



UNIVERSITI PUTRA MALAYSIA

***IMPACT OF DYSMENORRHEA TOWARDS QUALITY OF LIFE AND ITS
MANAGEMENT AMONG UNDERGRADUATE STUDENTS IN
UNIVERSITI PUTRA MALAYSIA***

SITI AISYAH ZULAIKHA ROSLI

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**BACHELOR OF NURSING
UNIVERSITI PUTRA MALAYSIA**

OCTOBER 2021



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SITI AISYAH ZULAIKHA ROSLI

**This Thesis Submitted to the Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia, in Fulfilment of the Requirements for the
Degree of Bachelor in Nursing**

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Siti Aisyah Zulaikha Rosli, Paramesevary L. Subramaniam, Rima Anggrena Dasrilsyah

ABSTRACT

Introduction: Over 10% of women have experienced dysmenorrhea, episodes of painful menstruation to the point of not being satisfied with their daily live activities performance which lead to unsatisfactory quality of life. Some of the negative effects of dysmenorrhea is reducing quality of life which include restriction in daily life activities, inability to be present during class hours and self-isolation. It was also mentioned that non-steroidal anti-inflammatory drugs (NSAIDs) are the most common choice among women to relief period pain. However, there are some people who prefer non-pharmacological method such as managing proper diet and take enough bed rest. **Objectives:** The specific objectives of this study includes: To determine the socio-demographic characteristics of the respondents, impact of dysmenorrhea towards quality of life and its management as well as the relationship between socio-demographic characteristics and impact of dysmenorrhea towards quality of life and its management. **Methodology:** A cross-sectional study with multi-stage sampling method was used in this study. The data were collected using self-administered questionnaires. All data obtained were analyzed using the Statistical Analysis Package for Social Sciences. Descriptive analysis such as frequency, mean, and standard deviation was used to describe the socio-demographic characteristic and impact of dysmenorrhea towards quality of life and its management. Multiple Regression was used to analyse the relationship between socio-demographic characteristics and impact of dysmenorrhea towards quality of life and its management. **Results:** A total of 173 participants had participated in this study. The findings in this study show that the mean score for impact of dysmenorrhea towards quality of life and its management was $34.49 \text{ SD} \pm 7.45$ and $18.45 \text{ SD} \pm 2.99$ respectively. Analysis done reported that there is a significant relationship between positive family history of dysmenorrhea ($p < .001$) and impact of dysmenorrhea. In addition to this, there is a significant relationship between menstrual regularity and management of dysmenorrhea ($p = .025$). **Conclusion:** There are some socio-demographic characteristics influencing the impact of dysmenorrhea towards quality of life as well as its management. Some students are unaware of what constitutes effective treatment and have no prior experience with the effects that such treatment can provide. Hence, nurses play key role in this community by promoting health education regarding proper management of dysmenorrhea.

Keywords: Dysmenorrhea, Impact, Quality of Life, Management, Undergraduate Students

KESAN DISMENOREA TERHADAP KUALITI HIDUP DAN CARA-CARA MENGATASINYA DALAM KALANGAN MAHASISWI DI UNIVERSITI PUTRA MALAYSIA

Siti Aisyah Zulaikha Rosli, Paramesevary L. Subramaniam, Rima Anggrena Dasrilsyah

ABSTRAK

Pengenalan: Lebih daripada 10% wanita pernah mengalami dismenorea, iaitu kesakitan yang dialami semasa dating haid sehingga tidak dapat melakukan aktiviti-aktiviti harian seperti biasa sekaligus menyebabkan ketidakpuasan terhadap kualiti hidup. Antara kesan buruk senggugut yang menyebabkan ketidakpuasan terhadap kualiti hidup berlaku ialah kekangan dalam melakukan aktiviti-aktiviti harian, kegagalan untuk hadir ke kelas dan mengasingkan diri daripada bergaul dengan orang lain. Kajian telah menyatakan bahawa penggunaan ubat anti-radang bukan steroid (NSAIDs) merupakan antara pilihan utama dalam kalangan wanita untuk mengurangkan rasa sakit. Namun begitu, terdapat juga golongan wanita yang memilih untuk tidak memakan ubat seperti mengamalkan pemakanan yang sihat dan rehat yang cukup. **Objektif:** Objektif khusus kajian ini termasuk: Untuk menentukan ciri-ciri sosio-demografi responden, kesan senggugut terhadap kualiti hidup dan pengurusannya serta hubungan antara ciri-ciri sosio-demografi dan kesan senggugut terhadap kualiti hidup dan pengurusannya. **Metodologi:** Satu kajian rentas bahagian dengan kaedah persampelan pelbagai peringkat telah digunakan dalam kajian ini. Data dikumpulkan menggunakan borang soal selidik yang telah diadaptasi. Semua data yang diperolehi dianalisis menggunakan Pakej Analisis Statistik untuk Sains Sosial. Analisis deskriptif seperti kekerapan, min, dan sisihan piawai digunakan untuk menggambarkan ciri-ciri sosio-demografi dan kesan dismenorrhea terhadap kualiti hidup dan pengurusannya. *Multiple Regression* digunakan untuk menganalisis hubungan antara ciri-ciri sosio-demografi dan kesan dysmenorrhea terhadap kualiti hidup dan pengurusannya. **Keputusan:** Seramai 173 orang peserta telah mengambil bahagian dalam kajian ini. Dapatan kajian ini menunjukkan bahawa skor min untuk kesan dysmenorrhea terhadap kualiti hidup dan pengurusannya masing-masing adalah $34.49 \text{ SD} \pm 7.45$ dan $18.45 \text{ SD} \pm 2.99$. Analisis yang dilakukan melaporkan bahawa terdapat hubungan yang signifikan antara sejarah keluarga positif dysmenorrhea ($p < .001$) dan kesan dysmenorrhea. Di samping itu, terdapat hubungan yang signifikan antara keteraturan haid dan pengurusan dysmenorrhea ($p = .025$). **Kesimpulan:** Terdapat beberapa ciri sosio-demografi yang mempengaruhi kesan dysmenorrhea terhadap kualiti hidup serta pengurusannya. Sesetengah pelajar tidak menyedari apa yang membentuk rawatan yang berkesan dan tidak mempunyai pengalaman terlebih dahulu dengan kesan yang boleh diberikan oleh rawatan sedemikian. Oleh itu, jururawat memainkan peranan penting dalam komuniti ini dengan menggalakkan pendidikan kesihatan mengenai pengurusan dismenorea yang betul.

Kata kunci: Dismenorea, Kesan, Kualiti Hidup, Mengatasi, Mahasiswi

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DECLARATION BY STUDENT

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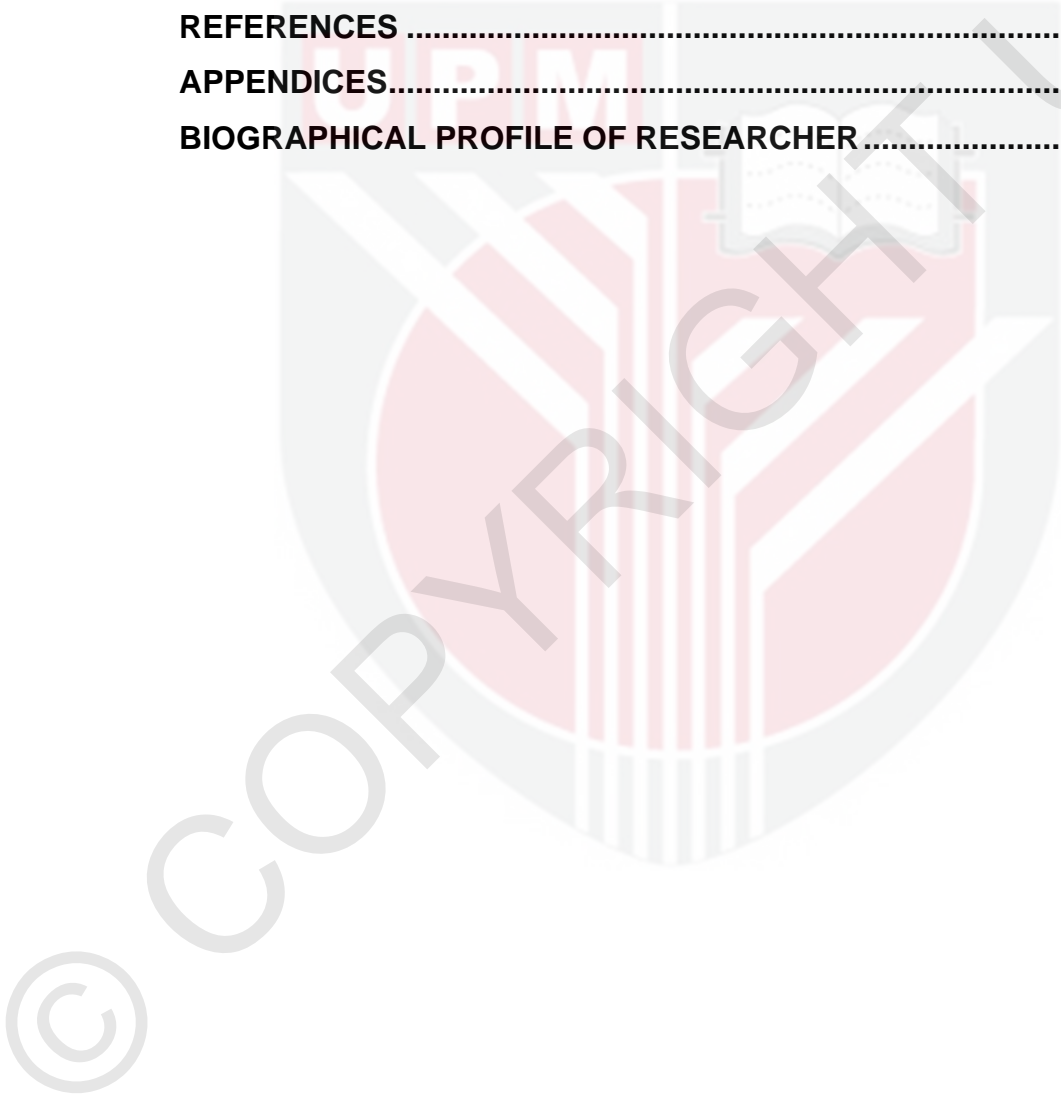
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LIST OF ABBREVIATIONS

ADL	: Activities of daily living
NSAID	: Non-steroidal anti-inflammatory drug
CAT	: Complementary and alternative therapies
BMI	: Body mass index
QOL	: Quality of life
JKEUPM	: <i>Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia-</i> Universiti Putra Malaysia
SPSSCOX	: Cyclooxygenase

CHAPTER 1

INTRODUCTION

1.1 Background of the study

According to Gebeyehu (2010), approximately less than 20% of women have experienced episodes of painful menstruation to the point of not being able to function normally for their daily live activities which can cause unsatisfactory quality of life. In Malaysia, it is reported that the prevalence of dysmenorrhea of 58% according to a study conducted among female university students in 1995 (Zukri, 2009). Dysmenorrhea is not considered as a major threat, nevertheless, the severity of this condition can affect the quality of life of those who experiencing it. Other symptoms, commonly, irritability, fatigue, nausea, headaches, and dizziness may or may not coincide with the occurrence of dysmenorrhea (Abreu-Sánchez et al., 2020). It affects women especially teenagers and those who are still in the early adult phase (Armour et al., 2019). Women in these stages usually are in school and pursuing their education to the next level.

Dysmenorrhea can be categorized into two; primary dysmenorrhea and secondary dysmenorrhea. Abreu-Sánchez et al. (2020) stated that primary dysmenorrhea occurs due to unidentified organic cause which is correlated with excess production of prostaglandin. In other words, it occurs in the absence of pelvic pathology. According to Fernández-Martínez et al. (2019), pain occurs when the uterus becomes hypoxic and ischemic due to the uterine contraction that is caused by the increased amount of prostaglandins.

