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Knowledge and Prevalence of Primary Dysmenorrhea among Female University Students

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Abstract: Dysmenorrhea is one of the common gynaecological problems experienced by most of the adolescent and young adult girls. This study was to evaluate the knowledge and determine the prevalence of primary dysmenorrhoea among female university students. This is a descriptive, cross sectional study conducted in 2014 at SEGi University, Kota Damansara. A total of 200 participants were randomly selected from the medical and non-medical faculties. The data were collected using questionnaire and analyzed by SPSS Version 22.0. The study showed that the prevalence of primary dysmenorrhoea among the students was 103 (51.5%) where the primary dysmenorrhoea among female medical and non-medical was 53 and 50%, respectively. In terms of knowledge about primary dysmenorrhoea, 39% of medical students and 24% of non-medical agree that body mass index is a risk factor while smoking and drinking alcohol showed 55 and 45%, respectively as a risk factor of primary dysmenorrhoea. On the other hand, psychological stress factor confirmed by 83% of medical students and 53% of non-medical students answered that psychological stress is correlated to primary dysmenorrhoea. In conclusion, the prevalence of primary dysmenorrhoea is very common in this study. The level of knowledge was shown lower, especially in the non-medical students. The results of this study showed the overall of primary dysmenorrhoea prevalence 51.5% and majority of medical student showed better knowledge about primary dysmenorrhoea. However, this study also has shown that there is lack of health education and may need programs in order to improve the knowledge and decrease the incidence of primary dysmenorrhoea.

Key words: Prevalence, knowledge, primary dysmenorrhea, female, university students, experienced

INTRODUCTION

The period of adolescence is a transition from childhood to adult life along with pubertal development and sexual maturation. During puberty, the hormonal, psychological and physical changes occur simultaneously. Many girls facing problems of irregular menstruation, excessive bleeding and dysmenorrhea (Kumbhar *et al*., 2011). It is a common complaint in around 50% of post pubescent females. It may be primary or secondary depending on the cause. When the patient shows symptoms of dysmenorrhoea at an early age, immediately after the onset of regular ovulation, dysmenorrhoea is termed as primary. Primary dysmenorrhoea is a painful syndrome that accompanies the menstrual flow in ovulatory cycles and is also known as "menstrual cramps". The pain is spasmodic in character and felt mainly in the lower abdomen but it may radiate to the back and along the thighs. It may be associated with systemic symptoms like nausea, vomiting, diarrhoea, headache, fatigue, dizziness and in severe cases, syncope (Aziato *et al*., 2014).

The etiology of primary dysmenorrhoea is not clearly understood but most symptoms might be explained by the action of Prosta Glandins (PG), particularly $PGF_{2\hat{a}}$ which are made in the lining of uterus (Andrew and Coco, 1999, Khalaf *et al*., 2008).

The term secondary dysmenorrhoea is used to describe significant period pain that is caused by an underlying pathology or disease (Unsal *et al*., 2010). The prevalence of primary dysmenorrhoea among young women varies widely from country to country. Studies of

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university students showed its prevalence to be 64% in Nigeria and Mexico 84% in Thailand 88% in Turkey 93% in Taiwan and 33-79.67% in India (Kumbhar *et al*., 2011). Whereas a study in Malaysia showed a total of 62.3% cases (Chia *et al*., 2013).

The understanding of the primary dysmenorrhoea may be limited among many young girls. On the other hand, medical students represent a population with better knowledge and exposure to other forms of chronic suffering which possibly results in different pain perception and subsequent decision on coping approaches (Chia *et al*., 2013). In Malaysian culture, young girls are not provided with enough knowledge about treatment and consultation with a physician for dysmenorrhoea, however, this condition is often considered as normal part of menstrual cycle which will settle with time or after marriage, so, mostly traditional home remedies are tried for relief of pain. Therefore, in view of this observation, current study was aimed to evaluate the knowledge and determine the prevalence of primary dysmenorrhoea among female students in SEGi University.

MATERIALS AND METHODS

Study population: This is a descriptive and cross-sectional among first and second year of medical and non-medical female students of SEGi University. The total participants were selected by the simple random sampling method. The study subjects are female students from different faculties in SEGi University, 100 students from medical faculties and 100 students from non-medical faculties were chosen. The protocol of this study was precise instructions and explanation of the aim of the study, the consent forms and questionnaires were distributed randomly to the students.

