

Knowledge and Attitude towards Dysmenorrhea among Health Professions Students: A Cross-sectional Study from Lebanon

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Abstract Dysmenorrhea is a prevalent condition that has physical, psychological, and social impacts on females. Although it is mostly perceived as a healthy part of a well-functioning reproductive system, it may indicate underlying pathologies. Nevertheless, dysmenorrhea's acknowledgement and discussion are culturally frowned upon, particularly among men in different communities. This study aims to assess the knowledge and attitude of health professions students, both males and females, at Beirut Arab University (BAU) regarding dysmenorrhea. Using a cross-sectional study, 493 students in the health professions faculties at BAU participated in the survey. The health professions faculties included medicine, dentistry, pharmacy, and health sciences (nursing, medical laboratory, physical therapy, nutrition). It was conducted during the period extending from September 2019 till February 2021. Results show 84% of participants were females and 16% were males. Females had a mean score of knowledge (14.31 +/-3.13) out of 24 that was significantly higher than males (12.75 +/- 4.54). The most chosen sources of knowledge about dysmenorrhea were the Internet (57.4%), mothers (47.9%), and schools (47.3%). The correlation between age and knowledge showed that as age increases, knowledge increases ($r=0.244$). All Participants had a negative attitude towards discussing menstrual symptoms with strangers or friends publicly. Our study also revealed that the majority of participants would discuss menstruation and menstrual pain with their future daughters. Unfortunately, the perception of dysmenorrhea as a topic that should not be

discussed openly has led to poor knowledge regarding dysmenorrhea and even caused misconceptions. This is even more seen in males especially in Middle Eastern countries that tend to be more conservative.

Keywords Dysmenorrhea, Health Professions Students, Lebanon, Knowledge, Misconceptions

1. Introduction

Menarche represents an important milestone in a female's life. Menstruation is a natural monthly occurring cycle in every woman's life and is a valuable indicator of endocrine and reproductive health [1, 2]. Menstrual period is often accompanied by dysmenorrhea, defined as a cramping pain sensation of uterine origin [3]. Prostaglandins seem to play a key role in the pathophysiology of dysmenorrhea, as they result in myometrial contraction, vasoconstriction, as well as nerve ending sensitization [4, 5]. The pain typically accompanies the onset of menses and lasts for 8–72 hours. It is most severe during the first or second day of menstruation [6]. Dysmenorrhea is the most widely observed medical problem in females [7]. The prevalence of dysmenorrhea is reported to be between 48% and 93% across various countries [8], and 74.3% in Lebanon [9]. It peaks during mid to late adolescence, when ovulatory cycles become more established [2]. After which, the pain decreases as

women approach menopause [10]. Dysmenorrhea is not only a physiological result of the menstrual cycle (primary dysmenorrhea) but can also be an indicator of an underlying pathology (secondary dysmenorrhea) [11,12]. Secondary dysmenorrhea constitutes about 10% of the reported cases and is most commonly caused by endometriosis and pelvic inflammatory diseases, among others [11, 12]. Dysmenorrhea is sometimes accompanied with low back pain, headache, breast tenderness, and fatigue, in addition to gastrointestinal symptoms such as nausea, vomiting, bloating, constipation, and diarrhea [3, 13-14].

The impact of dysmenorrhea does not cease with physical unwellness, but also includes social and psychological disturbances. These include poor university attendance, deteriorating quality of sleep, poor concentration, social withdrawal, poor relationship with family, declining academic performance, and low tolerance to sport activities as its severity increases [11-15]. It also has adverse effects on mood, particularly precipitating anxiety and depression [16]. Thus, a cognitive behavioral approach (CBA) is used for decreasing pain perception by enhancing the coping mechanism of these individuals [7]. Besides adolescence, several risk factors have been shown to be associated with dysmenorrhea including nulliparity, higher socioeconomic status, heavy menses, depression, smoking, anxiety, and lack of physical activity [10]. Among women of reproductive age, dysmenorrhea is the cardinal cause of gynecological morbidity irrespective of age, nationality, or socioeconomic standing [3]. In addition to that, dysmenorrhea's burden is greater than that of all other gynecological conditions [17]. Moreover, menstruation may be culturally regarded as a delicate situation preferred not to be discussed with the opposite sex hence limiting proper knowledge and providing a base for misconceptions [1].

