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Original Research Article

Severity of Primary Dysmenorrhea and Menstrual Distress among University Students in Kingdom of Saudi Arabia

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ABSTRACT

Background: Dysmenorrhoea is a common problem among the adolescents and young adults but it is unclear the extent to which young adults girls in Majmaah are incapacitated each month due to the severity of dysmenorrhoea. Hence this arises a need to evaluate the menstrual characteristics, prevalence of dysmenorrhoea and its effect on daily routine activities and quality of life.
Objective: The objective of this study was to determine the severity of dysmenorrhoea, its associated symptoms and its effect on absenteeism for classes among young University students.
Setting: Majmaah University, Female section
Methodology: Cross-sectional explorative study using self-administered questionnaire was used.
Results: The study highlights that most of the girls (70%) had moderate to severe menstrual distress symptoms and 30% had mild symptoms. The overall mean for menstrual distress was 62.82 with the standard deviation of 26.9 which shows that most of the girls had one or other kind of discomfort during menstruation. The girls had more negative affect symptoms (15.11) such as loneliness, anxiety, mood swings, tearfulness, irritability, tension, feeling sad or blue, and restlessness during menstruation where as they had less autonomic reaction (5.22) and water retention symptoms (5.46). Moreover compared to the somatic symptoms the girls had more mood and behavior symptoms during menstruation. Apart from these, they also experienced some impaired concentration symptoms too. The associated symptoms reported were weakness in lower limbs (36%), headache (32%) & vomiting (29%). Regarding absenteism for the college, 71% of them had taken leave for 1 to 3 days due to dysmenorrhea every month.
Conclusions: This study shows that dysmenorrhoea and menstrual distress is very common among girls of the Majmaah University as they experience a number of physical, psychological, emotional and behavioral symptoms associated with dysmenorrhea. The correct approach to management of adolescent girls with dysmenorrhoea can reduce the adverse impact of severe dysmenorrhoea on academic activities in the form of class absenteeism.

Keywords:- primary dysmenorrhea, menstrual distress, moos menstrual distress questionnaire.

INTRODUCTION

"It is the eternal changefulness of life
That makes life so beautiful"
- Sigmund Freud

Adolescence is a period of intense changes which take place within the personality of a young girl or boy, who being neither an adult nor a child, find herself to say in a no man's land, sandwiched between the care

free life of childhood and the responsibilities of adulthood. "An adolescent is a traveler who has left one place and has not reached the next". [1]

Menarche, the onset of menstruation is a hallmark of female pubertal development. The onset of menarche is often associated with problems of irregular menstruation, excessive bleeding, and dysmenorrhea. Of these, dysmenorrhea is one of the common problems experienced by many adolescent girls. [2] There are several discomforts such as backache, constipation, abdominal cramps, nausea and vomiting that may be associated during menstruation. Dysmenorrhea is commonly observed in adolescent girls and it reduces the quality of life. A study conducted on dysmenorrhea and its effect on quality of life among university students reported that dysmenorrhea is a common health problem, having negative effects on the Health Related Quality Of Life among adolescents. [3]

Arun Kumar (1999) reported that most common physical problems present either at the time of onset or during menstruation are abdominal pain backache, fatigue, nausea and psychological problems such as desire to remain alone, depression and tension. [4] Drosdzol A, Skrzypulec V reported dysmenorrhea is the most common problem in pediatric and adolescent gynecology and it reaches approximately 20-90% of adolescents and young adult females. [5] Dysmenorrhea in adolescent girls is usually primary and is associated with normal ovulatory cycles and with no pelvic pathology. It has also been reported by a senior obstetrician that probably 5 - 10% of girls in their late teens suffer from severe spasmodic dysmenorrhea interrupting their educational and social life. [6]

A study conducted on prevalence and severity of primary dysmenorrhea among University girls of Hail city, Saudi Arabia reported that the prevalence of dysmenorrhoea was 100%.The percentage distribution for the various degrees of severity of dysmenorrhea in 100 girls was 20%, 43% and 37% for mild, moderate and severe dysmenorrhea respectively.

The researcher during her employment in college found that many girls suffered badly due to dysmenorrhea and they became absent for the college during the time of menstruation. Moreover they were not ready to come out to seek medical advice or treatment for these problems even if it restricts daily life. Dysmenorrhoea is a common problem among the adolescents and young adults but it is unclear the extent to which young adults girls in Majmaah are incapacitated each month due to the severity of dysmenorrhoea. Hence this arises a need to evaluate the menstrual characteristics, prevalence of dysmenorrhoea and its effect on daily routine activities and quality of life.