However, secondary dysmenorrhea occurs due to other underlying disease such as endometriosis (Azagew et al., 2020).

Azagew et al. (2020) mentioned that some of the negative effects of dysmenorrhea among young females is reducing quality of life which include restriction in daily life activities, inability to be present during class hours, self-isolation, declining in academic performance and the need to spend more than necessary if they chose to seek medical treatment. Assefa et al. (2016) stated that approximately more than 100 million hours are considered lost from school or work due to dysmenorrhea every year. For instance, primary dysmenorrhea causes absenteeism of women in the United States of America during working hours which affected approximately 600 million working hours every year. In addition, primary dysmenorrhea is the most frequent cause that leads to absenteeism for lectures or work among women as well as the repeated short-term school absenteeism among teenage girls.

Several studies reported that medications including non-steroidal anti-inflammatory drugs (NSAIDs) namely ibuprofen, mefenamic acid, diclofenac and naproxen sodium are reportedly to be the most common choice among women to relief period pain. Some other drugs including supplements, narcotic analgesics and combined oral contraceptives are also said to be used to aid in managing dysmenorrhea (Ameade et al., 2018). In contrast, the non-pharmacological strategies to reduce period pain that are being chosen by women that have primary dysmenorrhea include diet management which is to reduce the intake of foods that contain high content of fat, engaging in physical

activities, getting proper rest, applying hot compress on the abdomen and spine and acupuncture.

1.2 Problem statement and study rationale

Dysmenorrhea contributes to the quality of lifestyle and academic performance among young adults. Women that experiencing moderate to intense pain with improper management have to get throughout their menstruation days uncomfortably every month. Fernández-Martínez et al., (2019) mentioned that this may lead to absenteeism from lectures or work, which, in turn, can affect social and economy of a person, inabilities to perform daily activities normally as well as turning away any opportunities to be physically involved in social gathering and sport activities. Aktaş (2015) also added that dysmenorrhea can cause absenteeism from classes among young women and have restrictions in doing and joining daily and social activities which diminish their overall comfort and quality of life. It is said that women have to attend school to obtain greater quality of life so that they can have satisfactory adulthood (Aziato et al., 2015). In addition, dysmenorrhea is reportedly to have negative effect on the cognitive and psychosocial development of adolescents (Seven et al., 2014).

A study among female university students in Ethiopia reported that 80% of the participants were absent to class due to dysmenorrhea (Assefa et al., 2016). Another previous study on dysmenorrhea was conducted in Ghana and the targeted population include the limited number of university students in Southern Ghana. 61.2% of the participants reported to have disruption in

performing daily life activities. Symptoms of dysmenorrhea such as pelvic pain can cause absolute discomfort varying of its severity. Notably this may lead women to become absent from class as well as well as unable to perform daily life activities normally which subsequently affecting their academic performances and quality of life respectively.

In Malaysia, it is reported the prevalence of dysmenorrhea of 58% according to a study conducted among female university students in 1995 (Zukri, 2009). Additionally, Wong (2011) mentioned that females who are experiencing dysmenorrhea tend to seek advice from their mothers or peers rather than formal medical treatment from nearby clinics. This may cause them to buy over the counter medicines in order to self-medicate to relieve any feeling of pain or discomfort. This may be convenient to some, but self-medication is not a proper practice as it can cause numerous dangerous effects including incorrect dosage and inappropriate management of adverse effects, if there is any (Ruiz, 2010). Furthermore, the author noticed that undergraduate female students in a public university that experienced dysmenorrhea tend to withdraw themselves from any public or social interactions as well as facing problem in performing activities of daily living (ADL) normally. These include the inability to be present during class hours, declining any offer to be out of the comfort of their room to meet with other friends and as far as refusing to do any chores because of the pain. Apart from this, students prefer to choose to self-medicate as they can get the medications at affordable price or resort to any other non-pharmacological practice to ease the feeling of discomfort and pain. Up to now, few studies focusing on

prevalence of dysmenorrhea have been conducted among female university students in Malaysia. However, fewer of them focused on the impact of dysmenorrhea towards quality of life and the methods the patients tend to resort to in relieving the pain and discomfort. Thus, the aim of the study is to determine the impact of dysmenorrhea towards quality of life and its management of among undergraduate students in a public university.

1.3 Research questions

1. What is the socio-demographic characteristics of the respondents?
2. What is the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia?
3. What is the management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia?
4. What is the relationship between socio-demographic characteristics and the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia?
5. What is the relationship between socio-demographic characteristics and the management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia?

1.4 Research objectives

General objective: To determine the impact of dysmenorrhea towards quality of life and its management among undergraduate students in Universiti Putra Malaysia.

Specific objectives:

1. To determine the socio-demographic characteristics of the respondents.
2. To determine the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia.
3. To determine the management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia.
4. To investigate the relationship between sociodemographic data and the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia.
5. To investigate the relationship between sociodemographic data and the management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia.

1.4 Hypothesis

1.4.1 Null hypotheses

1. There is no significant relationship between socio-demographic characteristics and the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia.
2. There is no significant relationship between socio-demographic characteristics and the management of dysmenorrhea among undergraduate female students in Universiti Putra Malaysia.

1.5 Definition of terms

1.5.1 Operational definition

Impact

This section was defined by determining the impact of dysmenorrhea towards quality of life. 13 questions were answered to assess the quality of life of enjoyment and satisfaction. The answer was measured with 5-point likert scale.

Management

This section was defined by determining the management of dysmenorrhea depending on their severity of pain by using either pharmacological or non-pharmacological method.

Socio-demographic

Socio-demographic is defined as combination of sociological and demographic which include age, ethnicity and nationality and menstrual history of the participants.

1.6 Conceptual Framework

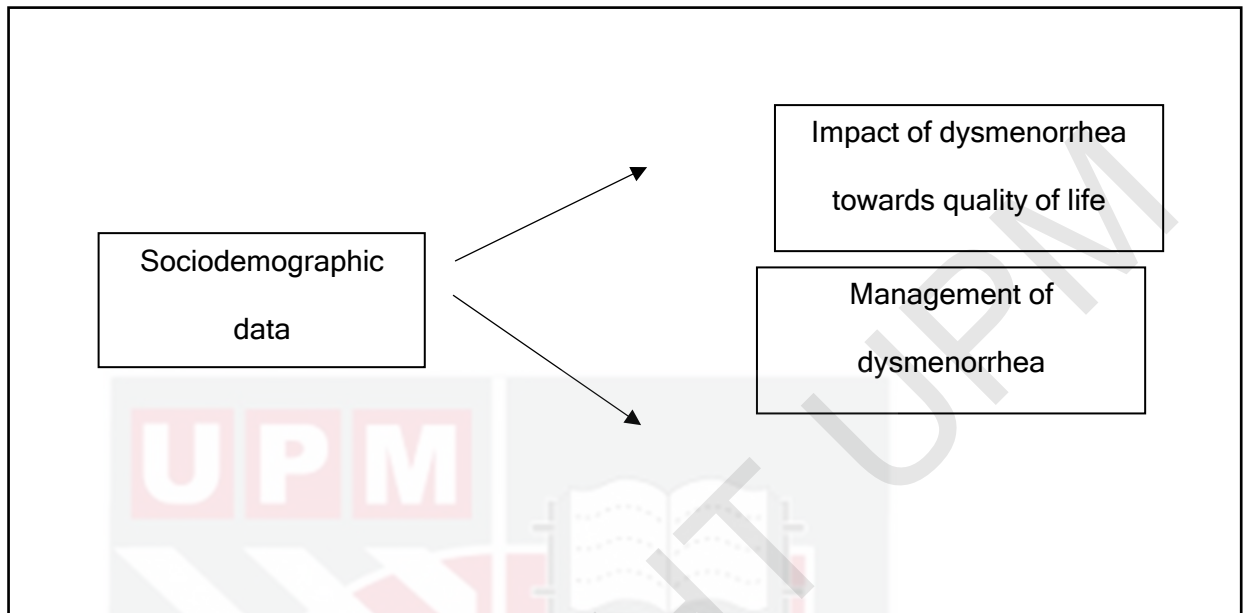


Figure 1 Conceptual framework of Impact of Dysmenorrhea towards Quality of Life and its Management

Sociodemographic data including age, menstrual regularity, duration of menstrual flow, age of menarche, frequency of menstrual cycle as well as family history of dysmenorrhea are the independent variables whereas the impact of dysmenorrhea towards quality of life and its management are the dependent variables.

This study being conducted to investigate whether sociodemographic data influencing the impact of dysmenorrhea towards quality of life as well as its management.

1.7 Summary

In the nutshell, this chapter discussed the background and problem statement of the study. Moreover, the research objectives and hypothesis have been stated in this chapter. The conceptual framework of the study also has been explained. Further information regarding this study will be discussed in the next chapter.



CHAPTER 2

LITERATURE REVIEW

Dysmenorrhea or period pain is defined as the feeling of ache or cramp in the lower part of the abdomen several days prior or during the menstruation (Azagew et al., 2020). Fernández-Martínez et al. (2019) mentioned that symptoms of dysmenorrhea include the feeling of pain in the lower abdominal part which may, at times spread to other parts of the body in which they are, more often than not complemented by other features such as fatigue, vomiting and diarrhea, headache and emotional disturbances. These symptoms commonly occur and last within the first two days of the menstruation. Women may experience either mild, moderate or severe case of dysmenorrhea varying on the level of pain that they are feeling (Abd El-Mawgod et al., 2016). According to Orhan et al. (2018), it is reported that the prevalence of dysmenorrhea among university students was extending from 55% to 88%.

As stated by Azagew et al. (2020), the prevalence of dysmenorrhea was reported to be over 60%. Symptoms that are commonly experienced by the students include cramping of the lower abdominal (50.7%), pain in the back (25.5%), headache (16.8%) and lethargy (6.7%). Omidvar et al. (2015) revealed that the prevalence of dysmenorrhea was different for different population for which including India, Ethiopia, Malaysia and Jordan were 70.2%, 80%, 70%, 6.8% and 55.8% respectively. Ameade et al. (2018) reported that the prevalence of dysmenorrhea among university students in Northern Ghana was 83.6% which is considered as quite high whereas in United State of America and Italy were 85.0% and 84.1% respectively.

Dysmenorrheic pain can be considerably disabling, and is associated with a restriction of physical and daily activities. This is because the feeling of pain and discomfort that female students experiencing during their menstruation can cause them to withdraw themselves from doing any activities depending on the severity of the pain. Azagew et al. (2020) reported that, among the female students in Northwest Ethiopia, 65% of them were unable to be present during classes, 20% having disruption in doing activity daily living (ADL) and 15% of them experienced the feeling of uneasiness. Another study among female university students was conducted in Ethiopia revealed that 56.3% of the respondents were occasionally absent to lectures during the first few days of menstruation (Assefa et al., 2016). Similarly, Ortiz (2010) stated that dysmenorrhea had caused female students from a Mexican university to miss classes quite often. Furthermore, it is reported that 61.2%, which was more than half of the respondents, of university students of Northern Ghana were struggling to perform their ADL and 70.7% of them were unable to attend lectures as usual due to menstrual pain (Ameade et al., 2018). Also, symptoms of dysmenorrhea can cause unfavourable effects on several aspects related to physical, psychosocial and mental health as it will prompt the obstacles in engaging in daily and social activities as well as minimizing their overall comfort and quality of life (Parker et al., 2010; Cheng & Lin, 2011; Grandi et al., 2012; Seven et al., 2013; Aktas, 2015). Again, it is possible to see that Potur et al. (2014) agrees with the other mentioned authors as they also pointed out that female university students in Turkey who experienced dysmenorrhea were failing to take part in lectures as well as having and doing ADL normally. Throughout the literature, there is consistent evidence that

dysmenorrhea not only causing the feeling of pain in the lower abdomen and discomfort to those who experienced it, but also be the cause of female students to be absent to lectures as well as having limitations in performing ADL normally. Furthermore, undoubtedly, experiencing moderate to severe menstrual cramps cause the students to not to participate in any sports or outdoor activities (Potur et al., 2014; Rani et al., 2016; Orhan et al., 2018). Indeed, these will not only affect the students' academic performance negatively but also their ability to socialize during their menstruation which subsequently lead to decreasing quality of life which include the state of physical, mental and social well-being. However, a number of female university students who experienced painful menstruation tend to control the symptoms by self-medicating and doing some other non-pharmacological method. Obviously, by doing this they might be able to attend classes and implement the ADL as usual. Thus, it is fitting to conduct another study regarding the impact of dysmenorrhea towards quality of life among female university students.