As a country of middle eastern mentality, the stigma of men being repulsed by menstruation and gynecological disorders including dysmenorrhea is well known. Even more so, they may demonstrate a preference for abstaining from discussing such matters. Gender and age influence power and privilege in the Lebanese family, for which men and senior women are at an advantage from this hierarchy [18], to the extent of influencing medical health decisions. For example, a subjective symptom such as dysmenorrhea may be disregarded by men and dismissed even if it requires medical attention. As a team of only female gender, this situation has piqued our interest to know if the young men are truly adequately equipped with proper knowledge and attitude towards dysmenorrhea. Such knowledge prepares them to better understand women of the family and provide adequate support. Shedding light on this burdensome subject that is often underreported is of utmost importance [19]. Thus, this study aims to assess the knowledge and attitude of health professions students at Beirut Arab University (BAU) in Lebanon regarding dysmenorrhea, comparing between genders, and debunking the common myths surrounding dysmenorrhea.

2. Methodology

2.1. Study Design and Participants

This is a cross-sectional study. The participants are undergraduate health professions students at BAU, both males and females. The health professions faculties include medicine, dentistry, pharmacy, and health sciences (nursing, medical laboratory, physical therapy, nutrition). It was conducted during the period extending from September 2019 till February 2021. The total number of participants was 493 students from all health professions faculties. The proportions of females and males in the target population of students in health professions faculties at BAU were 64% and 36% respectively, with males' proportions of only 4% and 14% in some majors.

2.2. Sample Size Calculation

Due to lack of previous data on this topic, we anticipated at least 50% of the population will have poor knowledge about menstrual health. With a confidence level of 95%, and an accepted margin of error of 5%, the calculated sample size is 483. To account for incomplete questionnaires (10%), 493 participants were included.

A survey in English language was distributed to the participants by the investigators via instant messaging application (WhatsApp). The investigators contacted the class representatives who subsequently contacted their classmates and sent them the questionnaire link. The investigators explained to the participants in this research that their contribution will be anonymous and voluntary.

2.3. Questionnaire

The study used a questionnaire in the English language. It was developed based on the literature. It was formed of parts tackling demographic data, knowledge, and attitude. The first section was the demographic data that included seven questions about gender, age, nationality, marital status, faculty, major and academic year. The second section was about knowledge, which included 29 questions about previous knowledge of the participants, the source of their knowledge and testing their current knowledge about causes, risk factors, symptoms and management of dysmenorrhea. The third section was about the attitude that included 16 questions about seeking medical advice, discussing dysmenorrhea in public, avoiding showering or physical activities, changing diet, skipping classes, affecting decision-making, and the role of the husband.

2.4. Data Analysis

Data analysis was done using the Statistical Package of the Social Sciences version 23.1. Data exploration was established first to identify the demographic percentage distributions. ANOVA tests were used to explore differences in the total knowledge scores between various categories of the socio-demographic characteristics of the sample. Cross-tabulation with the chi-square test was conducted to explore the various attitudes of the respondents between females and males.

3. Results

Table 1 shows the sociodemographic characteristics of the study participants. Four hundred ninety-three undergraduate health professions students participated in our study. In contrast to other studies, both males and females participated in this study; 84% of participants were females and 16% were males. Most of the participants were Lebanese (91.1%) and single (98.8%). Seven different health majors were involved in our study; Medicine (33.9%), Pharmacy (20.9%), Dentistry (17.8%), Physical therapy (11.4%), Nursing (6.1%), Medical lab (5.9%) and Nutrition (4.1%). Most of the respondents were in the first two years of their academic progress, 33.1 % of the students were in their first year and 20.1 % were in their second year.

The results of the knowledge of respondents regarding menstrual pain, are displayed in Table 2. The questions that showed the highest correct response; “Do you think it is normal to have menstrual pain?”, “Can menstrual pain (period pain) affect sleep quality?”, “How often should a female in reproductive age menstruate?” and “Can hereditary factors play a role in menstrual pain?” showing percentages of 93.9% (463), 89.7% (442), 88.4% (436), and 84% (414) “correct answers” respectively.

