Menstrual Distress among School and College Students

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Abstract

Objective: To determine menstrual distress among school and college students. **Methodology:** This was a cross sectional survey conducted in different government and private schools and colleges in Lahore city of Pakistan between October 2020 and November 2020. Three hundred and eighty-two (382) female students aged between 13 years-20 years were included and completed menstrual distress questionnaire. The data was analyzed through SPSS-24. **Results:** Result of this study showed that almost 307 (77.9%) female were under moderate menstrual distress. 29 (7.4%) were with minor distress, 56 (14.2%) were associated with acute distress, 2 (0.5%) with very acute distress. In this study, we also compared menstrual distress with Body Mass Index (BMI) and we found that there was no strong relationship between BMI and menstrual distress because those females who are under moderate menstrual distress are normal weight. **Conclusion:** Menstrual distress was moderate among school and college students. Also, a strong positive association between menstrual distress and pre-menstrual symptoms was identified.

Keywords: Menstrual distress; School and college female students; BMI

Introduction

Menstruation is a biological process in which blood is ejected out from the uterus into the vagina episodically at once a month during the fertile age of women from puberty till menopause. The normal menstrual cycle starts at the age of 10 years-15 years old. Average duration of a period more or less 3 days-7 days. With blood loss of 80 ml or more with a normal menstrual cycle, the span is 28 days long while the average cycle length ranges from 21 days-40 days. [1]

The hypothalamus releasing GTH that control the process of menstruation, which trigger the pituitary gland to discharge LH and FSH. FSH encourages the follicles to grow. While LH stimulates maturing follicles by estradiol secretion that is important for ovulation. Once this cycle is disturbed regular menstrual cycle ceases for some period, the nature and length of cessation depends upon initiation of the stressful event. [2]

Due to menstrual distress, there is interference in everyday activities in adolescent girls. Dysmenorrhea is one of the major contributors to back pain, headache, fatigue, and affects taking part in sports, socialization, and attentiveness in home and school or college work. There is a negative correlation between menstrual distresses with menstrual attitude. Menstrual attitude is closely correlated with the feeling of bearing menstrual distress. Attitude may be positive or negative, but by specific understanding we acknowledged the adolescent girls to improve menstrual attitude. [3]

Many adolescent girls during their menstrual cycle experienced various kind of stress that's increasing with age. Dysmenorrhea is one of the most prevailing problems in young females. About 10% of females due to painful periods disturb their job approximately 1 days-3 days. [4]

Menstrual distress includes following features, lack of sleep, mental stress, loss of attention, fluid retention, pain, fatigue. Low backache, tender breast, loneliness, abdominal pains, vomiting, palpitations, and fatigue occur at different stages of the menstrual cycle (before, during, after). [5]

Stress is one of the major manifestations for too much bleeding, have a painful period, too frequently, and miss periods. While in distress someone feels extreme anxiety that leads toward depression and excessive behavioral disorder women can be acquaintances with more stress as compared to men and describes more somatic symptoms disorder. [6]

Negative effects (pain, discomfort) that have been related with menstrual cycle are called menstrual distress. Young girls with menstrual distress prefer to take bed rest instead of using proactive methods and treatment. Physical and psychological symptoms that occur during the menstruation and before the menstruation for example back pain and autonomic response occur due to primary dysmenorrhea which caused menstrual distress during menstrual distress low backache is third most common distress symptoms that negatively affects women daily activities. [7]

The purpose of the present study is to determine menstrual distress among school and college students. Because, in past, there are few types of research (evidence) in our country, that evaluate menstrual distress among adolescents. Many health problems are caused to menstrual distress that can affect daily activities of living such as work at home, job timings or work time, and overall academic performance of the females. Menstrual distress results in an increased use of medical service to alleviate these problems. Females with menstrual distress either go through the symptoms or manage these problems by medications such as analgesics etc. Pain killers are not a long

time solution because of increasing dependency and risks for decreased effectiveness. [8]

In Pakistan, researchers reported that at reproductive age during the period of menstruation girls are even not able to perform their daily activities and some girls have different myths in their minds related to menstruation due to cultural beliefs they do not seek medical treatment as well with gynecologist. Hence, their health compromised to the extent that may lead to serious gynaecological complication in future. Prevalence of dysmenorrhea, ranging from 15% to 70% specially adolescent. [9]