According to Abubakar et al. (2020), women who experienced dysmenorrhea tend to choose to self-medicate by taking analgesics and implementing complementary and alternatives therapies (CATs) instead of seeking proper treatment from the health care providers. They also added that 70.3% of undergraduate pharmacy students in Malaysia used to use CATs to overcome the painful menstruation whereas another 54.4% of the respondents were using them in the present time. The most frequent CATs of choices include getting enough rest (71.5%), using either hot compress or heating pad

(47.5%) and massage (43%). In contrast, 10.1% of the students preferred using natural herbs the rest 9.5% of them doing physical but relaxing exercises. Over 79% of the respondents from the female university students in Turkey resorted to consuming analgesics to lessen the pain they were feeling during menstruation. Similarly, these authors mentioned that the students favoured the non-pharmacological methods such as the usage of heating pad, bathing with either hot or warm water and bed rest to relieve the pain during menstruation (Potur et al., 2014; Sanctis et al., 2016). Ameade et al. (2018), agrees that students preferred to get proper bed rest as one of the methods to diminish the pain. In addition, Ghaderi et al. (2016) also acknowledged that female university students applied pharmacological method such as consuming non-steroidal anti-inflammatory drugs (NSAIDs) and analgesics. Indeed, there are students who preferred the non-pharmacological approaches. For example, putting hot pack onto the painful area especially in the lower abdomen and ingesting natural herbs. Moreover, there are women who believe that engaging themselves in physical activities will aid to elevate the feeling of pain. Obviously, this is depending on the level of pain they are experiencing (Fernandez-Martinez et al., 2019). Throughout the literature, there is consistent evidence that female students who experienced painful episodes during menstruation tend to choose both pharmacological and non-pharmacological approaches to relieve the pain and increase the level of comfort. However, consuming self-purchasing medications can be quite dangerous to some because they may not have proper knowledge about the medications which include the adverse effects if taking them for long term treatment and the correct dosage (Ruiz, 2010). Besides, these medications

might be not as effective to some women who experienced dysmenorrhea (Abubakar et al., 2020). Furthermore, non-pharmacological approaches are not as fully effective. Overall, not all pharmacological and non-pharmacological methods can be considered the proper management for dysmenorrheic pain.

Previous studies showed that increased intensity of dysmenorrhea is age-related. As age increases, its intensity will be decreasing (Juang et al., 2006; Lindh, Ellstrom, & Milsom, 2012; Okoro, Malgwi, & Okoro, 2013; Tavallaee et al., 2011; Habibi et al., 2015). Women who experienced menarche at earlier age, smoked, having prominent body mass index (BMI), having heavier and longer menstrual flow as well as having family members with history of dysmenorrhea tend to suffer increased severity of dysmenorrhea (Ju et al., 2013; Abdel-Salem et al., 2018). According to Azagew et al. (2020), women who experienced irregular monthly menstruation and a positive family history of dysmenorrhea were significantly associated with primary dysmenorrhea. This may be associated with two possibilities which the first one, according to Ozerdogan et al, (2009); Habibi et al., (2015), is related to the behaviour of the patients as they are behaving after their mothers and sisters and the other one, according to Habibi et al., (2015), is genetically related. Previous studies showed that heavy menstrual bleeding is associated with the intensity of the menstrual pain (Zhou & Yang, 2010; Habibi et al., 2015). Throughout the literature, there is a consistent evident that younger women, experiencing heavy menstrual bleeding and those who have family members especially if they are first degree relatives such as mothers and sisters that suffering from dysmenorrhea tend to undergo the same

condition as well. However, the severity of the period pain differed. These differences in the degree of pain severity may be related to cultural differences in pain perception and variability in pain threshold. Those who suffered great intensity of menstruation pain tend to have decreased overall level of comfort as well as unsatisfactory quality of life.

The reason women who suffered from dysmenorrhea tend to not seek medical treatment may be due to cultural beliefs where menstrual period is perceived as a condition that is to be kept personal and not to consult others about any arose complications. This may suggest that culture may influence the experience and interpretation of symptoms such as pain and the way in which they are treated (Lovering, 2006; Aziato & Adejumo, 2014; Farotimi et al., 2015). For instance, according to a study conducted by Wijesiri & Suresh (2013), 70% of the participants refuse to seek treatment from professionals because they felt that consulting other people regarding their menstruation is embarrassing. Women with both medical and non-medical backgrounds that seek advices regarding their menstruation from family members and friends tend to endure the feeling of pain and discomfort during menstruation instead of seeking proper treatment from health care providers (Armour et al., 2019).

To conclude, studies regarding the impact and management of dysmenorrhea are still lacking especially in Malaysia despite the prevalence of dysmenorrhea among female university students is quite high.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter described the design of the study methods that were utilized for the study, including study location, sampling frame, sample size, sampling method, respondent criteria, instrument, variability and reliability, data collection procedure and data analysis. Ethical consideration measure is taken to protect the confidentiality and privacy of the respondent who participated in the study. The flow of this study will be shown in Figure 3.

3.1 Study design

A cross-sectional method was used in this study to determine the impact of dysmenorrhea towards quality of life and its management of dysmenorrhea among undergraduate female students in Universiti Putra Malaysia. This study design allowed the researcher to collect all data of the selected population at once to study the variables of interest. In addition, a cross-sectional method was chosen because it can be conducted at a reasonable cost, requires less time and the researchers only has limited time and budget to complete the study (Wang & Cheng, 2020). This method did not require follow-ups therefore less resources are needed in order to conduct the study. Also, this method was chosen because the researchers have limited resources to carry through the study. Moreover, rare ethical issue will arise as the participants are neither be treated nor exposed.

3.2 Study location

This study was conducted at Universiti Putra Malaysia, Serdang which comprises of 15 faculties and 84 bachelor programmes. For this study, undergraduate female students varying the faculties, courses and year of study were involved. The estimation of duration for data collection was three months, March 2021 to May 2021.

3.3 Study population

The target population for this study was full time undergraduate female students from selected faculties in Universiti Putra Malaysia regardless their courses, year of study, ethnicity and nationality. The faculties include Faculty of Forestry and Environment Studies, Faculty of Modern Languages and Communication, Faculty of Medicine and Health Science, Faculty of Educational Studies and Faculty of Science.

3.4 Subject criteria

3.4.1 Inclusion criteria

- Undergraduate female students
- Malaysian and international students
- Aged 19 until 30
- Having experienced dysmenorrhea

3.4.2 Exclusion criteria

- Part time students

3.5 Sample size estimation

The sample size was calculated by using Raosoft sample size calculator. The calculator is able to calculate the sample size according to the estimated number of populations. After the calculation, the minimum number of respondents needed in this study is 306.

The formula used for the sample size calculation is derived as below:

Formula sample size:

$$n = N x / (N - 1) E^2 + x)$$

Where:

n = Required sample size

x = Z value (for 95% confidence level)

N = Population size by estimation (1500 persons)

E = Degree of accuracy (5%), expressed as a portion (0.05); It is a margin error.

The calculation for the sample size was shown as below:

$$n = (1500) (0.95) / [(1500 - 1) 0.05^2 + 0.95]$$

n = 306 number of respondents

Therefore, the minimum number of participants needed in this study is 306. However, 10% of the samples will be included in the sample size to reduce missing data and potential error rate or bias. Hence, the samples needed are up to 337.

3.6 Sampling method and subject requirement

The sampling method of selecting participants for this study was multi-stage. Firstly, the researchers used probability simple random sampling method to select the faculties that will be included in the study. This was done by doing coin tossing thus each faculty has 50% of probability to be chosen. All sixteen faculties were listed on sixteen separate papers. Then, the researcher picked one paper and toss the coin. When the coin shows head, the faculty stated on the said paper was included in the study and vice versa. The same step was repeated for another 16 times. The selecting process was witnessed by two witnesses. Five faculties were included in the study. They are Faculty of Forestry and Environment Studies, Faculty of Modern Languages and Communication, Faculty of Medicine and Health Science, Faculty of Educational Studies and Faculty of Science.

The researchers used sampling method specifically non-probability convenience sampling. We chose to use this method because the samples from the population that is available within the research period is selected due to its convenience. The researchers blasted the questionnaire via students' phone numbers and email addresses. The sample collection process was continued until the required sample size is obtained. The students from all selected faculties will participate in this study depending on their availability and accessibility. In addition, non-probability convenience sampling is time effective and economical thus the researchers do not have to spend a lot of time and money to procure the data. However, this method sometimes

produces biased result. This is because the samples collected are not truly reflected the target population as they poorly represent the target population. Multiple samples from the same faculty are needed to produce more reliable results.

3.7 Research instruments

A self-administered questionnaire was used in this study. The questionnaire was adopted and adapted from two articles. The questionnaire consisted of three sections. The first section is the section of socio-demographic characteristics and menstruation history which include age, nationality, ethnicity, faculty, course, year of study, having experienced dysmenorrhea, body mass index (BMI), smoking status, menstrual regularity, duration of menstrual flow, age of menarche, frequency of menstrual cycle and family history of dysmenorrhea.

The second section was impact of dysmenorrhea towards quality of life which it was adopted and adapted from an article titled "Reduced quality of life when experiencing menstrual pain in women with primary dysmenorrhea" by corresponding author Stella Iacovides which the researchers were granted permission to use it. The questionnaire included 13 items evaluating overall enjoyment and satisfaction regarding: physical health, mood, work, household and leisure activities, family and social relationships, ability to function in daily life, ability to present to class, ability to get around physically, ability to do work or hobbies and overall sense of being.

The third section was management of dysmenorrhea which it was adopted and adapted from an article titled “Prevalence of dysmenorrhea among university students in Northern Ghana; its impact and management strategies” by corresponding author Evans Paul Kwame Ameade. The authors granted the permission for the researchers to use the questionnaire.

3.7.1 Pre test

No pre-test was carried out following ethical approval from Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia-Universiti Putra Malaysia (JKEUPM) in Universiti Putra Malaysia.

3.7.2 Validity and reliability

The questionnaires that is used in this study was adapted from two articles where the researchers were granted written permission by the authors to use them. However, the validity score and reliability score are not stated.

3.7.3 Scoring method

The questions for assessing the quality of life of enjoyment and satisfaction were scored on a five-point Likert scale, with 5, 4, 3, 2 and 1 indicating strongly disagree, disagree, undecided, agree and strongly agree respectively. Higher scores indicate better enjoyment and satisfaction with life with possible range of raw total score is 14-70.

3.8 Data collection

Online platforms and social media such as Whatsapp and Google Mail (Gmail) were used for data collection as they are easily accessible by the students as well as the researchers. Self-administered questionnaire was made into online format by using Google form to be answered by undergraduate students from all the selected faculties.