The questions that demonstrated the least correct answers; “What are the accompanying features of menstrual pain that point to an underlying medical condition?”, “Do you think menstrual pain is overrated?”, “Do you think nutrition plays a role in relieving menstrual pain?” and “Is the risk of menstrual pain higher with prolonged menstruation?” showing percentages of 10.3% (51), 13.6% (67), 14.4% (71) and 26.4% (130) “correct answers” respectively.

Table 1. Sociodemographic Characteristics of Respondents (N=493)

Variable	Category	N (%)
Age	Mean \pm SD	20.54 \pm 1.956
Gender	Female	414 (84%)
	Male	79 (16%)
Nationality	Lebanese	449 (91.1%)
	Other	44 (8.9%)
Marital status	Single	487 (98.8%)
	Married	3 (0.6%)
	Divorced	3 (0.6%)
Faculty	Medicine	168 (34.1%)
	Health sciences	132 (26.8%)
	Pharmacy	105 (21.3%)
	Dentistry	88 (17.8%)
Major	Medicine	167 (33.9%)
	Pharmacy	103 (20.9%)
	Dentistry	88 (17.8%)
	Physical Therapy	56 (11.4%)
	Nursing	30 (6.1%)
	Medical Lab	29 (5.9%)
	Nutrition	20 (4.1%)
Academic year	First year	163 (33.1%)
	Second year	99 (20.1%)
	Third year	74 (15%)
	Fourth year	70 (14.2%)
	fifth year	65 (13.2%)
	Sixth year	22 (4.5%)

Table 2. Knowledge of Respondents Regarding Menstrual Pain (N=493)

Question	Respondents With Correct Answer n (%)
How often should a female in reproductive age menstruate?	436 (88.4%)
Do you think it is normal to have menstrual pain?	463 (93.9%)
Do you think menstrual pain is overrated?	67 (13.6%)
The majority of females experiencing physiological menstrual pain are under/above 25 years?	343 (69.6%)
Do you think menstrual pain could be a symptom of an underlying medical condition?	337 (68.4%)
What are the accompanying features of menstrual pain that point to an underlying medical condition?	51 (10.3%)
What do you think is the origin of physiologic menstrual pain?	359 (72.8%)
Which of the following symptoms could occur with menstrual pain? Choose all that apply.	326 (66.1%)
Can menstrual pain affect sleep quality?	327 (66.3%)
Does smoking increase the risk of menstrual pain the risk of menstrual pain?	442 (89.7%)
Does stress increase the risk of experiencing menstrual pain?	139 (28.2%)
Can hereditary factors play a role in menstrual pain?	414 (84%)
Can a high socioeconomic status affect the risk of developing menstrual pain?	376 (76.3%)
Is the risk of menstrual pain higher with an increased menstrual flow?	218 (44.2%)
Is the risk of menstrual pain higher with prolonged menstruation?	130 (26.4%)
Does the intensity of pain change after childbirth?	237 (48.1%)
How does the intensity of menstrual pain change with age?	337 (68.4%)
When does menstrual pain occur?	361 (73.2%)
When is menstrual pain considered normal?	355 (72%)
What do you think is more effective as a medication in relieving menstrual pain?	341 (69.2%)
Do you think oral contraceptive pills (OCPs) have a role in treating menstrual pain?	226 (45.8%)
How do you think menstrual pain could be treated?	303 (61.5%)
Do you think nutrition plays a role in relieving menstrual pain?	71 (14.4%)
Does a warm shower improve menstrual pain?	277 (56.2%)
Can hereditary factors play a role in menstrual pain?	414 (84%)

Table 3. Source of Knowledge about Dysmenorrhea among Participants (N= 493)

Knowledge Source	Rate %
Father	2.6%
Friends	37.1%
Gynecologist	0.8%
Internet	57.4%
Medical personnel	20%
Mother	47.9%
Personal	1.2%
School	47.3%
Siblings	20%
Sisters	0.4%
University course	41.2%

The most chosen sources of knowledge about dysmenorrhea were as chosen in Table 3, the Internet

(57.4%) (283), mothers (47.9%) (236), and schools (47.3%) (233). The sources that were the least chosen by the participants were sisters (0.4%) (2), gynecologists (0.8%) (4), and personal (1.2%) (6). To note that the question ‘Which of the following symptoms could occur with menstrual pain? Choose all that apply.’ was counted when three or more correct options were chosen.