Objectives of the Study

1. To assess the menstrual variables of adolescent girls.
2. To assess the severity of menstrual distress/ dysmenorrhea of University girls in various domains.
3. To find out the association between the level of dysmenorrhea of girls with their selected menstrual and demographic variables.

MATERIALS AND METHODS

Research Design: An explorative survey technique was used. ***Setting:-*** The study was conducted in Majmaah University in Kingdom of Saudi Arabia. ***Population:*** All the girls who attained menarche and aged between 18 to 22 years and studying in 1^{st}, 2^{nd}, 3^{rd} and 4^{th} year in Majmaah University. ***Sampling technique:*** Simple random sampling technique. ***Sample size:*** 100 girls who met the inclusion criteria were taken as the sample and the mean age was 19±2.66 years.

Inclusion criteria

Unmarried adolescent school girls:

1. Who attained menarche and between the age group of 18-22 years, and are studying in Majmaah University, Saudi Arabia.
2. Who could read and write Arabic / English.
3. Who were willing to participate in the study.
4. Who were attending the class on the day of data collection.

Exclusion criteria

1. Girls who got married
2. Those who suffered with any other systemic disease.

Description of the Instrument

The instrument consists of selected demographic variables, menstrual variables, and Modified Moos Menstrual Distress Questionnaire to assess the severity of dysmenorrhea / menstrual distress.

Part: I

Demographic data consists of age, area of residence, number of siblings in the family, order of birth, dietary habit, and the frequency for including fish in the diet. Menstrual variables includes age at menarche, duration of menstruation and pain, characteristics of menstrual period, interval of menstruation, family history of dysmenorrhea, measures taken to control dysmenorrhea, any associated symptoms of dysmenorrhea, and details on absenteeism in college due to dysmenorrhea.

Part: II

Modified Moos Menstrual Distress Questionnaire was used to assess the severity of menstrual distress/ dysmenorrhea of adolescent school girls. It consists of symptoms or feelings associated with menstruation. The total numbers of items were 43. It is a 5- point rating scale from 0 to 4. For each items, there were 5 options i.e. No, mild, moderate, severe and very severe. An option of 'very severe' had a score of 4, 'severe' had a score of 3, 'moderate' had a score of 2, 'mild' had a score of 1 and 'No' had a score of 0.

The test includes seven sub scales.

1. Pain
2. Water Retention — Somatic Scales
3. Autonomic Reactions
4. Negative Affect
5. Impaired Concentration — Mood and behavioral changes
6. Behavior change
7. Control

The pain scale assesses somatic symptoms usually associated with dysmenorrhea. Such symptoms include muscle stiffness, headache, cramps, and backache, as well as fatigue and generalized aches and pains. The water retention scale assesses physical symptoms such as weight gain, painful or tender breasts, enlargement of breast and abdomen and skin blemish or disorder. The autonomic reaction scale surveys other interrelated physical symptoms, such as dizziness, faintness, cold sweats, hot flashes, nausea and vomiting. The control scale includes symptoms such as chest pain, ringing in the ears, heart pounding, numbness or tingling, blind spots or fuzzy vision and feelings of suffocation. The Negative Affect scale assesses mood and behavioral changes. It measures symptoms such as loneliness, anxiety, mood swings, tearfulness, irritability, tension, feeling sad or blue, and restlessness. The Impaired Concentration scale assesses interrelated symptoms, including insomnia, forgetfulness, confusion, poor judgement, difficulty in concentration, distractibility, poor motor coordination, and tendency to have minor accidents. The behavior change scale surveys a set of behavioral reactions including impaired performance at work or school, stay in bed, an increased tendency to stay at home, avoid social activities and a decreased sense of efficiency.

Overall score was interpreted as follows:

< 50 – mild, 50 to 70 – moderate and >70 severe.

Data Collection Procedure

The study was conducted only after getting permission from Vice Dean of student Affair, Majmaah University. Subjects were explained clearly about the study purpose and a verbal consent was obtained before giving the self administered questionnaire.

Total 250 girls from the University were surveyed to find out the girls, who experienced mild, moderate to severe dysmenorrhea. From them, using simple random sampling method only 100 samples were included for the study.

RESULTS & DISCUSSION

The pain of dysmenorrhea is difficult to measure as it is usually accompanied by other unpleasant sensation. Total 100 students were selected as a sample for the study using simple random sampling method.

Menstrual variables of University girls

The study reveals that more than half of the girls (58%) attained menarchy before the age of 13 and 56% of them had regular menstrual cycle and the duration of menstruation was 2 to 7 days for 84% of the girls. However 58% of them experienced abdominal pain about 2 to 3 days during menstruation. 48% of the girls had the family history of dysmenorrhea, among them 60% of the girls, their mothers had the same problem. The associated symptoms reported were weakness in lower limbs (36%) , headache (32%) & vomiting (29%).