The researchers stated the purposes of this study to the participants. Also, their privacy and confidentiality were ensured. Participant Information Sheet was added to the first page of questionnaire to confirm that the participants have read and understand all the terms allocated.

3.9 Study flowchart

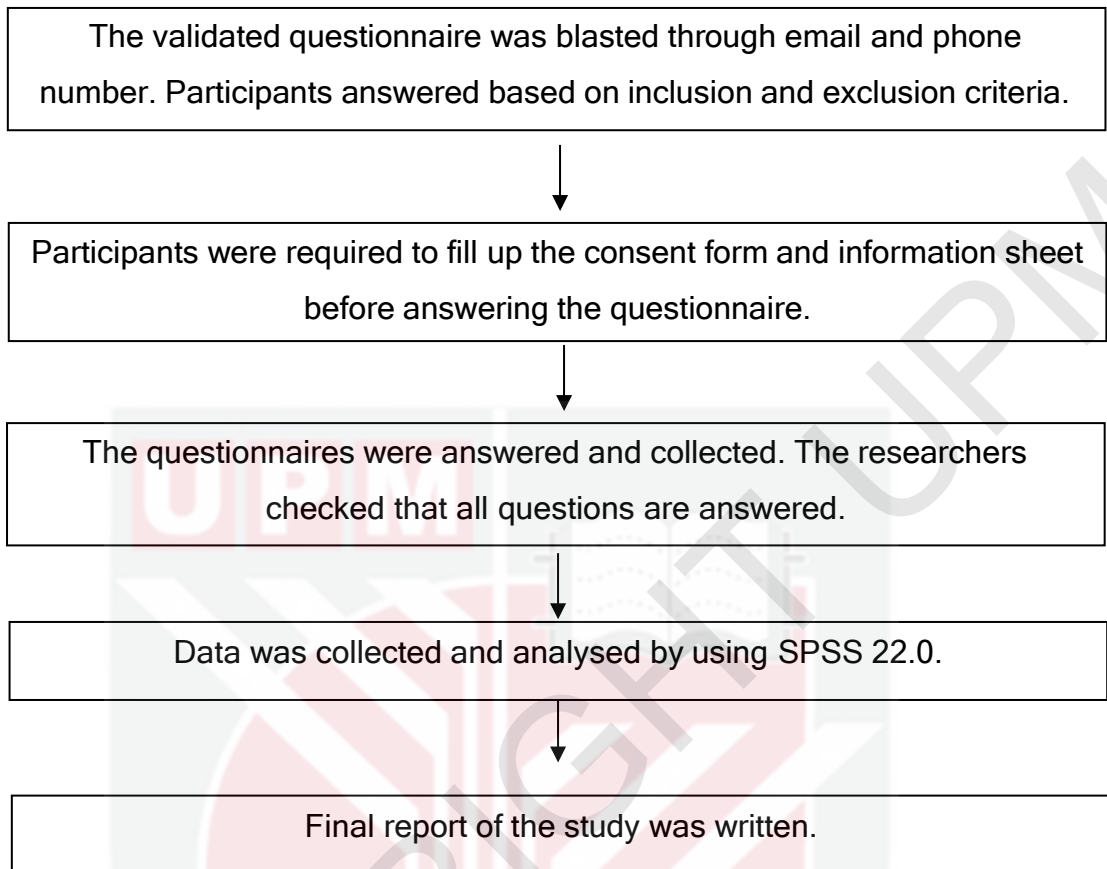


Figure 2 Study flowchart of impact of dysmenorrhea towards quality of life and its management among undergraduate students in Universiti Putra Malaysia

3.10 Data analysis

Objectives	Variables	Types of variables	Statistical measurements
DESCRIPTIVE DATA			
To determine the socio-demographic characteristics of the respondents.	Age	Categorical	Descriptive statistic (Mean for continuous and percentage for categorical)
	Nationality	Categorical	
	Ethnicity	Categorical	
	Faculty	Categorical	
	Course	Categorical	
	Year of study	Categorical	
	Experience of dysmenorrhea	Categorical	
	Body mass index	Categorical	
	Cigarette smoking	Categorical	
	Menstrual regularity	Categorical	
	Duration of menstrual flow	Categorical	
	Age during first menstrual cycle	Continuous	

	Frequency of menstrual cycle	Categorical	
	Family history of dysmenorrhea	Categorical	
To determine the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia.	Impact of dysmenorrhea towards quality of life	Continuous	Mean
To determine the management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia.	Management of dysmenorrhea	Continuous	Mean
INFERENTIAL DATA			
	Age	Categorical	

To investigate the relationship between socio-demographic characteristics and the impact of dysmenorrhea towards quality of life among undergraduate students in Universiti Putra Malaysia.	Nationality	Categorical	Multiple Regression/ANCOVA
	Ethnicity	Categorical	
	Experience of dysmenorrhea	Categorical	
	Body mass index	Categorical	
	Cigarette smoking	Categorical	
	Menstrual regularity	Categorical	
	Duration of menstrual flow	Categorical	
	Age during first menstrual cycle	Continuous	
	Frequency of menstrual cycle	Categorical	
Family history of dysmenorrhea	Categorical		
To investigate the relationship between socio-demographic characteristics and the	Age	Categorical	Multiple Regression/ANCOVA
	Nationality	Categorical	
	Ethnicity	Categorical	
	Experience of dysmenorrhea	Categorical	

management of dysmenorrhea among undergraduate students in Universiti Putra Malaysia.	Body mass index	Categorical
	Cigarette smoking	Categorical
	Menstrual regularity	Categorical
	Duration of menstrual flow	Categorical
	Age during first menstrual cycle	Continuous
	Frequency of menstrual cycle	Categorical
	Family history of dysmenorrhea	Categorical

3.11 Ethical consideration

Written approval and permission were obtained from *Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia*- Universiti Putra Malaysia (JKEUPM).

All the participants were provided with a participant information sheet about their willingness to join the study. When they agree to consent, they were directed to the questionnaire and given 10 to 15 minutes to answer them. Participants were free to ask any clarification about the study since the contact information of the researchers were provided.

If the participant wants to withdraw from the study, it was allowable, and any uncomplete questionnaire were included in data collection. Inform consent

were compulsory to be taken from the participants. The participants were clearly understood the study before giving their consent.

Participants' confidential information will be kept and cannot be traceable by other individual and be kept secured in a place which can only be accessed by the researchers. The downloaded data were kept in a password protected computer, thumb-drive and cloud account and it will be for five years and will be permanently destroyed.



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CHAPTER 4

RESULTS

4.0 Introduction

The study was carried out at several faculties in Universiti Putra Malaysia. The results of this study were based on the data collection via questionnaire which include three sections (Section A, Section B and Section C). Section A was about respondent's socio-demographic characteristics. Section B was about impact of dysmenorrhea towards quality of life whereas Section C was about its management. In this chapter, the descriptive of Section A, Section B and Section C were carried out in table form. Lastly, the relationship between sociodemographic data and the impact of dysmenorrhea towards quality of life as well as the management of dysmenorrhea among undergraduate students in a public university were determined and discussed.

4.1 Response rate

A total of 173 individuals responded to the online survey. Initially, three hundred and thirty-seven respondents were the required sample size, but only 51.3% of the response rate were obtained.

4.2 Socio-demographic Characteristics of the Respondents

The total number of respondent of this study was 173. The mean age of the respondents was 1.98 SD± 0.31 years old. All the respondents were Malaysian. Most of the respondents were Malay (63%, n= 109) and the lowest

number of participants were Others (1.2%, n= 2). Out of 173 respondents, all of them have experienced dysmenorrhea. In addition, 10.4% (n = 18) of the respondents' BMI was less than 18 kg/m², 78% (n = 135) of the respondents' BMI was 18.5-24.9 kg/m². None of the respondents was a cigarette smoker. Besides, 67.6% (n= 117) of the respondents were having irregular menstrual cycle contrary to another 32.4% (n= 56) of the respondents who were experiencing regular menstrual cycle. 52% (n= 90) of the respondents experienced more than seven days of menstrual flow whereas 48% (n= 83) of the girls experienced less than seven days of menstrual flow. In addition to this, the mean age of menarche of the girls was 12.53 SD± 1.27 years old. 49.1% (n= 85) of the respondents experienced 24 to 35 days of menstrual cycle whereas 13.9% (n= 24) of the girls experienced less than 21 days of menstrual cycle. 76.9% (n= 133) of the respondents have family history of dysmenorrhea while 23.1% (n= 40) of them have no family history of dysmenorrhea. Details of the data as described in Table 1.1.

Table 1.1 Descriptive analysis of respondents' demographic background (N= 173)

Variable		M	SD	f	%
Age	19-21	1.98	.314	10	5.8
	22-24			156	90.2
	25-27			7	4.0
Nationality	Malaysian	-	-	173	100.0
	Others				
Ethnicity	Malay	1.56	.802	109	63.0
	Chinese			34	19.7
	Indian			28	16.2
	Others			2	1.2
BMI (kg/m ²)	<18.5	2.01	.470	18	10.4
	18.5-24.9			135	78.0
	30 or more			20	11.6
Cigarette smoking	Yes	.00	.00	-	-
	No			173	100.0
Menstrual cycle	Regular	.32	.469	56	32.4
	Irregular			117	67.6
Duration of menstrual flow	<7 days	.48	.501	83	48.0
	>7days			90	52
Age of menarche	-	12.53	1.265	-	-
Frequency of menstrual cycle	<21 days	2.23	.677	24	13.9
	24-35 days			85	49.1
	>35 days			64	7.0
Family history of dysmenorrhea	Yes	.77	.423	133	76.9
	No			40	23.1
Grand Total				173	100.0

4.3 Impact of Dysmenorrhea towards Quality of Life

The mean score for impact of dysmenorrhea towards quality of life was 34.49 SD± 7.45. Based on the analysis done, majority of the participants in which 58.4% (n= 101) had chosen 'Agree' whereas 6.9% (n= 12) had chosen 'Strongly Agree' regarding satisfaction of physical health. Furthermore, 67.6%

(n= 117) of the female students had chosen 'Disagree' whereas only 1.7% (n= 3) had chosen 'Strongly agree' for having satisfying mood during painful menstrual episodes. 50.9% (n= 88) had chosen 'Agree' for having satisfying performance at work when experiencing dysmenorrhea whereas only 1.7% (n= 3) had chosen 'Strongly Agree' for the same question. 57.2% (n= 99) of the participants had chosen 'Disagree' for question regarding satisfaction in performing household works and activities whereas only 2.9% (n= 5) had chosen 'Strongly agree'. 69.4% (n= 120) of the girls had chosen 'Disagree' for having satisfying social relationships during painful menstrual episodes whereas only 1.7% (n= 3) had chosen 'Strongly Agree'. Next, 56.1% (n= 97) had chosen 'Agree' in contrast to the 2.9% (n= 5) of the participants who had chosen 'Strongly Disagree' for being satisfied with the relationship that they had with their family members when experiencing dysmenorrhea. Apart from this, 56.1% (n= 97) and 2.3% (n= 4) had chosen 'Disagree' and 'Strongly Agree' for having the ability to perform ADL satisfyingly respectively. 58.4% (n= 101) of the respondents had chosen 'Disagree' for having the ability present to class whereas only 2.9% (n= 5) answered 'Strongly Disagree' for the same question. Moreover, 48.6% (n= 84) of the undergraduate female students had chosen 'Disagree' for being satisfied with their overall sense of well-being during painful menstrual episodes whereas 2.9% (n= 5) had chosen 'Strongly Agree'. Last but not least, 49.7% (n= 86) of the participants had chosen 'Disagree' for being satisfied with their overall life satisfaction and contentment when experiencing dysmenorrhea whereas 2.9% (n= 5) had chosen 'Strongly Disagree'. Details of the data as described in Table 1.2

