student academic achievement. For example, the researcher can use other outstanding performances such as participation in co-curricular activities. Another recommendation is to widen the range of the target population. The sample size in this study only covered students of Universiti Malaysia Kelantan Kampus Kota though larger sample data is recommended and preferable. Last but not least, a similar study is recommended for future research as the topic covered is rarely being studied in Malaysia.

## CONCLUSION

This study is about the factors associated with student academic achievement among students of Universiti Malaysia Kelantan Kampus Kota involving factors such as academic self-efficacy, social self-efficacy, and emotional self-efficacy. The study had shown that there is a significant relationship between self-efficacy with academic achievement. The main result of the study meanwhile had shown that there are a positive relationship and high level of significance between academic self-efficacy, social self-efficacy and emotional self-efficacy with student academic achievement. Even though there are many factors that influence student academic achievement, the results of this study could help strengthen the impact of academic, social, and emotional self-efficacy on student's academic performances.

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## Factors Contributing to Spa Visiting Among Universiti Malaysia Kelantan Staff in City Campus

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### ABSTRACT

Visiting a spa and getting spa services is a new social trend among civil servants in Malaysia. Facts show that the number of spa and health centers has increased over the years and practices towards a healthy lifestyle are being accepted worldwide. This paper aims to study the factors that influence the motivation of civil servants to visit a spa. The methodology used in this study was a cross-sectional study design and the data were collected via a set of questionnaires that contain four sections. This study also used a convenient sampling method and the data were analysed using the Statistical Package for Social Science (SPSS). The findings of this study showed that the significant associated factors of spa visiting were stress ( $p=0.025$ ) and relaxation ( $p=0.022$ ). Hence, stress and relaxation were found to be significantly associated with spa visiting.

**Keywords:** *Contributing factors, spa visiting, stress and relaxation*

### INTRODUCTION

The spa industry in Malaysia is growing with the growing number of entrepreneurs over the years. Under the National Key Economic Area (NKEA) Tourism, the country's spa industry is expected to generate \$400 million to National Income Gross (GNI) with 3,500 job opportunities by 2020. Spa customers today are not only women, but trend shows that men are also coming more to spas for health and personal appearance. More interestingly, this industry is also capable of attracting foreign tourists to undergo beauty treatment services throughout Malaysia. Spa services are an integral component in the tourism industry where it provides job opportunities and indirectly contributes to the national income through the currency exchange.

In some countries throughout the world, while industrialization is taking place, spas offer a viable tourism product for the country's economy. It has the potential to grow faster among international rankings to ensure more foreign tourists visit the spa centre which offer a variety of unique features. Malaysia is also seen as having the potential to be a destination for competitive health tourism since Malaysia has many natural, priceless resources like herbs and spices.

Nowadays, the level of awareness on benefits and the type of spa therapies available is low. This also includes the civil servants who are rarely getting spa treatments. As we know, civil servants are the driving force in organizations and powerful people. However, due to the pressure to carry out a lot of responsibilities, civil servants are exposed to many problems. Problems or issues can reduce work performance if no action is taken to overcome them. These problems may be due to many factors. For example; work overload, a lot of commitments (at home and at work), role conflicts, and lack of appreciation for achievement.

Therefore, the study was conducted among civil servants, in specific the UMK City Campus staff. Previous studies have shown that university staff had higher prevalence of job stress (21.7%) and are prone to develop stress because of high job demand, lack of social support from colleagues and top management, psychological stressors such as depression and anxiety, coping such as focus and venting of emotion and self-blame (Okonkwo Mukosolu, Faisal Ibrahim, Lekhraj Rampal, Normala Ibrahim, 2015). Hence, this study aims to determine the factors that can influence the intention of civil servants to visit spas.

The objectives of this study are:

1. To investigate the relationship between stress and spa visiting.
2. To identify the relationship between relaxation and spa visiting.

### Significance of the Study

The significance of this study is to contribute to the body of knowledge on factors contributing to spa visits among civil servants, specifically the staff of UMK City Campus. This useful information will provide baseline data for the wellness industry focusing on spa services.