Table 4 shows the association between sociodemographic characteristics and knowledge score. The total score considered is the number of the correctly answered questions related to the knowledge of menstrual pain, the maximum of the knowledge score is 24. Table 4 provides the number of respondents based on their demographic characteristics with their percentages and shows their respective total score means and standard deviations, except for the “Age” where the correlation between age and knowledge scores showed that as the age increases knowledge increases ($r=0.244$). This table also shows the P-value of the ANOVA tests for whether significant differences exist between the various demographic categories, statistically significant

differences exist when the corresponding P-value is less than 0.05. As shown in Table 4, all socio-demographic characteristics have significant differences in their respective categories except for "Nationality". Concerning the gender, females have a mean score of knowledge (14.31 +/-3.13) out of 24 that is significantly higher than Males (12.75 +/- 4.54) out of a maximum score of 24.

Single participants have a mean score of knowledge of 14.14 +/-3.32 which is higher than the score of married and divorced students. Students majoring in medicine have the highest mean scores among all faculties and majors which is 14.92 +/-3.30. Fifth year medical students have the highest mean score of knowledge of 16.24 +/- 2.26.

Table 4. Association between Sociodemographic Characteristics and Knowledge Scores (N=493)

Variable	Categories	N (%)	Knowledge Score (Mean ± SD)	P-Value
Age*	Mean Age ± SD (Age): 20.54+/- 1.956		Correlation/score = 0.244	0
Gender	Female	414 (84%)	14.31 +/- 3.13	0
	Male	79 (16%)	12.75 +/- 4.54	
Nationality	Lebanese	449 (91.1%)	14.08 +/- 3.42	0.679
	Other	44 (8.9%)	13.86 +/- 3.65	
Marital Status	Single	487 (98.8%)	14.14 +/- 3.32	0
	Married	3 (0.6%)	7.66 +/- 6.65	
	Divorced	3 (0.6%)	8.66 +/- 8.50	
Faculty	Medicine	168 (34.1%)	14.91 +/- 3.29	0
	Health Science	132 (26.8%)	13.31 +/- 2.91	
	Pharmacy	105 (21.3%)	13.51 +/- 4.03	
	Dentistry	88 (17.8%)	14.06 +/- 3.36	
Major	Medicine	167 (33.9%)	14.92 +/- 3.30	0.002
	Pharmacy	103 (20.9%)	13.39 +/- 3.98	
	Dentistry	88 (17.8%)	14.25 +/- 3.36	
	Physical Therapy	56 (11.4%)	13.25 +/- 3.43	
	Nursing	30 (6.1%)	13.06 +/- 2.16	
	Medical Lab	29 (5.9%)	13.72 +/- 2.86	
	Nutrition	20 (4.1%)	13.9 +/- 2.88	
Academic Year	First Year	163 (33.1%)	13.02 +/- 3.15	0
	Second Year	99 (20.1%)	13.57 +/- 2.80	
	Third Year	65 (13.2%)	14.10 +/- 3.41	
	Fourth Year	74 (15%)	14.45 +/-4.66	
	Fifth Year	70 (14.2%)	16.24 +/- 2.26	
	Sixth Year	22 (4.5%)	15.68 +/- 3.44	

* Age results are for the mean and standard deviation of age and the correlation with score showing the P-value of the correlation test

The results of the attitude of respondents regarding menstrual pain are shown in Figure 1. The majority of respondents (97%) believed that women should keep track of their menstrual schedule/symptoms, about the same percentage (97%) of participants would discuss menstruation and menstrual pain with their daughters, 95% approved that the husband has a role in helping his wife during her menstrual pain, and 92% thought that the husband should help his wife during menstruation.

All Participants (N= 493) had a negative attitude towards discussing menstrual symptoms with strangers or friends publicly. Most respondents (92%) thought that the

general public does not have sufficient knowledge about menstrual pain.

Table 5 shows the association between attitudes and knowledge scores. Multiple variables were shown to have a statistical significance ($P < 0.05$), higher scores had more positive attitude towards the topic of dysmenorrhea. Most participants (87.6%) agreed that menstrual pain could require seeking medical advice, 97.2% agreed that females should keep track of their menstrual schedule/symptoms, 77.7% thought that menstrual pain was a valid reason to skip classes, and 76.9% thought that a female's decisions are affected by menstrual pain.