Table 1.2 Descriptive analysis of impact of dysmenorrhea towards quality of life (N = 173)

Questions	n (%)				
	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
1. I am satisfied with my physical health during the painful menstrual period episodes.	0 (0)	22 (12.7)	38 (22.0)	101 (58.4)	12 (6.9)
2. I am in a satisfying mood during the painful menstrual period episodes.	19 (11.0)	117 (67.6)	17 (9.8)	17 (9.8)	3 (1.7)
3. I am satisfied with my performance at work during the painful menstrual period episodes.	10 (5.8)	33 (19.1)	39 (22.5)	88 (50.9)	3 (1.7)
4. I can perform household activities satisfyingly during the painful menstrual period episodes.	6 (3.5)	99 (57.2)	30 (17.3)	33 (19.1)	5 (2.9)
5. I am satisfied with my social relationships during the painful menstrual period episodes.	8 (4.6)	120 (69.4)	16 (9.2)	26 (15.0)	3 (1.7)
6. I have satisfying relationship with my family during the painful menstrual period episodes.	5 (2.9)	21 (12.1)	36 (20.8)	97 (56.1)	14 (8.1)
7. I am satisfied with doing activities in my leisure time during the painful	8 (4.6)	89 (51.4)	42 (24.3)	31 (17.9)	3 (1.7)

	menstrual period episodes.					
8.	I am satisfied with the ability to function in daily life during the painful menstrual period episodes.	9 (5.2)	97 (56.1)	37 (21.4)	26 (15.0)	4 (2.3)
9.	I am satisfied with the ability to be present to class during the painful menstrual period episodes.	5 (2.9)	101 (58.4)	39 (22.5)	23 (13.3)	5 (2.9)
10.	I am satisfied with the ability to get around physically without feeling dizzy or unsteady or falling during the painful menstrual period episodes.	7 (4.0)	27 (15.6)	28 (16.2)	102 (59.0)	9 (5.2)
11.	I am satisfied with the vision in terms of ability to do work or hobbies during the painful menstrual period episodes.	4 (2.3)	88 (50.9)	42 (24.3)	32 (18.5)	7 (4.0)
12.	I am satisfied with my overall sense of well-being during the painful menstrual period episodes.	6 (3.5)	84 (48.6)	41 (23.7)	37 (21.4)	5 (2.9)
13.	I am satisfied with the overall life satisfaction and contentment during the painful menstrual period episodes.	5 (2.9)	86 (49.7)	43 (24.9)	34 (19.7)	5 (2.9)

4.4 Management of Dysmenorrhea

The mean score for management of dysmenorrhea was 18.45 SD± 2.99. Based on the analysis done, 87.3% (n= 151) had chosen 'Others' as method of pain management. 'Others' were reported to represent pharmacological method as almost all of them had chosen 'Took medications' and 'Take medicine' for managing dysmenorrheic pain. Taking bed rest, 5.8% (n= 10) was the most chosen method in terms of non-pharmacological mean to relieve the pain. It was stated that most of the respondents preferred consuming medication to relieve the pain. However, the medications were unlikely to be prescribed by the doctor as 92.5% (n= 160) of the female students 'No' for question regarding whether the medications they took were prescribed by doctors. 61.8% (n= 107) of the participants preferred to get their pain reliever at pharmacy and 'Paracetamol' had been the most chosen type of medication used as 80.3% (n= 139) agreed. 59% (n= 102) of the female students had chosen 'Agree' that the type of medication they took helped in relieving their dysmenorrheic pain. Details of the data as described in Table 1.3.

Table 1.3 Descriptive analysis of management of dysmenorrhea (N = 173)

Questions		M	SD	f	%
How did you manage your menstrual pain? (Last three months)	Did nothing	7.35	1.82	4	2.3
	Took a bed rest			10	5.8
	Took herbal preparations			2	1.2
	Took orthodox medications			4	2.3
	Consulted a physician			2	1.2
	Use a heat pad			0	0
	Exercised			0	0
	Others			151	87.3
If you use medications, were they prescribed by a Doctor?	Yes	1.92	.264	13	7.5
	No			160	92.5
If you did self-medication, where did you get the drugs from?	Pharmacy	4.01	1.36	107	61.8
	Chemical sellers shop			1	.6
	Market			37	21.4
	Friends and relatives			16	9.2
	Others			12	6.9
What are the medications did you take to ease the pain during menstruation?	Mefanemic acid	3.07	.846	17	9.8
	Ibuprofen			4	2.3
	Naproxen			0	0
	Paracetamol			139	80.3
	Others			13	7.5
These medications always relieve me from the menstrual pains	Strongly agree	4.02	.703	39	22.5
	Agree			102	59.0
	Uncertain			29	16.8
	Disagree			2	1.2
	Strongly disagree			1	.6

4.5 Relationship between Socio-demographic Characteristics and the Impact of Dysmenorrhea towards Quality of Life among Undergraduate Students in Universiti Putra Malaysia

A multiple linear regression analysis was computed to predict impact of dysmenorrhea based on; menstrual regularity, duration of menstrual flow, age during first menstrual cycle, and family history of dysmenorrhea. From Table 1.4, the results revealed that the four predictors explained 13.8% of the variance, and that the model was a significant predictor of impact of dysmenorrhea; $R^2 = .138$, $F(4, 168) = 6.709$, $p < .001$. Based on Table 1.5, family history of dysmenorrhea ($B = -5.426$, $p < .001$) was a significant predictor of impact of dysmenorrhea.

Family history of dysmenorrhea was coded as 0 = No and 1 = Yes. Those with family history of dysmenorrhea scored 5.426 units lower than those with no history in term of impact of dysmenorrhea towards quality of life enjoyment and satisfaction significantly. These finding indicated that respondents who had no family history of dysmenorrhea would have higher quality level of life enjoyment and satisfaction. However, age during first menstrual cycle, menstrual regularity and duration of menstrual flow did not significantly predict impact of dysmenorrhea.

Table 1.4 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	1314.16	4	328.54	6.709	.000	.138
Residual	8227.08	168	48.97			
Total	9541.237	172				

Table 1.5 Regression coefficients

Predictor	B	SE	Beta	t	p
Constant	30.332	6.187		4.903	.000
Family History of Dysmenorrhea	-5.426	1.299	-.308	-4.178	.000
Age First Cycle	.605	.452	.103	1.338	.183
Duration of Menstrual Flow	1.766	1.079	.119	1.636	.104
Menstrual Regularity	-.292	1.209	-.018	-.241	.810

4.5.1 Age

A multiple linear regression analysis was computed to predict impact of dysmenorrhea based on age. The conditions were comprised of 19 to 21 years, 22 to 24 years, and 25 to 27 years. From Table 1.6, a significant regression equation was found; $F(2, 170) = 3.122$, $p = .047$ with R^2 of .035, indicating that age was a significant predictor of impact of dysmenorrhea. Based on Table 1.7, age 19 to 21 group significantly scored 5.149 units lower than age 22 to 24 group ($B = -5.149$, $p = .033$). These finding indicated that respondents who were in the age between 22 to 24 years would have higher quality level of life enjoyment and satisfaction compared to those between the age of 19 to 21 years.

Table 1.6 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	338.05	2	169.02	3.122	.047	.035
Residual	9203.19	170	54.14			
Total	9541.24	172				

Table 1.7 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
19 - 21 years	Constant	29.800	2.327		12.808	.000
	22 - 24 years	5.149	2.400	.206	2.145	.033
	25 - 27 years	1.200	3.626	.032	.331	.741
22 - 24 years	Constant	34.949	.589		59.327	.000
	19 - 21 years	-5.149	2.400	-.162	-2.145	.033
	25 - 27 years	-3.949	2.843	-.105	-1.389	.167
25 - 27 years	Constant	31.000	2.781		11.147	.000
	19 - 21 years	-1.200	3.626	-.038	-.331	.741
	22 - 24 years	3.949	2.843	.158	1.389	.167

4.5.2 Ethnicity

A multiple linear regression analysis was computed to predict impact of dysmenorrhea based on ethnic groups. The conditions were comprised of Malay, Chinese, Indian and Others. From Table 1.8, a non-significant regression equation was found; $F(3, 169) = 1.064$, $p = .366$ with an R^2 of .019. Ethnicity was not a significant predictor of impact of dysmenorrhea.

Table 1.8 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	176.86	3	58.95	1.064	.366	.019
Residual	9364.38	169	55.41			
Total	9541.24	172				

Table 1.9 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
Malay	Constant	34.312	.713		48.124	.000
	Chinese	1.482	1.462	.079	1.014	.312
	Indian	-.169	1.577	-.008	-.107	.915
	Others	-7.312	5.312	-.105	-1.377	.170
Chinese	Constant	35.794	1.277		28.039	.000
	Malay	-1.482	1.462	-.096	-1.014	.312
	Indian	-1.651	1.900	-.082	-.869	.386
	Others	-8.794	5.416	-.127	-1.624	.106
Indian	Constant	34.143	1.407		24.271	.000
	Malay	.169	1.577	.011	.107	.915
	Chinese	1.651	1.900	.088	.869	.386
	Others	-7.143	5.448	-.103	-1.311	.192
Others	Constant	27.000	5.264		5.130	.000
	Malay	7.312	5.312	.475	1.377	.170
	Chinese	8.794	5.416	.471	1.624	.106
	Indian	7.143	5.448	.354	1.311	.192

4.5.3 Body mass index

A multiple linear regression analysis was computed to predict impact of dysmenorrhea based on body mass index (BMI). The conditions were comprised of BMI lower than 18.5, BMI between 18.5 to 24.9, and BMI 30 or higher. From Table 1.10, a non-significant regression equation was found; $F(2,$

170) = .189, $p = .828$ with an R^2 of .002. BMI was not a significant predictor of impact of dysmenorrhea.

Table 1.10 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	21.14	2	10.57	.189	.828	.002
Residual	9520.10	170	56.00			
Total	9541.24	172				

Table 1.11 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
BMI < 18.5	Constant	35.500	1.764		20.127	.000
	BMI 18.5 - 24.9	-1.100	1.878	-.061	-.586	.559
	BMI 30 or more	-1.300	2.431	-.056	-.535	.594
BMI 18.5 - 24.9	Constant	34.400	.644		53.411	.000
	BMI < 18.5	1.100	1.878	.045	.586	.559
	BMI 30 or more	-.200	1.793	-.009	-.112	.911
BMI 30 or more	Constant	34.200	1.673		20.438	.000
	BMI < 18.5	1.300	2.431	.053	.535	.594
	BMI 18.5 - 24.9	.200	1.793	.011	.112	.911

4.5.4 Frequency of menstrual cycle

A multiple linear regression analysis was computed to predict impact of dysmenorrhea based on frequency of menstrual cycle. The conditions were comprised of less than 21 days, between 24 to 35 days, and more than 35 days. From Table 1.12, a non-significant regression equation was found; $F(2, 170) = .471$, $p = .625$ with an R^2 of .006. Frequency of menstrual cycle was not a significant predictor of impact of dysmenorrhea.