Regarding absenteism for the college, 71% of them had taken leave for 1 to 3 days due to dysmenorrhea. These findings were supported by the studies of O Connell [7] which reported 46% missing one or more days monthly due to dysmenorrhea and Sharma P [8] which reported17.24 % had to miss a class and 25% had to abstain from work due to dysmenorrhea.

About 52% of the girls taken various measures during menstruation inorder to get relief from dysmenorrhea symptoms. Among them Only 23% of them taken pain medications either through Over the counter (OTC) or by consultation with the physician where as 46.2% of them used hot applications, 25% of them followed cold applications and only 5.8% of them were using other measures such as drinking hot tea or coffee. Other studies of dysmenorrhoea have also shown that the practice of self-medication and other remedies are common. [9]

Table.1 Level of Menstrual dystress / Dysmenorrhea among University Girls

Category		Frequency	Percent
1	Mild	30	30.0
2	Moderate	27	27.0
3	Severe	43	43.0
	Total	100	100.0

From table.1, the study highlights that most of them (70%) had moderate to severe menstrual distress symptoms. A study conducted on prevalence and severity of primary dysmenorrhea among University girls of Hail city, Saudi Arabia reported that the prevalence of dysmenorrhoea was 100%. The percentage distribution for the various degrees of severity of dysmenorrhea in 100 girls was 20%, 43% and 37% for mild, moderate and severe dysmenorrhea respectively. [10]

The results from Table 2 shows that the girls had more negative affect symptoms (15.11) such as loneliness, anxiety, mood swings, tearfulness, irritability, tension, feeling sad or blue, and restlessness during menstruation where as they had less autonomic reaction (5.22) and water retention symptoms (5.46). These findings were supported by the study conducted by Wong LP and Khoo EM (2010) among multi- racial Asian adolescent females. The

results showed that total of 80.7% and 83.6% of the participants experienced one or more affective and somatic symptoms respectively in the premenstrual phase. Irritability, mood swing and tension were the three most frequently reported affective symptoms, while fatigue and menstrual cramps were highly prevalent somatic symptoms in menstrual phases. [11]

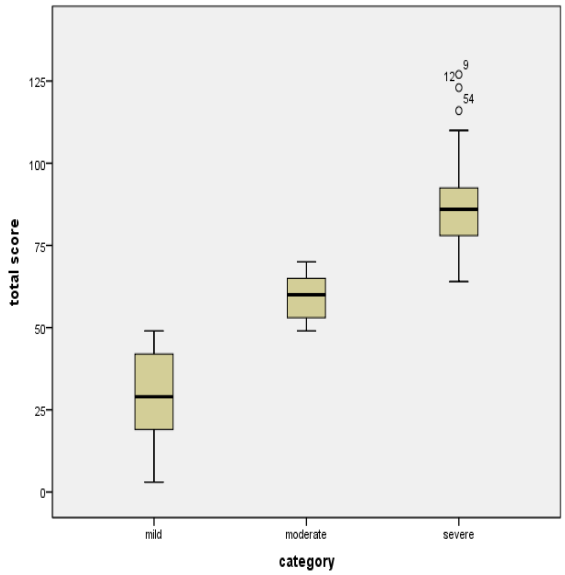

Figure. 1 Level of menstrual distress among University girls

Table.2 Severity of menstrual distress/ dysmenorrhea of University girls in various domains

SI.No	Domains	Mean	Standard deviation
1	Pain symptoms	11.7	5.08
2	Water retention symptom	5.46	3.8
3	Autonomic reaction	5.22	3.3
4	Control symptoms	7.09	5.3
5	Negative affect	15.11	7.7
6	Impaired concentration	10.69	6.7
7	Behavior change symptoms	7.55	4.1
Somatic symptoms		22.38	10.1
Mood and behavior symptoms		40.44	18.8
Overall		62.82	26.9

The mean pain symptoms were 11.7 and impaired concentration symptoms were 10.69. Moreover compared to the somatic symptoms the girls had more mood and behavior symptoms during menstruation. The findings were also supported by Wong LP and Khoo EM. They reported the effects of menstruation on functional impairment and quality of life, in order of importance, include poor class concentration, restriction of social and recreational activities, difficulty to mingle with friends, and poor class performance. [11]

The overall mean for menstrual distress was 62.82 with the standard deviation of 26.9 which shows that most of the girls had one or other kind of discomfort during menstruation.