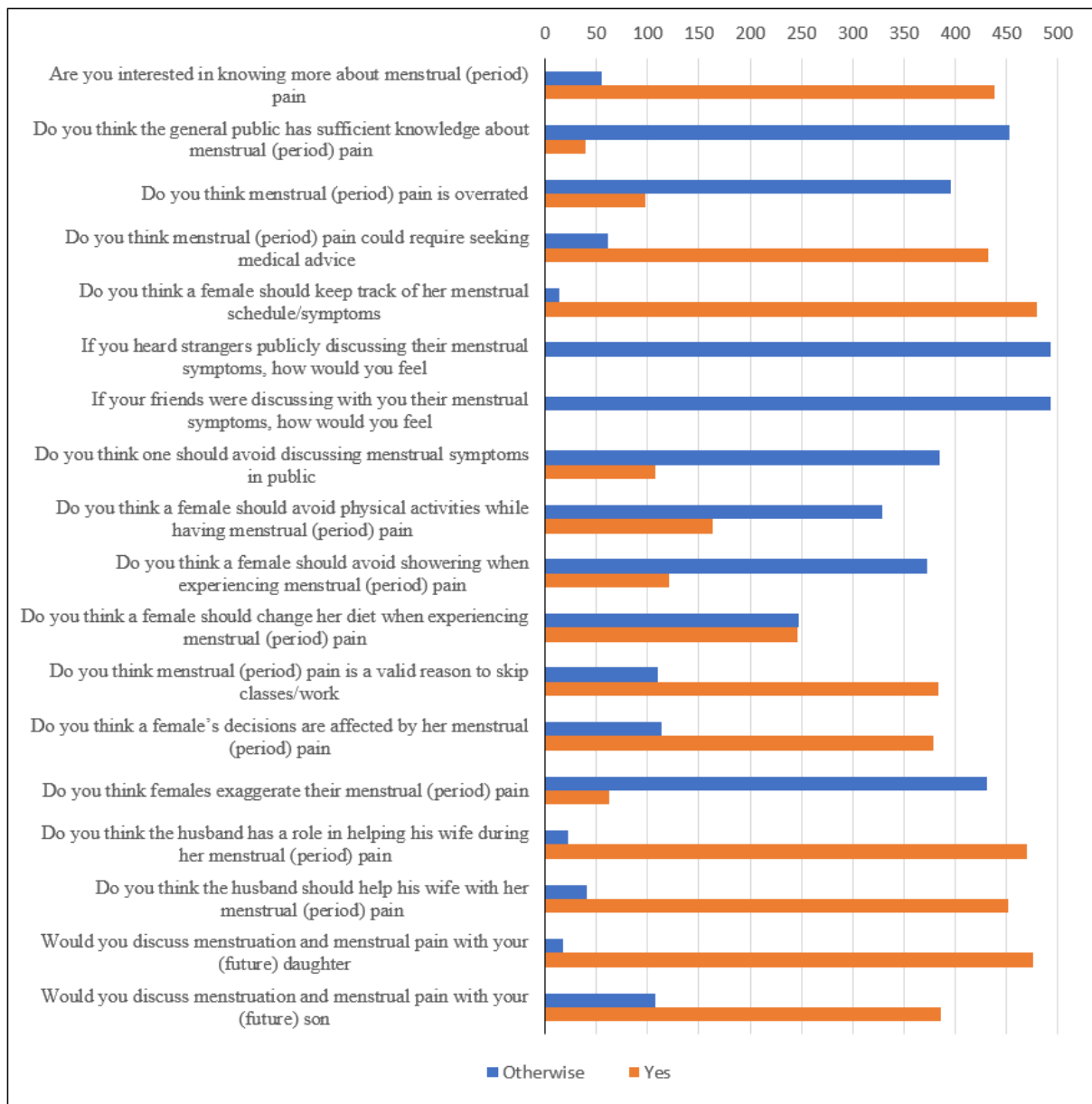


Figure 1. Attitude of Respondents Regarding Menstrual Pain (N=493)