Table 1.12 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	52.61	2	26.30	.471	.625	.006
Residual	9488.63	170	55.82			
Total	9541.24	172				

Table 1.13 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
< 21 days	Constant	33.667	1.525		22.076	.000
	24 - 35 days	.545	1.727	.037	.316	.753
	> 35 days	1.505	1.788	.098	.842	.401
24 - 35 days	Constant	34.212	.810		42.219	.000
	< 21 days	-.545	1.727	-.025	-.316	.753
	> 35 days	.960	1.236	.062	.777	.439
> 35 days	Constant	35.172	.934		37.662	.000
	< 21 days	-1.505	1.788	-.070	-.842	.401
	24 - 35 days	-.960	1.236	-.065	-.777	.439

4.6 Relationship between Socio-demographic Characteristics and the Management of Dysmenorrhea among Undergraduate Students in Universiti Putra Malaysia

A multiple linear regression analysis was computed to predict management of dysmenorrhea based on; menstrual regularity, duration of menstrual flow, age during first menstrual cycle, and family history of dysmenorrhea. From Table 1.14, the results revealed that the four predictors explained 7.0% of the variance, and that the model was a significant predictor of management of dysmenorrhea; $R^2 = .070$, $F(4, 168) = 3.175$, $p = .015$.

Based on Table 1.15, menstrual regularity ($B = -1.143$, $p = .025$) was found to be a significant predictor of management of dysmenorrhea, which was coded as 0 = No and 1 = Yes. Those who were having regular menstrual cycle scored 1.143 units lower than those with irregular menstrual cycle, in term of management of dysmenorrhea. This finding indicated that respondents with regular menstrual cycle would have lower level of pain management as compared to their counterparts. However, duration of menstrual flow, age during first menstrual cycle, and family history of dysmenorrhea did not significantly predict management of dysmenorrhea.

Table 1.14 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	108.71	4	27.18	3.175	.015	.070
Residual	1438.12	168	8.56			
Total	1546.83	172				

Table 1.15 Regression coefficients

Predictor	B	SE	Beta	t	p
Constant	14.551	2.587		5.626	.000
Family History of Dysmenorrhea	.779	.543	.110	1.435	.153
Age First Cycle	.286	.189	.121	1.514	.132
Duration of Menstrual Flow	.174	.451	.029	.387	.700
Menstrual Regularity	-1.143	.506	-.179	-2.260	.025

4.6.1 Age

A multiple linear regression analysis was computed to predict management of dysmenorrhea based on age. The conditions were comprised of 19 to 21 years, 22 to 24 years, and 25 to 27 years. From Table 1.16, a non-significant regression equation was found; $F(2, 170) = 1.543$, $p = .217$ with an R^2 of .018. Age was not a significant predictor of management of dysmenorrhea.

Table 1.16 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	27.58	2	13.79	1.543	.217	.018
Residual	1519.25	170	8.94			
Total	1546.83	172				

Table 1.17 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
19 - 21 years	Constant	17.800	.945		18.829	.000
	22 - 24 years	.771	.975	.077	.790	.431
	25 - 27 years	-1.086	1.473	-.072	-.737	.462
22 - 24 years	Constant	18.571	.239		77.588	.000
	19 - 21 years	-.771	.975	-.060	-.790	.431
	25 - 27 years	-1.856	1.155	-.122	-1.607	.110
25 - 27 years	Constant	16.714	1.130		14.793	.000
	19 - 21 years	1.086	1.473	.085	.737	.462
	22 - 24 years	1.856	1.155	.185	1.607	.110

4.6.2 Ethnicity

A multiple linear regression analysis was computed to predict management of dysmenorrhea based on ethnic groups. The conditions were comprised of Malay, Chinese, Indian and Others. From Table 1.18, a non-significant regression equation was found; $F(3, 169) = 1.250$, $p = .293$ with an R^2 of .022. Ethnicity was not a significant predictor of management of dysmenorrhea.

Table 1.18 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	33.58	3	11.19	1.250	.293	.022
Residual	1513.25	169	8.95			
Total	1546.83	172				

Table 1.19 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
Malay	Constant	18.174	.287		63.410	.000
	Chinese	.385	.588	.051	.654	.514
	Indian	1.219	.634	.150	1.922	.056
	Others	.326	2.135	.012	.153	.879
Chinese	Constant	18.559	.513		36.164	.000
	Malay	-.385	.588	-.062	-.654	.514
	Indian	.834	.764	.103	1.092	.276
	Others	-.059	2.177	-.002	-.027	.978
Indian	Constant	19.393	.566		34.293	.000
	Malay	-1.219	.634	-.197	-1.922	.056
	Chinese	-.834	.764	-.111	-1.092	.276
	Others	-.893	2.190	-.032	-.408	.684
Others	Constant	18.500	2.116		8.743	.000
	Malay	-.326	2.135	-.053	-.153	.879
	Chinese	.059	2.177	.008	.027	.978
	Indian	.893	2.190	.110	.408	.684

4.6.3 Body mass index

A multiple linear regression analysis was computed to predict management of dysmenorrhea based on body mass index (BMI). The conditions were comprised of BMI lower than 18.5, BMI between 18.5 to 24.9, and BMI 30 or higher. From Table 1.20, a significant regression equation was found; $F(2, 197) = 3.684$, $p = .027$ with R^2 of .036, indicating that BMI was a significant predictor of management of dysmenorrhea. Based on Table 1.21, BMI lower than 18.5 group significantly scored 2.589 units lower than BMI 30 or higher group ($B = -2.589$, $p = .008$). These findings indicated that respondents with BMI lower

than 18.5 would experience lower level of pain management compared to those with BMI of 30 or higher.

Table 1.20 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	63.52	2	31.76	3.640	.028	.041
Residual	1483.31	170	8.73			
Total	1546.83	172				

Table 1.21 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
BMI < 18.5	Constant	17.111	.696		24.577	.000
	BMI 18.5 - 24.9	1.333	.741	.185	1.799	.074
	BMI 30 or more	2.589	.960	.277	2.698	.008
BMI 18.5 - 24.9	Constant	18.444	.254		72.551	.000
	BMI < 18.5	-1.333	.741	-.136	-1.799	.074
	BMI 30 or more	1.256	.708	.134	1.774	.078
BMI 30 or more	Constant	19.700	.661		29.826	.000
	BMI < 18.5	-2.589	.960	-.264	-2.698	.008
	BMI 18.5 - 24.9	-1.256	.708	-.174	-1.774	.078

4.6.4 Frequency of menstrual cycle

A multiple linear regression analysis was computed to predict management of dysmenorrhea based on frequency of menstrual cycle. The conditions were comprised of less than 21 days, between 24 to 35 days, and more than 35 days. From Table 1.22, a non-significant regression equation was found; $F(2, 170) = 1.720$, $p = .182$ with an R^2 of .020. Frequency of menstrual cycle was not a significant predictor of management of dysmenorrhea.

Table 1.22 Summary table of ANOVA

Model	SS	df	MS	F	p	R ²
Regression	30.68	2	15.34	1.720	.182	.020
Residual	1516.16	170	8.92			
Total	1546.83	172				

Table 1.23 Regression coefficients

Reference Variable	Predictor	B	SE	Beta	t	p
< 21 days	Constant	18.167	.610		29.801	.000
	24 - 35 days	-.049	.690	-.008	-.071	.943
	> 35 days	.833	.715	.135	1.166	.245
24 - 35 days	Constant	18.118	.324		55.932	.000
	< 21 days	.049	.690	.006	.071	.943
	> 35 days	.882	.494	.142	1.785	.076
> 35 days	Constant	19.000	.373		50.897	.000
	< 21 days	-.833	.715	-.096	-1.166	.245
	24 - 35 days	-.882	.494	-.148	-1.785	.076

CHAPTER 5

DISCUSSION

5.0 Introduction

This chapter was presented to discuss the result of the study. The relationship of socio-demographic characteristics and impact of dysmenorrhea as well as its management among undergraduate female students in Universiti Putra Malaysia were discussed further in this study.

5.1 Socio-demographic Characteristics

In this study, the age of the respondents was ranged from 19 to 27 years old. Majority of the respondents came from 22 to 24 years old, followed by 19 to 21 years old and 25 to 27 years old. There had been no respondent from undergraduate students who were not Malaysian. In addition, there were differences in the terms of having experienced dysmenorrhea among the ethnic groups in the study with Malay and Indian girls had higher rates. These findings are in accordance to a study conducted by Wong & Khoo in 2010. It was also reported that majority of the females with normal body mass index have experienced painful menstrual period (n= 135) compared to those who are underweight (n= 18) and overweight (n= 20). However, according to Rafique & Al-Sheikh (2018), those with higher and lower body mass index have higher risk of experiencing dysmenorrhea. Ortiz et al. (2009), reported that dysmenorrhea is caused by the release of inflammatory factors during menstruation. Therefore, painful menstrual period corresponded with irregular cycles, decreased duration and early menarche. In the present study, the

findings were similar in which female students who experienced irregular menstrual cycles and decreased duration of menstrual flow are more likely to suffer from dysmenorrhea with 67.6% (n= 117) and 48% (n= 83) respectively. In addition, this finding was in accord with a previous study in which women with an irregular cycle increased the risk of dysmenorrhea by 54% (Hu et al., 2019). Next, in the present study it was reported that most of the respondents (49.1%, n= 85), with range of 24 to 35 days of frequency of menstrual period have experienced dysmenorrhea. Another 37% (n= 64) and 13.9% (n= 24) were having more than 35 days and less than 21 days of frequency of menstrual period respectively. However, according to the study conducted by Kiran et al. (2008), females that have lesser days of frequency of menstrual period are more likely to experienced dysmenorrhea. Moreover, 76.9% (n= 133) of the participants had positive familial correlation. Either mother or sibling had similar complaints. Corresponding conclusion could be drawn from a previous study by Kuraj et al. (2015). They also stated that females who experienced dysmenorrhea are more likely related to the behaviour that is learned from mother or first degree relative who have the same complaints.

5.2 Impact of Dysmenorrhea towards Quality of Life

According to Iacovides et al. (2013), dysmenorrheic pain is correlated with reduced quality of life (QoL) of women with dysmenorrhea, specifically during monthly menstrual period. In this study, around majority of the participants disagreed in terms of being satisfied regarding their overall sense of well-being when experiencing dysmenorrhea and only several of them felt otherwise. Vlachou et al., (2019) reported that female students with increased severity of

dysmenorrheic pain negatively affected attendance of classes, exercising and socializing as well as their overall sense of well-being. In addition to this, it can be said that it was because those who suffer from dysmenorrhea not only had complaints of abdominal pain but also breast tenderness, irritability, mood disturbances and fatigue (Joshi et al., 2014). This also were in accordance to the finding in the present study in which that 67.6% (n= 117) and 56.1% (n= 97) of the participants had chosen 'Disagree' for the questions regarding their satisfactions of their mood as well as abilities to perform ADL during painful menstrual period episodes respectively (Question 2 and Question 8). In addition, 58.4% (n= 101) of the female students had chosen 'Disagree' for the question relating to their satisfaction of the abilities to be present to class during painful menstrual period episodes. Azagew et al. (2020) reported that, among the female students in Northwest Ethiopia, 65% of them were unable to be present during classes. Another study among female university students was conducted in Ethiopia demonstrated that 56.3% of the respondents were occasionally absent to lectures during the first few days of menstruation (Assefa et al., 2016).