In addition, this study is important for the spa industry in terms of marketing to attract civil servants who may in the future become loyal spa customers. The findings of this study on the significant factors associated with spa visits are crucial for spa promotion activities, such as in developing promotional programs to attract new clients. Therefore, this study is designed to determine the intention of visiting a spa among UMK staff in City Campus.

## LITERATURE REVIEW

### SPA INDUSTRY

The spa industry in Malaysia combines traditional and modern methods in a designer ambiance that offers customers a remarkable experience. According to a survey by Intelligent Spas, the number of spas in Malaysia has grown more than 200% since 2002. There are more than 170 spas currently operating and earning an average of RM1000 per day in sales (Intelligent, 2011).

According to industry estimates, the spa industry is now considered to be one of the fastest-growing economic sectors in Malaysia as it has grown 16 percent in the past five years. With this in mind, the Ministry of Tourism and Culture hopes that the spa industry will help the tourism industry become the country's fifth-largest source of income by 2020. Two years ago, the National Spa Council, composed of members of the spa industry and relevant government agencies, was formed to address issues related to the transformation of the local spa industry. (Business Circle, 2019)

### TYPES OF SPA

There are different types of massage, as well as various treatments, on different parts of the body. Massage is an exercise that rubs and kneads the body by hand. During the massage, the masseur exerts gentle or strong pressure on the muscles and joints of the body to relieve pain and tension. The massage therapist is a trained masseur. (Emily Cronkleton, 2018).

There are eight types of spas available around the world including Malaysia. The eight types of spas are club spa, day spa, cosmetic spa, cruise ship spa, destination spa, medical spa, resort or hotel spa, and mineral spring spa.

### CONTRIBUTING FACTORS OF A SPA VISITS

There are two factors that contribute to a spa visit which are stress and relaxation. According to a previous study by Johanson (2004), 45% of women and 26% of men responded that they visited spas. It is important to understand how consumers evaluate various spa benefits available in the market.

#### Research Hypothesis

In this study, there were two hypotheses.

H1: There is a significant relationship between stress and spa visiting.

H2: There is a significant relationship between relaxation and spa visiting.

#### Research Framework

The research framework of this study was shown in Figure 1.

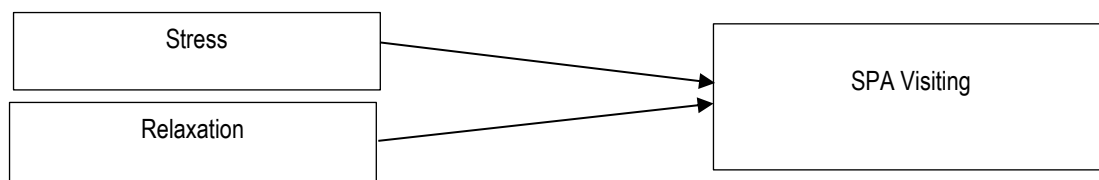


Figure 1: Research framework of Spa Visits

## METHODOLOGY

### Research Design

This study is a quantitative study and an analytical cross-sectional study design was used.

### Data Collection

A set of questionnaires were distributed to the population for data collection among the staff at UMK City Campus.

The instrument of this study is a set of questionnaires that consists of four parts (part A, part B, part C, and part D). Part A is a demographic profile that consists of five items, namely gender, age, educational level, marital status, and monthly income status. Part B is about a spa visit, that consists of four items about the spa. Part C is used to measure stress using DASS-21 and consists of seven items that used a scoring scale. Part D is about relaxation that consists of four items that used a five Likert scale.

'Relaxation' scored the highest grand mean and is considered to be the most important motivating factor. This factor includes the items 'seek mental peacefulness', 'seek spiritual refreshment', 'seek physical relaxation' and 'seek relief for a medical condition'.

### Sampling

The sampling method used in this study was the convenient sampling method. The questionnaire was distributed to UMK's staff in City Campus via email and also by hand.