Table 5. Association between Attitudes and Knowledge Scores (N=493)

Variable	Answer	N (%)	Knowledge Score (Mean ± SD)	Knowledge Score
Are you interested in knowing more about menstrual (period) pain?	Yes	438 (88.8)	14.16	0.25
	No	55 (11.2)	13.33	
Do you think the general public has sufficient knowledge about menstrual (period) pain?	Yes	40 (8.1)	13.3	0.107
	No	453 (91.9)	14.14	
Do you think menstrual (period) pain is overrated?	Yes	98 (19.9)	13.31	0.015
	No	395 (80.1)	14.26	
Do you think menstrual (period) pain could require seeking medical advice?	Yes	432 (87.6)	14.59	0
	No	61 (12.4)	10.39	
Do you think a female should keep track of her menstrual schedule/symptoms?	Yes	479 (97.2)	14.2	0.025
	No	14 (2.8)	9.71	
If you heard strangers publicly discussing their menstrual symptoms, how would you feel? (positive/negative feeling)	Yes	0 (0)	NA	NA
	No	493 (100)		
If your friends were discussing with you their menstrual symptoms, how would you feel? (positive/negative feeling)	Yes	0 (0)	NA	NA
	No	493 (100)		
Do you think one should avoid discussing menstrual symptoms in public?	Yes	108 (21.9)	13.56	0.085
	No	385 (78.1)	14.21	
Do you think a female should avoid physical activities while having menstrual (period) pain?	Yes	164 (33.3)	13.91	0.73
	No	329 (66.7)	14.15	
Do you think a female should avoid showering when experiencing menstrual (period) pain?	Yes	121 (24.5)	13.22	0
	No	372 (75.5)	14.34	
Do you think a female should change her diet when experiencing menstrual (period) pain?	Yes	246 (49.9)	14.72	0
	No	247 (50.1)	13.42	
Do you think menstrual (period) pain is a valid reason to skip classes/work?	Yes	383 (77.7)	14.54	0
	No	110 (22.3)	12.42	
Do you think a female's decisions are affected by her menstrual (period) pain?	Yes	379 (76.9)	14.44	0
	No	114 (23.1)	12.85	
Do you think females exaggerate their menstrual (period) pain?	Yes	62 (12.6)	13.34	0.127
	No	431 (87.4)	14.17	
Do you think the husband has a role in helping his wife during her menstrual (period) pain?	Yes	470 (95.3)	14.21	0.026
	No	23 (4.7)	11.22	
Do you think the husband should help his wife with her menstrual (period) pain?	Yes	452 (91.7)	14.26	0.007
	No	41 (8.3)	12	
Would you discuss menstruation and menstrual pain with your (future) daughter?	Yes	476 (96.5)	14.23	0.013
	No	17 (3.5)	9.47	
Would you discuss menstruation and menstrual pain with your (future) son?	Yes	386 (78.3)	14.47	0
	No	107 (21.7)	12.61	

Around 95.3 % and 91.7 % of participants agreed that the husband has a role and should help his wife with her menstrual symptoms respectively. Most respondents answered that they would discuss menstrual pain and

menstruation with their future daughter (96.5%) and future son. Most participants denied that menstrual pain is overrated (80.1%). Among the respondents, 75.5% did not agree that females should avoid showering and 50.1%

replied that they should change their diet when experiencing menstrual pain.

Table 6 shows the cross-tabulation and chi-square association tests between gender and attitude characteristics. Multiple variables were shown to have statistical significance. Most female participants were interested in knowing more about menstrual pain (91.3%). A proportion of 82.4 % of females considered that menstrual pain is a valid reason to skip classes and 98.6 %

confirmed that they would discuss menstrual pain with their future daughter. Most females were against not discussing menstrual symptoms in public (80.9%) and 93% denied that females exaggerate their menstrual symptoms. The majority of males (63.3%) thought that females should change their diet when experiencing menstrual pain and 88.6 % had a negative attitude about not showering when experiencing menstrual pain.