Study instruments: The data collection was carried out from 1st-20th August 2014. The data was collected by a researcher making questionnaire that completed by the students. The questionnaire consisted of three sections of 19 questions. The first part (Part A) consists of questions about demographic data, including student's age, race, year of intake, course of study and marital status. The second part (Part B) consists of questions about knowledge of primary dysmenorrhoea. The third part (Part C) consists of questions about family history, timing and severity of pain, impact of dysmenorrhoea and management strategies. The fourth part (Part D) consists of questions about the knowledge regarding the risk factors of primary dysmenorrhoea.

Inclusion criteria: All the participants among first and second year of medical and non-medical female students of SEGi University.

Exclusion criteria: Those who refused to consent and pregnant were excluded from the study.

Sample size calculation: Complete enumeration or census method was applied as sampling method and the sample size was 200.

Outcome variable: The overall prevalence of primary dysmenorrhoea is very common in this study and the level of knowledge was shown lower especially in the non-medical students. This study also showed the lack of health education among the participants that might need programs in order to improve the knowledge and decrease the incidence of primary dysmenorrhoea.

Ethical committee approval: The protocol of this study was approved by the Ethics Committee of SEGi University, Kota Damansara Campus, Malaysia.

Statistical analysis: Data was entered and analysed by using Statistical Package for Social Sciences (SPSS) Version 22.0. Descriptive statistics with cross-tabulation was performed and frequencies and percentages were generated from the data. Pearson Chi-Square test was used to examine the association between the independent variables and evaluated. In addition, comparison was done on the prevalence and knowledge of primary dysmenorrhoea among female students of medical and non-medical faculties by using independent t-test. The level of statistical significance was set at $p<0.05$.

RESULTS AND DISCUSSION

Total number of participants from medical and non-medical faculties was 200 participants that answered the questionnaire completely. Demographic data in this study showed the rate of participants race were 90 Chinese (45.0%), 49 Indians (24.5%), 41 Malays (20.5%) and 20 other races (10.0%) (Fig. 1).

The mean age of menarche was 12.44±1.202 with the age ranges between 9-16 years old (Fig. 2). While the regularity cycle of periods showed that 76 participants (38%) have their regularity cycle of their period of 28 days, 80 (40%) had more than 28 days and 44 (22%) participants have answered that their regularity cycle of their periods are <28 days (Fig. 3).

The study of the length of periods showed that 6 participants (3.0%) have a length of periods <3 days, 107

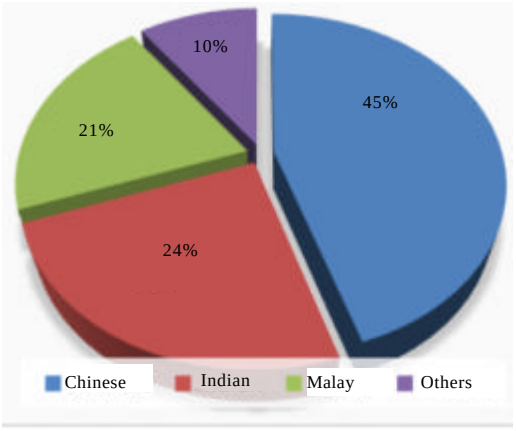

Fig. 1: The race of participants and their frequency

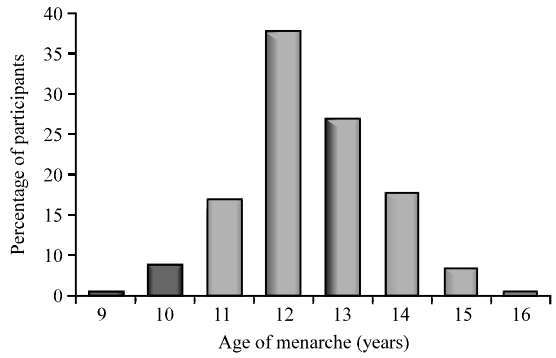

Fig. 2: The menarche according to age

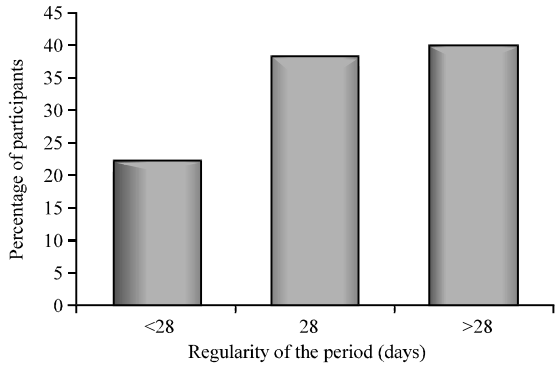

Fig. 3: The regularity cycle period of participants

participants (53.5%) have length of periods between 3-5 days and 87 (43.5%) have length of periods more than 5 days (Fig. 4) majority (61%) of participant did not have menorrhagia.