Table.3 Distribution of dysmenorrhea according to age at menarche

Sl no	Age at menarche	Dysmenorrhea			Total percentage	Chi square value
		mild	moderate	severe		
1	9	1	4	3	8%	x^2=17.28
2	10	1	3	9	13%	df=8
3	11	1	1	8	10%	p=0.27
4	12	10	5	12	27%	S
5	13 and above	17	13	12	42%	

The correlation between the severity of dysmenorrhea and age at menarche in the present study as according to Table 3 was found to be statistically significant ($P < 0.05$). Although the highest percentage of the girls experiencing any of the degrees of dysmenorrhea (42%) was found in the age group 13 and above followed by early maturers (27%).

According to Table 4, the correlation between associated symptoms and various degrees of dysmenorrhea was found to be statistically significant (χ^2 =14.7 df 6 P = 0.06). The table shows that the highest percentage of the participants (36%) had experienced weakness in lower limbs followed by vomiting (32%) and then headache (29%).

Table.4 Association between the severity of menstrual distress and associated symptoms

Associated symptoms		category			Total %	Chi square value
		mild	moderate	severe		
1	Painful mensuration with vomitting	7	7	18	32%	χ^2=14.7 df=6 p=0.063 S
2	Painful mensuration with headache	6	13	10	29%	
3	painful mensuration with weakness in lower limbs	17	6	13	36%	
4	any other symptom	0	1	2	3%	

Table.5 Correlation between severity of menstrual distress and fish intake

Dietary intake of fish	category			Chi square value
	mild	moderate	severe	
All the days in week	0	1	3	χ^2=14.3 df=8 p=0.072 S
Twice in a week	7	4	3	
weekly once	4	3	1	
monthly once	8	7	23	
not at all	11	12	13	

The correlation between the severity of dysmenorrhea and fish intake in the present study as according to Table 5 was found to be statistically significant (P = 0.07). Almost similar percentage of the participants experiencing dysmenorrhea was found in the girls who never include fish in their diet (36%) as well as who took monthly once (38%) where as only 4% of the girls who takes fish all the days in a week experienced menstrual distress. This shows that intake of fish reduces the severity of menstrual distress.

Figure 2 reveals that most of the University girls (33%) attained knowledge on menstruation from their parents followed by 21% didn't get opportunity to know about menstruation, dysmenorrhea and its controlling measures.

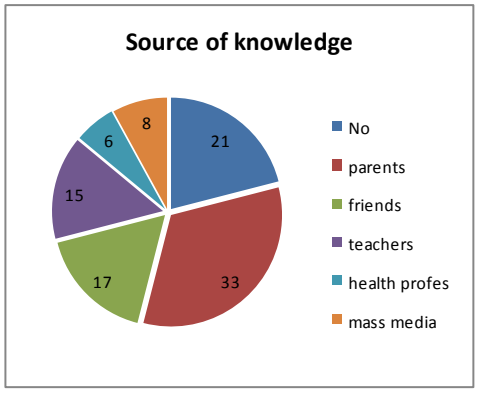

Figure.2 Source of knowledge on dysmenorrhea and its controlling measures.

Limitations

The findings may not be same for girls from other segments of the populations, the study did not look at the effect of dysmenorrhoea on sports and other social activities in college, physical examination was also not done on the students to identify the few students who may have secondary dysmenorrhoea. Some of the limitations associated with this study and cross sectional studies in general could be well addressed by prospective longitudinal studies and by some more in depth cross sectional studies.

Recommendations:

The present study had shown a high prevalence of dysmenorrhoea. However, young college students seem reluctant to seek medical help for this problem. It will improve awareness among health care providers and allow them to be more sensitive to issues related to the management of dysmenorrhoea / menstrual distress.

It can encourage further research to identify and determine the associated risk factors of dysmenorrhoea. The results of this study could be used for better understanding of the epidemiology of dysmenorrhoea and its effect on public health.

CONCLUSION

The present study highlights that most of the University girls (70%) had moderate to severe menstrual distress symptoms, but only 23% girls only took medicines or consulted to doctors. From the study it can be concluded that dysmenorrhea is a very common problem among University girls, and they experience a number of physical, psychological, emotional and behavioral symptoms associated with dysmenorrhea, and with the increased intensity of pain in occurrence of dysmenorrhea the probability of experiencing these symptoms is also increased. Adolescent girls, almost always, silently suffer the pain by dysmenorrhea and the discomfort associated with it due to lack of knowledge about reproductive health. It is probable that this also affects their academic performance. The findings of the study thus indicate the enormity of the problem and the need for appropriate intervention through a change in life style.

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