Table 6. Cross-tabulation and Chi-square tests between Gender and Attitude Characteristics (N=493)

Variable	Answer	Males N (%)	Females N, (%)	P-Value
Are you interested in knowing more about menstrual (period) pain?	Yes	60 (75.9)	378 (91.3)	0
	No	19 (24.1)	36 (8.7)	
Do you think the general public has sufficient knowledge about menstrual (period) pain?	Yes	8 (10.1)	32 (7.7)	0.475
	No	71 (89.9)	382 (92.3)	
Do you think menstrual (period) pain is overrated?	Yes	20 (25.3)	78 (18.8)	0.186
	No	59 (74.4)	336 (81.2)	
Do you think menstrual (period) pain could require seeking medical advice?	Yes	66 (83.5)	366 (81.2)	0.229
	No	13 (16.5)	48 (11.6)	
Do you think a female should keep track of her menstrual schedule/symptoms?	Yes	75 (94.9)	404 (97.6)	0.194
	No	4 (5.1)	10 (2.4)	
If you heard strangers publicly discussing their menstrual symptoms, how would you feel? (positive/negative feeling)	Yes	0 (0)	0 (0)	NA
	No	79 (100)	414 (100)	
If your friends were discussing with you their menstrual symptoms, how would you feel? (positive/negative feeling)	Yes	0 (0)	0 (0)	NA
	No	79 (100)	414 (100)	
Do you think one should avoid discussing menstrual symptoms in public?	Yes	29 (36.7)	79 (19.1)	0.001
	No	50 (63.3)	335 (80.9)	
Do you think a female should avoid physical activities while having menstrual (period) pain?	Yes	28 (35.4)	136 (32.9)	0.891
	No	51 (64.6)	278 (67.1)	
Do you think a female should avoid showering when experiencing menstrual (period) pain?	Yes	9 (11.9)	112 (27.1)	0.003
	No	70 (88.6)	302 (72.9)	
Do you think a female should change her diet when experiencing menstrual (period) pain?	Yes	50 (63.3)	196 (47.3)	0.009
	No	29 (36.7)	218 (52.7)	
Do you think menstrual (period) pain is a valid reason to skip classes/work?	Yes	42 (53.2)	341 (82.4)	0
	No	37 (46.8)	73 (17.6)	
Do you think a female's decisions are affected by her menstrual (period) pain?	Yes	63 (79.7)	316 (76.3)	0.819
	No	16 (20.3)	98 (23.7)	
Do you think females exaggerate their menstrual (period) pain?	Yes	33 (41.8)	29 (7)	0
	No	46 (58.2)	385 (93)	
Do you think the husband has a role in helping his wife during her menstrual (period) pain?	Yes	77 (97.5)	393 (94.9)	0.326
	No	2 (2.5)	21 (5.1)	
Do you think the husband should help his wife with her menstrual (period) pain?	Yes	74 (93.7)	378 (91.3)	0.485
	No	5 (6.3)	36 (8.7)	
Would you discuss menstruation and menstrual pain with your (future) daughter?	Yes	68 (86.1)	408 (98.6)	0
	No	11 (13.9)	6 (1.4)	
Would you discuss menstruation and menstrual pain with your (future) son?	Yes	58 (73.4)	328 (79.2)	0.251
	No	21 (26.6)	86 (20.8)	

4. Discussion

Previously published studies about “dysmenorrhea” included only females. In contrast to other studies, the strength of our study relies on the participation of both males and females. Despite efforts to include male participants, there was a disparity in the gender distribution among participants. Only 16% of the participants were males, while 84% were females, as shown in Table 1. It is speculated that some potential male participants chose not to participate in the survey due to either lack of interest or cultural biases surrounding the topic of the female reproductive system. However, it is important to note that a sample size of 79 male participants is considered statistically sound and provides empirical validity to the study.

Previous studies assessed the knowledge and attitude towards dysmenorrhea stating that the most important source of knowledge were mothers [1, 2, 5]. According to MacDonald and Steenbeek, it was observed that in certain cultures, such as the Mi'kmaq tribe, young women traditionally obtained knowledge about their reproductive health through family and community-based practices. These practices involved gatherings, events, and celebrations where stories and information were shared among the community members. This was a prevalent approach before the period of colonization [20]. However, in our study, 57.4% specified that they received information via the Internet, and only 47.9 % from their mothers. Females have a mean score of knowledge significantly higher than males, which may be attributed to the topic being a “female health condition” and may not be a topic of interest to the male student despite being in the health profession. In addition, faculty of medicine students had the highest mean scores of knowledge among all faculties, reflecting their years of comprehensive direct exposure to various physiologic and pathologic health conditions [21]. Also, the correlation between age and knowledge showed that as age increases knowledge increases ($r=0.244$), similarly a significant difference between different age groups was seen in a previous study [1].