5.3 Management of Dysmenorrhea

Potur et al. (2014) mentioned that women tend to have different ways to manage dysmenorrheic pain depending on its severity. In this study, only 2.3% (n= 4) of the participants had chosen 'Did nothing' as a mean to manage dysmenorrheic pain. This might indicate that the severity of the pain that they felt was low. However, 87.3% (n= 151) of the participants had chosen 'Others' in which almost all of them wrote 'take medications' as their method of

managing dysmenorrhea. This might indicate that they experienced higher severity of pain as to resort to taking medications to relief the painful feelings. Pain, when it is not effectively treated and relieved, has a detrimental effect on all aspects of quality of life (Katz. 2002). In addition, 92.5% (n= 160) of the respondents had chosen to self-medicate instead of seeking medical treatment from health care provider. This was supported by Abubakar et al. (2020) who stated that women who experienced dysmenorrhea tend to choose to self-medicate by taking analgesics that they obtained from pharmacy or friends. Similar to this, 61.8% (n= 107) of the respondents had chosen to get their pain relief medications at the pharmacy, followed by 21.4% (n= 37) at market and 9.2% (n= 16) from friends and relatives. 80.3% (n= 139) of the participants had chosen 'Paracetamol' as their mean of medication to relief dysmenorrheic pain, followed by 'Mefenemic acid' with 9.8% (n= 17) users. Paracetamol was mostly chosen because it has lesser side effects and can be taken together with anti-inflammatory medications if the use of one type of medication does not reduce the pain (Yee, 2019). The analgesic action of paracetamol has been attributed to its inhibition of the cyclooxygenase (COX) pathway in the central nervous system, reducing the production of pain mediating prostaglandins, hence, relieving the pain (Abdel Shaeed et al., 2021). Over half of the participants, 59.0% (n =102) had chosen 'Agree' that the medications that they took played a role in relieving their painful feelings during menstruation.

5.4 The Relationship between Socio-demographic Characteristics and The Impact of Dysmenorrhea towards Quality of Life

There was approximately 20% of women who experienced dysmenorrhea to the point of not being able to perform daily live activities as well as feeling fatigue and having mood disturbances which can cause unsatisfactory quality of life (Gebeyuhu, 2010). Dysmenorrheic pain can be linked to a reduction in physical and daily activities. This is because, depending on the intensity of the pain, the sense discomfort that female students experience during their menstruation can force them to become socially withdrawn (Ortiz, 2010).

Previous studies showed that increased intensity of dysmenorrhea is age-related. As age increases, its intensity will be decreasing (Juang et al., 2006; Lindh, Ellstrom, & Milsom, 2012; Okoro, Malgwi, & Okoro, 2013; Tavallae et al., 2011; Habibi et al., 2015). Therefore, this might indicate that the severity of the painful menstrual period affected the quality of life of the female students. In the present study, it was reported that there is a significant relationship between age and impact of dysmenorrhea ($p = .047$).

Next, Wong & Khoo (2009) reported that dysmenorrheic Malay girls were highly likely to be affected in terms of absenteeism from lectures and restriction of social activities compared to other ethnic group such as Indian and Chinese. Despite this, it was found that, in the present study, there is no significant relationship between ethnicity and impact of dysmenorrhea ($p = .366$).

According to Charu et al., 2014, several studies have found a positive association of dysmenorrhea and younger age at menarche. It was presumably because women who experienced early menarche have a higher incidence of uterine dysmenorrhea due to the extended exposure of prostaglandins (Akbarzadeh et al., 2017). Hence those who experienced early age of menarche were most likely to have negative impact of dysmenorrhea. This was in contrast with the finding in the present study in which there is no significant relationship between early menarche age and impact of dysmenorrhea ($p = .183$).

Moreover, in the present study, it was found that there is a significant relationship between family history of dysmenorrhea and impact of dysmenorrhea ($p < .001$). This may be due to cultural beliefs where menstrual period is perceived as a condition that is to be kept personal (Wijesiri & Suresh, 2013). However, this might reflect on the satisfaction of the relationship between the students and their family members

5.5 The Relationship between Socio-demographic Characteristics and The Management of Dysmenorrhea

Women who experienced dysmenorrhea often chose either pharmacological or non-pharmacological means in order to be relieved of the painful feelings and discomfort. Females who are experiencing dysmenorrhea tend to seek advices from their mothers or peers rather than getting formal medical treatment from health care providers (Wong, 2011; Abubakar et al., 2020).

However, most of the participants, 87.3% (n= 151) had chosen pharmacological means in order to manage painful menstrual period episodes.

In this present study, there is a significant relationship between menstrual regularity ($p= .025$) and management of dysmenorrhea. This finding indicated that respondents with regular menstrual cycle would have lower level of pain management as compared to their counterparts. In addition to this, according to Azagew et al. (2020), women who experienced irregular monthly menstruation were significantly associated with primary dysmenorrhea. Hence, female students with irregular menstrual cycle would have higher level of pain management.

Moreover, according to Wijesiri & Suresh (2013), approximately 70% of the participants of the study tend to manage the painful menstruation by resorting to non-pharmacological method such as took a bed rest and use heating pad. This may be due to cultural belief that complications of menstrual period should be kept personal. Hence, they tend to manage the pain by themselves instead of seeking proper treatment. However, in this present study, there is no significant relationship between ethnic groups and management of dysmenorrhea ($p= .293$).

5.6 Conclusion

In conclusion, this study had found that approximately 90.2% (n= 156) of undergraduate female students between age 22 to 24 years of age have experienced dysmenorrhea. Dysmenorrhea is not to be considered a life

threatening condition but those who suffered from this condition may be absent from lectures or work in which also can affect social and economy of a person, inabilities to perform daily activities normally as well as be physically and emotionally withdrawn from social activities. Hence, reducing quality of life of a person suffering from dysmenorrhea.

Undergraduate female students prefer either pharmacological or non-pharmacological means in order to reduce dysmenorrheic pain. It is vital for a person to have knowledge of pain management that works best for her. This is because some methods, for instance, self-medication is not to be considered a proper practice as it can cause numerous dangerous effects including incorrect dosage and inappropriate management of adverse effects, if there is any.

CHAPTER 6

LIMITATION AND RECOMMENDATION

6.0 Introduction

This study is a cross-sectional study that had been conducted within a short period by using multi-stage sampling method for data collection. Thus, there are several limitations identified during the research period that will be discussed in this chapter.

6.1 Limitations

Firstly, this study was only done in five out of fifteen faculties in Universiti Putra Malaysia, Serdang. Therefore, the results may not apply to the rest of the faculties. Apart from this, the sample size was originally 337 undergraduate female students including the samples for pre-test. However, only 173 participants (51.3%) answered and submitted the questionnaire. This is because the questionnaire was made into Google Form and can only be posted through online platform due to COVID-19 pandemic. Hence, researcher faced a hard time during data collection process since not many students willing to spend time to answer the questionnaire.

Furthermore, the researcher did not do the pre-test. Originally, the researcher planned to do the pre-test with 10% of the sample size ($n= 31$) but because of the time restraint for the data collection and data analysing process, the researcher decided to proceed this study without the pre-test.

6.2 Recommendation

According to the finding of this study, prevalence of dysmenorrhea among undergraduate female students is high. Furthermore, students are unaware of what constitutes effective treatment and have no prior experience with the effects that such treatment can provide. Hence, nurses should play key role in this community by promoting health education regarding proper management of dysmenorrhea. Seminar or talks should be done at least twice a year so students not only can obtain proper and adequate knowledge relating to management of dysmenorrhea but can also improve their quality of lives.

Moreover, nurses can participate in promoting healthy lifestyles regarding sports and nutrition among undergraduate students in the university. This will not only help in reducing the incidence of dysmenorrhea but other diseases as well.

Further research is necessary in order to seek new integrative therapeutic methodologies to offer a wider choice of treatments, yet without overlooking the short and long term implications to patients' symptoms.

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APPENDICES

Appendix A: Written permission for instrument

Request for Research References Inbox x

Siti Aisyah Zulaikha Fri, Jan 15, 3:48 PM (12 days ago) ☆
Hello. I hope you're having a nice day. My name is Siti Aisyah Zulaikha and I'm an undergraduate student from Universiti Putra Malaysia. I am doing a thesis on

Stella Iacovides Fri, Jan 15, 4:21 PM (12 days ago) ☆
Dear Siti, Please find the quality of life questionnaire I used attached. I wish you all the best for your research and future studies! Kind regards Stella This


Siti Aisyah Zulaikha <sitiaisyahzulaikha96@gmail.com> Fri, Jan 15, 4:24 PM (12 days ago) ☆ ↶ ⋮
to Stella ▾
This is great, thank you so much!
...

Siti Aisyah Zulaikha Fri, Nov 13, 2020, 8:09 PM ☆
Sent from Mail for Windows 10 Hello. I hope you're having a nice day. My name is Siti Aisyah Zulaikha and I'm an undergraduate student from Universiti Putra Mal

Evans Ameade <sokpesh@yahoo.com> Fri, Nov 20, 2020, 5:38 AM ☆ ↶ ⋮
to me ▾
Dear Siti,

Here is the questionnaire you asked for. Wishing you all the best.

Evans
...



Siti Aisyah Zulaikha <sitiaisyahzulaikha96@gmail.com> Fri, Nov 20, 2020, 8:15 AM ☆ ↶ ⋮
to Evans ▾

Appendix B: Participant Information Sheet and Informed Consent Form

**JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA**



FORM 2.4: RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

1. STUDY TITLE :

Impact of Dysmenorrhea Towards Quality of Life and Its Management among Undergraduate Students In Universiti Putra Malaysia.

2. INTRODUCTION:

Dysmenorrhea or period pain is the painful feeling during menstruation. Increased severity of dysmenorrhea symptoms can affect patient's ability to perform daily life activities as usual which will lead to dissatisfaction in quality of life during monthly menstrual period. Besides, women who experienced dysmenorrhea have different ways to alleviate the painful feeling. Hence, this study is will investigate the impact of dysmenorhea towards quality of life and its management.

3. WHAT WILL YOU HAVE TO DO?

A questionnaire will be provided to you while you are at the selected faculties in University Putra Malaysia. The questionnaire consists of three sections, Section A, Section B, and Section C. You are required to answer all the questions in the sections and take approximately 15-20 minutes. Your response to all the questions is greatly appreciated.

4. WHO SHOULD NOT PARTICIPATE IN THE STUDY?

Undergraduate students with part-time mode and male students.

5. WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT?

Your contribution is invaluable in providing information regarding the impact of dysmenorrhea towards quality of life and its management. The findings in this study will provide the information regarding the impact of dysmenorrhea towards quality of life and its management among undergraduate students in Universiti Putra Malaysia. This is student research, so no token will be given to participants who voluntarily participate in this study.

(b) TO THE INVESTIGATOR?

Information and data from the results of this study will provide detailed facts regarding the impact of dysmenorrhea towards quality of life and its management among undergraduate students in Universiti Putra Malaysia.

6. WHAT ARE THE POSSIBLE RISKS?

It is anticipated that there will be no risk to the participants.

7. WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?

All information is confidential. The findings from this study will only be used for the purpose of the research report. The questionnaire will be kept at the main investigator's office for five years before it is disposed of. Any report or publication from the study will be reported in a manner that retains the validity of the respondents' names and will not include any identifying features. Respondents will only be identified by serial number. Only the principal researchers and the supervisory committee (researchers) have full access to the findings of this study.