The results of this study showed that the number of sanitary pads used for the first two days of the menstruation was 27 (13.5%) participants were using two sanitary pads per day, 95 (47.5%) participants were used

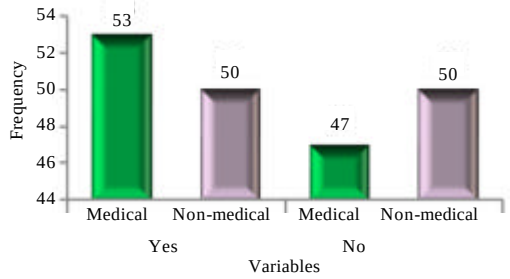

Fig. 4: The prevalence of primary dysmenorrhoea between medical and non-medical students

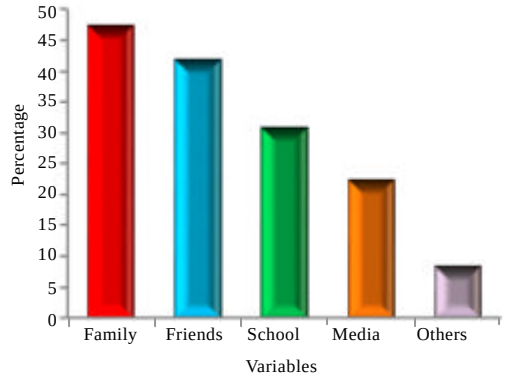

Fig. 5: The sources obtained the knowledge about primary dysmenorrhoea

three sanitary pads per day and 78 (39.0%) participants were used more than 3 pads per day. On the last 2 days of the menstruation, the majority of participants 117 (58.5%) were used 1-2 sanitary pads per day, 66 (33.0%) participants were using 3 sanitary pads per day and 17 (8.5%) participants were using more than 3 sanitary pads per day. The analysis results of this study showed the overall prevalence was 103 (51.5%) had primary dysmenorrhoea and 97 (48.5%) hadn't. However, the prevalence of primary dysmenorrhoea among the medical female students was slightly higher than in the non-medical female students. Among medical students, 53 had dysmenorrhoea and 47 didn't show dysmenorrhoea. Meanwhile, there was 50% students having dysmenorrhoea and did not having dysmenorrhoea among non-medical students (Fig. 4). Majority of participants preferred of knowledge obtaining from their family and friends and followed by school and media (Fig. 5).

The most important that the majority (86) of the participants were having pain in the beginning of their menstrual cycle which involved 51 of medical and 35 of non-medical students. Hence, majority in both medical and non-medical participants were having pain in the beginning of their menstrual cycle. About 28 of the

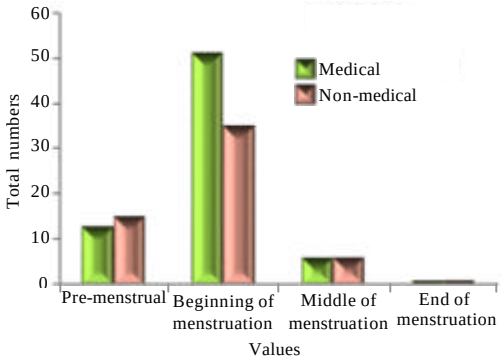

Fig. 6: The timing of pain during menstrual period

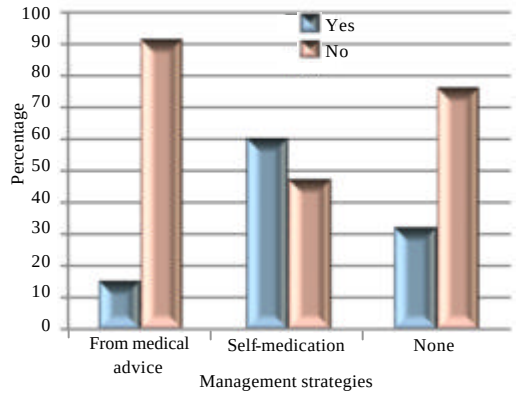

Fig. 7: The management strategies of dysmenorrhoea among the participants

respondents were having pre-menstrual pain that involved 13 medical and 15 non-medical students. In addition, only 12 of participants were having pain in the middle of their menstrual cycle and two participants were had a pain at the end of the menstrual cycle (Fig. 6). Majority of respondents did not prefer to attend the medical advice and tolerate the pain while 60 of the respondents prefer to do self-medication and with lower difference they prefer to handle the pain without taking any medication (Fig. 7).