The majority of participants in our study thought that it is important for women to keep track of their menstrual symptoms and to seek medical advice. However, previous studies showed that the percentages of women suffering from dysmenorrhea who sought medical advice were really low compared to high numbers of females suffering from pain. [2, 5, 8, 9].

Most participants believed that menstrual pain had an impact on females' decisions. This study demonstrated a statistically significant association between mental status and pain. There were 66% of female students who said they were mentally affected, which could have a negative impact on concentration while studying and sitting for exams [2]. Menstrual pain promoted sleeplessness, restlessness, and inattentiveness in class, and caused

moodiness, irritability, and negatively affected interactions with other people [13].

The study showed that 44% of students skipped classes due to dysmenorrhea. As indicated in previous studies around the world, menstrual pain is the leading cause of absenteeism of females from their schools, professions, and social activities [1]. Dysmenorrhea is the main cause of absenteeism of adolescents from academic and social activities [4]. In another study, it was found that 17% of participants reported frequent absenteeism [2]. The study by Santina et al. showed that 4.9% of females regularly missed 2 days each month because of their menstrual period and as many as 41.4% of girls regularly or every so often missed days from school [9]. Dysmenorrhea has particularly the most negative impact on concentration during lectures [10]. On this account, dysmenorrhea results in activity intolerance and severe pain leading to absenteeism from school and work [13]. However, despite the negative impact of menstrual cycle on mental health, some working women with higher education and anxiety are not highly concerned about their personal well-being [22].

This study also established that most participants believed husbands play a role in supporting their wives during menstruation and menstrual pain. During menstruation, mood, behavior and sleep changes occur in women [13]. A good marital relationship would be a salient positive predictor of health and wellness during this time. Husbands could offer support to their wives and help alleviate symptoms of dysmenorrhea or discomfort. Support could take various forms including sharing work and responsibilities, allowing time to rest, providing medications, or helping seek medical advice. In Lebanon, published studies highlight the effect of marital relationships on health and illness [18].

Our study also revealed that the majority of participants would discuss menstruation and menstrual pain with their future daughters. This finding corroborates previously published evidence revealing that parents, specifically mothers, are the primary source of information concerning menarche and menstruation. Physicians, school, and friends seem to be lesser contributors. In school, only 4.6% of the subjects in an Indian study were given a lecture about menstruation and menarche [5]. This raises a question: Why are sources of information limited? Previous studies published revealed that traditional culture limits conversations concerning menstruation. Furthermore, young girls appear to be more open to discuss those issues than older women [14]. Further studies are needed to assess other factors that may be contributing to this gap in knowledge, as well as initiatives on how to tackle this gap in traditional culture.

In this study, most female participants supported the importance of discussing menstrual pain in public, despite that talking about menstrual cycles in general and dysmenorrhea specifically is still a taboo as they have a negative attitude toward publicly discussing the topic even

with friends as shown in Table 5. It is unlikely that students will hear serious discussions of the menstrual cycle outside a feminist classroom or a gynecologist's office. However, this discussion can help them know more about their bodies and to abolish myths and misinformation, thus breaking the taboo of discussing menstrual health publicly and encouraging them to resist the stigma associated with women's bodies [23].

5. Conclusions

To conclude, dysmenorrhea is a condition that is widely prevalent. Its impact is not only confined to physical unwellness, as it also leads to both psychological and social impairment. In fact, it is the leading cause of gynecological morbidity among women of childbearing age. Unfortunately, the perception of this condition as a topic that should not be discussed openly has led to poor knowledge regarding dysmenorrhea and even caused misconceptions to linger from generation to generation. This is even more evident in males especially in Middle Eastern counties that tend to be more conservative. This study took this fact into consideration and included males. The most prominent findings are supported by similar findings in previous studies. Further studies are needed to assess the limited sources of information regarding dysmenorrhea.

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