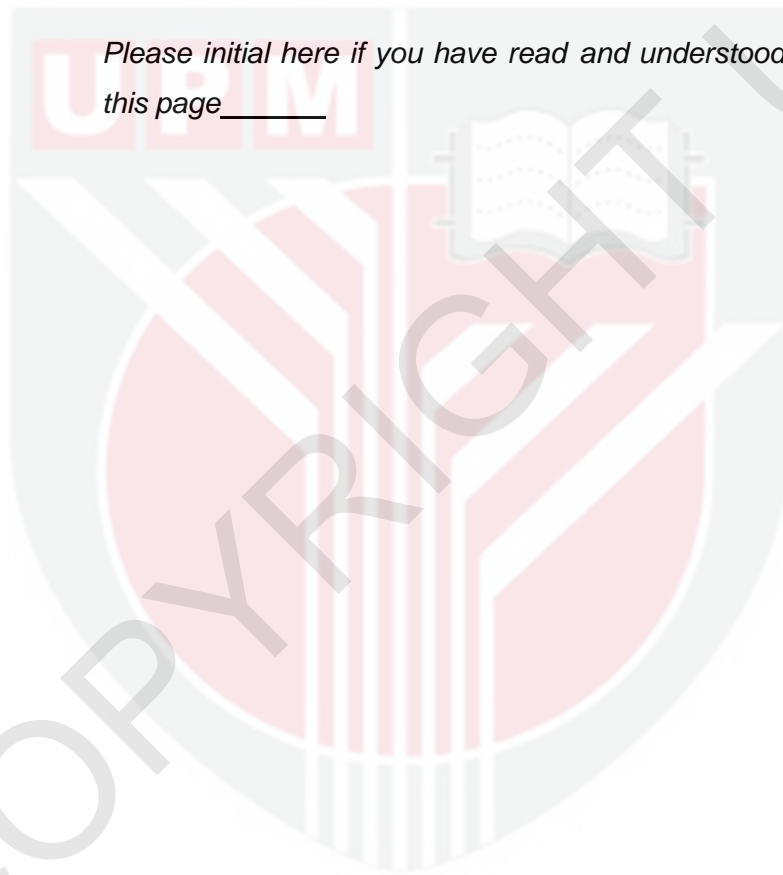
8. WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

You can contact Siti Aisyah Zulaikha binti Rosli (student) at either telephone number 019-9418217 or via e-mail, 189241@upm.edu.my or Miss Paramesevary A/P L.

Subramniam (supervisor) at either telephone number 012-6276327 or via e-mail, paramesevary@upm.edu.my if you have any questions or would like to know more about this study.

If you have any questions regarding your rights as a participant in this research, please contact the Secretary, Ethics and Medical Research Committee, Ministry of Health Malaysia, by telephone 03-2287 4032.

Please initial here if you have read and understood the contents of this page _____



9. CONSENT

I Identity Card No.
address.....

.....hereby voluntarily
agree to take part in the research stated above *(clinical /drug trial/video recording/
focus group/interview-based/ questionnaire-based).

I have been informed about the nature of the research in terms of methodology,
possible adverse
effects and complications (as written in the Respondent's Information Sheet). I
understand that I have the right to withdraw from this research at any time without
giving any reason whatsoever. I also understand that this study is confidential and
all information provided with regard to my identity will remain private and confidential.

I* wish / do not wish to know the results related to my participation in the research

I agree/do not agree that the images/photos/video recordings/voice recordings
related to me be used in any form of publication or presentation (if applicable)

* delete where necessary

Signature
(Respondent)

Signature
(Witness)

Date :.....

Name

.....

I/C

No.

.....

I confirm that I have explained to the respondent the nature and purpose of the above-mentioned research.

Date

Signature

(Researcher)



Appendix C: Questionnaire



FACULTY OF MEDICINE AND HEALTH SCIENCES

DEPARTMENT OF NURSING

NUR4999A: FINAL YEAR PROJECT

(QUESTIONNAIRE)

Research Title:

Impact of Dysmenorrhea Towards Quality of Life and Its Management among Undergraduate Students in Universiti Putra Malaysia

Student Name: Siti Aisyah Zulaikha Binti Rosli (189241)

Supervisor : Miss Paramesevary A/P Subramaniam

Co-Supervisor: Rima Anggrenna Binti Dasrilsyah (Dr.)

**SECTION A:
GENERAL BACKGROUND AND GENERAL INFORMATION**

Instructions: Please answer all questions by marking (✓) or write the appropriate answer.

BIL	ITEM	
A1	Age	<input type="checkbox"/> 19-21 <input type="checkbox"/> 22-24 <input type="checkbox"/> 25-27 <input type="checkbox"/> 28-30
A2	Nationality	<input type="checkbox"/> Malaysian <input type="checkbox"/> Others. Please state
A3	Ethnicity	<input type="checkbox"/> Malay <input type="checkbox"/> Chinese <input type="checkbox"/> Indian <input type="checkbox"/> Others. Please state
A4	Faculty
A5	Course
		<input type="checkbox"/> Year 1 <input type="checkbox"/> Year 2

A6	Year of study	<input type="checkbox"/> Year 3 <input type="checkbox"/> Year 4 <input type="checkbox"/> Year 5
A7	Having experienced dysmenorrhea?	<input type="checkbox"/> Yes <input type="checkbox"/> No
A8	BMI (kg/m²)	<input type="checkbox"/> <18.5 <input type="checkbox"/> 18.5-24.9 <input type="checkbox"/> 30 or more
A9	Cigarette smoking	<input type="checkbox"/> Yes <input type="checkbox"/> No
A10	Menstrual regularity	<input type="checkbox"/> Regular <input type="checkbox"/> Irregular
A11	Duration menstrual flow	<input type="checkbox"/> <7 days <input type="checkbox"/> >7 days
A12	Age during first menstrual cycle years old
A13	Frequency of menstrual cycle	<input type="checkbox"/> <21 days <input type="checkbox"/> 24-35 days <input type="checkbox"/> >35 days
A14	Family history of dysmenorrhea	<input type="checkbox"/> Yes <input type="checkbox"/> No

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**SECTION B:
IMPACT OF DYSMENORRHEA TOWARDS QUALITY OF LIFE
ENJOYMENT AND SATISFACTION**

Instructions: The following statements related to quality of life enjoyment and satisfaction during painful menstrual period. To what extent do you agree with the following statements.

- 1: Strongly disagree
- 2: Disagree
- 3: Undecided
- 4: Agree
- 5: Strongly agree

		1	2	3	4	5
B1	I am satisfied with my physical health during the painful menstrual period episodes.					
B2	I am in a satisfying mood during the painful menstrual period episodes.					
B3	I am satisfied with my performance at work during the painful menstrual period episodes.					
	I can perform household activities					

B4	satisfyingly during the painful menstrual period episodes.					
B5	I am satisfied with my social relationships during the painful menstrual period episodes.					
B6	I have satisfying relationship with my family during the painful menstrual period episodes.					
B7	I am satisfied with doing activities in my leisure time during the painful menstrual period episodes.					
B8	I am satisfied with the ability to function in daily life during the painful menstrual period episodes.					

B9	I am satisfied with the ability to be present to class during the painful menstrual period episodes.					
B10	I am satisfied with the ability to get around physically without feeling dizzy or unsteady or falling during the painful menstrual period episodes.					
B11	I am satisfied with the vision in terms of ability to do work or hobbies during the painful menstrual period episodes.					
B12	I am satisfied with my overall sense of well-being during the painful menstrual period episodes.					
	I am satisfied with the overall life					

B13	satisfaction and contentment during the painful menstrual period episodes.					
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**SECTION C:
MANAGEMENT OF DYSMENORRHEA**

Instructions: Please answer all questions by marking (√) or write the appropriate answer.

BIL	ITEM	
C1	<p>How did you manage your menstrual pain? (Last three months)</p>	<p> <input type="checkbox"/> Did nothing <input type="checkbox"/> Consulted a physician <input type="checkbox"/> Took a bed rest <input type="checkbox"/> Took orthodox medications <input type="checkbox"/> Took herbal preparations <input type="checkbox"/> Used a heat pad <input type="checkbox"/> Exercised <input type="checkbox"/> Others. Please state </p>
C2	<p>If you use medications, were they prescribed by a Doctor?</p>	<p> <input type="checkbox"/> Yes <input type="checkbox"/> No </p>
C3	<p>If you did self-medication, where did you get the drugs from?</p>	<p> <input type="checkbox"/> Pharmacy <input type="checkbox"/> Chemical Sellers Shop <input type="checkbox"/> Market <input type="checkbox"/> Friends and Relative <input type="checkbox"/> Others. Please state </p>

C4	<p>What are the medications did you take to ease the pain during menstruation?</p>	<p><input type="checkbox"/> Mefanemic acid</p> <p><input type="checkbox"/> Ibuprofen</p> <p><input type="checkbox"/> Naproxen</p> <p><input type="checkbox"/> Paracetamol</p> <p><input type="checkbox"/> Others. Please state</p> <p>.....</p>
C5	<p>These medications always relieve me from the menstrual pains</p>	<p><input type="checkbox"/> Strongly agree</p> <p><input type="checkbox"/> Agree</p> <p><input type="checkbox"/> Uncertain</p> <p><input type="checkbox"/> Disagree</p> <p><input type="checkbox"/> Strongly disagree</p>

Appendix D: Gantt chart

Project	2020			2021							
	OCT	NOV	DEC	JAN	FEB	MAC	APRIL	MAY	JUNE	JULY	AUG
Identify the research problem											
Discussion with supervisor regarding the research title											
Review of the article for literature review											
Select an appropriate questionnaire											
Proposal presentation											
Submit proposal											
Obtain permission from the relevant party											
Conduct a pilot study											
Conduct the research and data collection											
Data analysis and discussion											
Thesis presentation											
Submit the research report											



APPENDIX E: Budget

No.	Tools	Quantity x RM/unit	Total Cost
1.	Stationaries		RM 40.00
2.	Printing		
	- Proposal	4 x RM 15.00	RM 60.00
	- Softbound	2 x RM 20.00	RM 40.00
	- Hardbound	4 x RM 35.00	RM 140.00
3	Binding	4 x RM 15.00	RM 60.00
4	Printer cartilage	3 x RM 35.00	RM 105.00
		Total	RM 445.00

APPENDIX F: Approval Letter from the *Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia (JKEUPM)*

Ref. no: UPM/TNCPI/RMC/JKEUPM/1.4.18.2 (JKEUPM)

Date: 24 March 2021

Dear Prof./Dr./Mr./Ms.,

APPLICATION FOR JKEUPM ETHICAL CLEARANCE: APPROVED

With reference to the above, I am pleased to inform you that your application for ethical clearance for the research project entitled 'Impact of Dysmenorrhoea Towards Quality of Life and its Management among Undergraduate Students in Universiti Putra Malaysia' has been approved.

Please note that the official letter of approval will be issued as soon as possible. However, the ethical clearance is considered effective from the date of this email, and you may now proceed with your research.

- Kindly remind the ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

Researchers should also complete a Study Final Report upon study completion. The form can be obtained from the Ethics Committee for Research Involving Human Subjects (JKEUPM) website (<http://www.tncpi.upm.edu.my/falldokumen>).

If you have any enquiries, please contact Ms. Nurulhasanah (shak) (03-97691605) or Ms. Nor Eljia Abd Aji (03-97691244).

Note: Please use this reference number for any transaction: JKEUPM-2021-085

Thank you.

Yours faithfully,

Prof. Dr. Zamberj Sekawi
Chair
Ethics Committee for Research Involving Human Subjects
Universiti Putra Malaysia

BIOGRAPHICAL DATA OF THE RESEARCHER

Student information

Name: Siti Aisyah Zulaikha binti Rosli

Matric No.: 189241

Faculty: Medicine and Health Science

Program: Bachelor of Nursing

Sex: Female

Race: Malay

Religion: Islam

Citizen: Malaysia

Home address: No. 3, Jalan Bukit Angin 3, Taman Bukit Angin,
2800 Temerloh, Pahang

Educational level

Universiti Putra Malaysia (Degree): 2017-present

Malacca Matriculation College: 2014-2016

Sek. Men. Keb. Seri Tualang: 2009-2013

Sek. Keb. Bandar Temerloh: 2003-2008

Why I choose nursing?

The reason I chose nursing is because I really like caring for people. I used to accompany my parents to the clinics and hospitals ever since I was little and I found that the interactions between nurses and patients are amazing. Nurses not only provide care for the patients but they also become the persons the patients told their problems and difficulties to. Later I found out that it was because those nurses must have built rapport and excellent communication skills with their patients for them to trust each other like that. I, too would really like to build rapport and perform great communication skills with not only my patients but also people surrounding me, for example, my colleagues. Besides, I've come to experience to become a patient and I really want to treat patients the way I want to be treated.