In order to achieve reliable and valid samples for this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown as below:

$$S = \frac{\chi^2 N p (1 - p)}{e^2 (N - 1) + \chi^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$\chi^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

The data obtained were analysed by using the Statistical Package for Social Science (SPSS). A reliability test was performed to determine the reliability of the questionnaire. Socio-demographic data were analysed descriptively.

Prior to the implementation of inferential data analysis, a normality test was conducted to determine the data distribution. Binary Logistic Regression (BLR) was performed to determine the relationship between stress and relaxation with spa visiting. The p-value of 0.05 and below indicated the factors are significantly associated with spa visiting.

## FINDINGS

A total of 120 respondents were interviewed in this study. The majority of respondents were female (70.8%), aged between 26-33 years (35.0%), degree holders (40.8%), having monthly personal incomes between RM2001-RM4000 (51.7%) and married (69.1%) (See Table 1).



Table 1: Socio-demographic characteristics of respondents (N 120).

Variable	Frequency (N 120)	Percentage (%)
Gender		
Female	85	70.8
Male	35	29.2
Age		
18 – 25	24	20
26 – 33	42	35
34 – 42	39	32.5
43 – 50	11	9.2
51 or above	4	3.3
Education		
SPM	9	7.5
STPM/Matriculation/Diploma	20	16.7
Degree	49	40.8
Master/PhD	42	35
Marital Status		
Single	35	29.2
Married	83	69.1
Divorce	2	1.7
Income		
Below RM2000	34	28.3
RM2001 – RM4000	62	51.7
RM4001 or above	24	20

Table 2 shows the relationship between stress and relaxation with spa visiting. There was a strong relationship between stress ( $p=0.025$ ) and relaxation ( $p=0.022$ ) with spa visiting.

Table 2: The relationship between stress and relaxation with spa visiting.

Variables	OR (95% CI)	P-value
Stress	0.878 (0.784 , 0.984)	0.025
Relaxation	0.843 (0.728 , 0.975)	0.022

## DISCUSSION & RECOMMENDATION

The new millennium has seen the global spa industry emerge as a melting pot for a variety of products and services that promote health and well-being (Cohen, 2008). In this context, spas are an important area in the contemporary health industry. More and more people are aiming to improve their quality of life, especially for those who work.

This study was conducted to look at the importance of visiting the spa to manage stress and relaxation problems. A similar finding was found in a previous study conducted by Trihas and his co-researcher (2016) which found the crucial factors for spa visiting is for stress relief and relaxation.

Relaxation as the purpose of visiting a spa has the highest value and is considered the most important factor in motivating factors. This is because of the findings of this study, through questionnaires and online surveys found that UMK staff went to the spa for relaxation. They want to find a place of solace after their work.

Based on the results of this study, relaxation was derived as a factor that contributes to spa visiting. Similarly, another previous study conducted by Mak, Wong and Chan (2009) reported that “relaxation/relief” and “escapes” while Bhardwaj and Kumar (2013) obtained “enhancement of social life and relaxation” were factors associated with spa visiting. This study focused on spa overseas.

Stress is a problem that people experience when they are too tired to work, are lazy to solve problems, and are in a very uncomfortable environment, which can put pressure on the individual. In this study, stress also found to be the factor and set the highest record for their intention to visit spas. Female UMK staff were found to be more likely to be under stress because of overwork. As a result, the female staff are more inclined to spend time visiting the spa and seeking medical attention.

Based on a recent study from Trihas and Anastasia (2013), spa-goers inspired to write a new study this time around. New research findings and existing information will make this study more in-depth and focused to benefit the public in particular. In addition, the sampling method is easy to use in the collection-level data, while the sample size is relatively small. Therefore,

the decision may not reflect the overall market and may not apply to other civil servants and this may be based on their experience.

Future studies should focus more on the spa market and wellness segmentation to better understand the priorities of visiting the spa and their basic dimensions of choice

## CONCLUSION

In conclusion, the study entitled factor contributing spa visiting has identified two main factors that are the catalyst for visiting the spa, namely stress, and relaxation. This study is focused on civil servants at UMK Kota Campus, Pengkalan Chepa though the probability for other institutions will be quite similar.

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