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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 ± 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 (Shrotiya, 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, Sancı, 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.

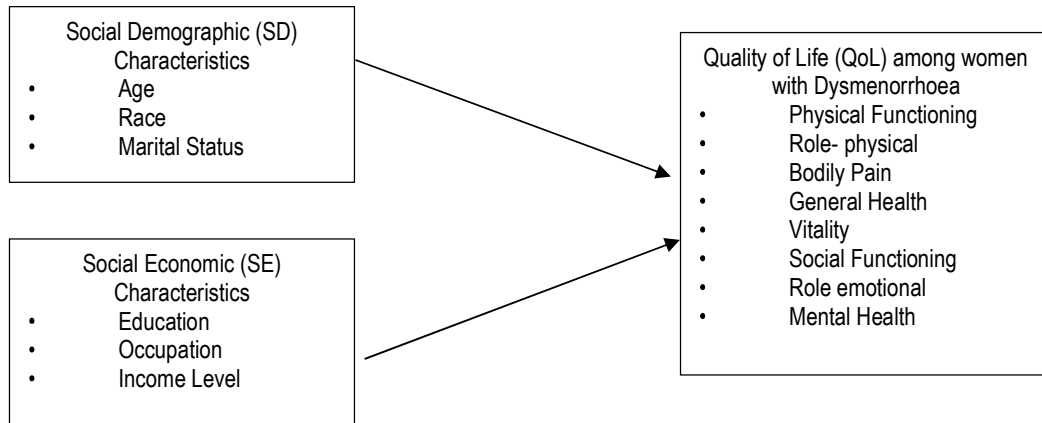


Figure 1: Research framework of Quality of life of women with Dysmenorrhea in Kota Bharu, Kelantan.

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 dysmenorrhea 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 ± 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 $P\text{-value} = 0.617$). This study findings was supported by previous study of Ohde, Tokuda, Takahashi, Yanai, Hinohara 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 ($X^2 = 1.651$, $P\text{-value} = 0.199$). 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 ($X^2 = 1.160$, $P\text{-value} = 0.689$). 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, Sancu, 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, Sancu, 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, Kirli, 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 detailly 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 (%)
Age	24.67 (6.294)		
Race			
-Malay		263	68.5
-Chinese		91	23.7
-India		26	6.8
-Others		4	1
Marital Status			
-Single		282	73.4
-Married		94	24.5
-Divorced			2.1
Education Status			
-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
Occupational Status			
-Working			
-Not working		180	46.9
Income Level		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 (%)
Age	23.85 (5.599)		
Race			
-Malay		226	77.1
-Chinese		52	17.7
-India		14	4.8
-Others		1	0.3
Marital Status			
-Single		235	80.2
-Married		54	18.4
-Divorced		4	1.4
Education Status			
-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
Occupational Status			
-Working			
-Not working		132	45.1
		161	47.3
Income Level			
-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		x ²	P-value
	Yes n (%)	No n (%)		
Age				
-Young adults	204 (82.9)	42 (17.1)	16.614	0.000*
-old adults	89 (64.5)	49 (35.5)		
Race				
-Malay	226 (85.9)	37 (14.1)	42.802	0.000*
-Non Malay	67 (55.4)	54 (44.6)		
Marital Status				
-Non-married	235 (83.3)	47(16.7)	29.027	0.000*
-Married	58 (56.9)	44 (43.1)		
Education Status				
-Low education level	188 (75.5)	61 (24.5)	0.251	0.617
-High education level	105 (77.8)	30 (22.2)		
Occupational Status				
-Working	132 (73.3)	48 (26.7)	1.651	0.199
-Not working	161 (78.9)	43 (21.1)		
Income Level				
-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)			
Physical Functioning					
Role Physical	54.29 (28.772)	77.69 (21.696)	-7.151	382	0.000*
Bodily Pain	38.91 (33.818)	74.18 (29.686)	-8.935	382	0.000*
General Health	36.75 (19.345)	73.79 (22.125)	-8.706	382	0.000*
Vitality	52.44 (16.477)	65.27 (10.681)	-6.985	382	0.000*
Social Functioning	48.46 (13.746)	59.18 (12.829)	-7.338	382	0.000*
Role-Emotional	59.77 (15.655)	71.15 (19.477)	-5.707	382	0.000*
Mental Health	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*
Total mean	392.27	554.98			0.000*

* Significant at p-value less than 0.05