There is a confirm association between pain during beginning of menstrual and dysmenorrhoea with significant difference was 0.000 ($p<0.05$). The data shows that majority of the participant (22.2%) having the scale of "hurt whole lot". Followed by 15.7% for "hurt even more" and "hurts little more". This data analysis shows that most of the participants were complaining about the severity of the pain during the menstrual cycle (Table 1).

Results shows that both medical and non-medical students do not have enough information about the effects of BMI on dysmenorrhoea but medical students

Table 1: Showing the severity of pain among the participants

Severity of pain	Frequency	Pain (%)
Hurts very little	1	0.9
Hurts little bit	6	5.6
Hurts more than 2	5	4.6
Hurts little more	17	15.7
Hurts than little more	14	13.0
Hurts even more	17	15.7
Hurts even more than 6	12	11.1
Hurts whole lot	24	22.2
Hurts more than whole lot	4	3.7
Hurts worst	8	7.4
Total	108	100.0

Table 2: Knowledge regarding the risk factors of BMI, smoking and drinking and high level of psychological stress affecting primary dysmenorrhoea

	Frequency of students					
	Medical			Non-medical		
Risk factors	Yes	No	Don't know	Yes	No	Don't know
BMI	39	21	40	24	25	51
Smoking and drinking	55	19	26	45	22	33
High level of psychological stress	83	8	9	53	11	36

answered "Yes" more than non-medical students. The findings showed majority of respondents agreed that people who drink alcohol and smoke are very prone to get dysmenorrhoea. The results showed that almost more than half of the participants agree that psychological stress have effect on dysmenorrhoea and only a few of them disagree or do not know about dysmenorrhoea during their stressful times (Table 2).

This study provided important insight regarding prevalence and knowledge of primary dysmenorrhoea on 200 female students of SEGi University. Data were collected by self-administered questionnaire including information on demographics, prevalence of dysmenorrhoea, severity, its impact and the treatment used. There was no statistically significant correlation between prevalence of dysmenorrhoea and demographics and menstrual characteristics. The mean age of menarche in both medical and non-medical students was 13 years old with 1.2 standard deviation, this result agreed with previous study found the age of average age of menarche is about 12.5 years in the United States (Anderson *et al*., 2003; Xiaoming *et al*., 2007).

The findings from this study showed that 103 of the participants out of 200 were having primary dysmenorrhoea and the rate of dysmenorrhoea was higher in medical students (53 out of 100) compared to non-medical students with 50 out of 100. There were no significant differences in term of prevalence of

dysmenorrhoea between medical and non-medical students of SEGi University. Hence, it can be concluded that the prevalence of dysmenorrhoea is slightly higher than the non-medical female students because of the knowledge in the medical students higher than non-medical students, this is supported by an examination of prevalence and correlation of dysmenorrhoea among medical students (Agrawal and Agrawal, 2010; Wanxiang *et al*., 2007). This study showed that the incidence and prevalence of dysmenorrhoea is almost the same in other countries. There is no difference in the incidence of dysmenorrhoea according to geographic location and race. The complaint of menorrhagia was positively associated with the severity of dysmenorrhoea (Li *et al*., 2014; Tang *et al*., 2014).

The result of this study confirmed the association between pain during beginning of menstrual and dysmenorrhoea with significant difference at ($p<0.05$) showed in majority of the participants and majority of respondents did not prefer to attend the medical advice and tolerate the pain as a self-medication which prefer to handle the pain without taking any medication. The study achieved by Bano *et al.* (2013) reported that dysmenorrhoea is very common among female University student. The prevalence of self-medication (43%) easily available. The correct approach to management of adolescent students with dysmenorrhoea might reduce the impact of severe dysmenorrhoea on academic activities and class absentee. Majority of participants medical students think that high level of psychological stress is one of the risk factor of dysmenorrhoea and this result is agree with previous report indicated a positive relationship between psychological stress and dysmenorrhoea (Pramanik *et al*., 2010; Khalaf *et al*., 2017). Another study showed that dysmenorrhoea and menstrual distress is very common among female university students that experienced psychological, emotional and behavioural symptoms associated with dysmenorrhoea (Shaji, 2014).

CONCLUSION

The results of this study showed the overall of primary dysmenorrhoea prevalence 51.5% and majority of medical student showed better knowledge about primary dysmenorrhoea. However, this study also shows that there is lack of health education and may need a program in order to improve the knowledge and decrease the incidence and impact of primary dysmenorrhoea.

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