A Pre Menstrual Syndrome (PMS) is a set of symptoms such as backache, irritability, fatigue, that starts 7 days-14 days earlier to the onset of menstruation and diminished when menstruation is starting. [10] Cephalgia, abdominal distension and agitation were the top most symptoms of PMS. The highest three kinds of distress among young adolescent were speech, nutrition and solitary and extreme distress was associated with painful menstruation. [11]

Materials and Methods

This cross-sectional survey was done from October-December 2020 in Lahore. After informed consent a total of 382 students from different schools, colleges and academies ages between 13 years-20 years. The following formula is used to calculate the size of the required sample.

$$n = (z1 - \alpha / 2)2(p)(1 - p) / d2$$

n: Sample size

z: Level of confidence according to the standard normal distribution (for a level of confidence of 95%, z=1.96, for a level of confidence of 99%, z=2.575)

p: Proportion of the population that participated in the previous study was 47%. [5]

d: Tolerated margin of error (for example we want to know the real proportion within 5%)

So, Sample size is 382.

Inclusion criteria

Females age between 13 years-20 years, females with dysmenorrhea menstrual cramps, diarrhea, and nausea during menstruation.

Exclusion criteria

Females diagnosed with pelvic pathologies pelvic congestion syndrome, irritable bowel syndrome, chronic pelvic inflammatory disease, females with a psychological disorder

The data was collected using the MDQ (Menstrual Distress Questionnaire). Rudolf Moos' (MDQ) Menstrual Distress Questionnaire (1986) was designed at New York University. It is the most frequently used self-reported tool for measuring menstrual cycle symptomatology. It identifies the intensity and type of symptoms women experiencing during each phase of the menstrual cycle. This questionnaire is scored through four-point Likert scale (no sign=0, very severe=4) and contains 16 items and divided in four dimensions (pain, control, autonomic

reactions, and (water) weight gain), and designed to records the menstrual signs a week before menstruation, during menstruation, and a week after menstruation in the recent year. A score of ≤ 16 indicates minor menstruation signs, >17 score<32 indicates moderate menstruation signs, >33 scores <48 indicated acute menstruation signs, Scores>49 indicates very acute menstruation signs. [12] We got research approval from ethical considerations committee of the Riphah international university, Lahore and obtained a letter of introduction from Riphah international university, Lahore. We delivered the letter to the authorities of schools, colleges and academies and after research goals explanation and informed consent according to ethical codes and making the necessary co-ordination related the questionnaire distribution time, we conducted sampling and obtained the data. We have also conducted data online.

All collected data was collected and analyzed using Statistical Package of Social Science (SPSS) version 24. Mean ± standard deviation was calculated for quantitative variable while frequencies and percentages were calculated for qualitative variable.

Results

Results showed that 307 (77.9%) female student suffering from moderate menstrual distress in the selected population with a mean age of 16.94 ± 1.541, mean weight 49.0609 ± 8.36668, mean height 1.4899 ± 0.13962, mean BMI 22.6275 ± 5.47196, mean MDQ (muscle stiffness, faintness, abdominal swelling, dizziness, breast tension, fatigue cramps, backache, headache, skin allergies, itch, cold sweats, nausea and vomiting, hot flashes, palpitations, somatic sensations). We check the various factors of premenstrual symptoms (muscle stiffness, faintness, abdominal swelling, dizziness, breast tension, fatigue cramps, backache, headache, skin allergies, itch, cold sweats, nausea and vomiting, hot flashes, palpitations, somatic sensations) by MDQ and check their correlation/relationship with BMI and results show that most school and college students are with moderate distress 307 (77.9%) but their BMI's are normal [Figure 1 andTable 1].

Discussion

Menstrual distress was very common among girls of Majmoah University as they experience many physical, psychological, emotional and behavioral symptoms associated with dysmenorrhea. BMI affect menstrual blood loss in women of reproductive age and weight control is important for women in reproductive years. [13] Earlier researches showed that many young age girls had distress during menstruation a study was conducted on 129 female students, we found that more than 50% of the female participants undergo dysmenorrhea related menstrual distress, fatigue, Acne, stomach problems headache and back pain also common in many females. Mean score of menstrual distress in all female participants was 1.00 (SD=0.76) total possible score ranges from 0 to 4 participants with higher score indicating greater distress. In MDQ dysmenorrhea highest mean score was (1.37) swollen abdomen lowest mean score was (1.01) day by day activities was affected by menstrual distress associated with severe dysmenorrheal. Student school concentration, social work and many other activities are affected by menstrual distress. [14]
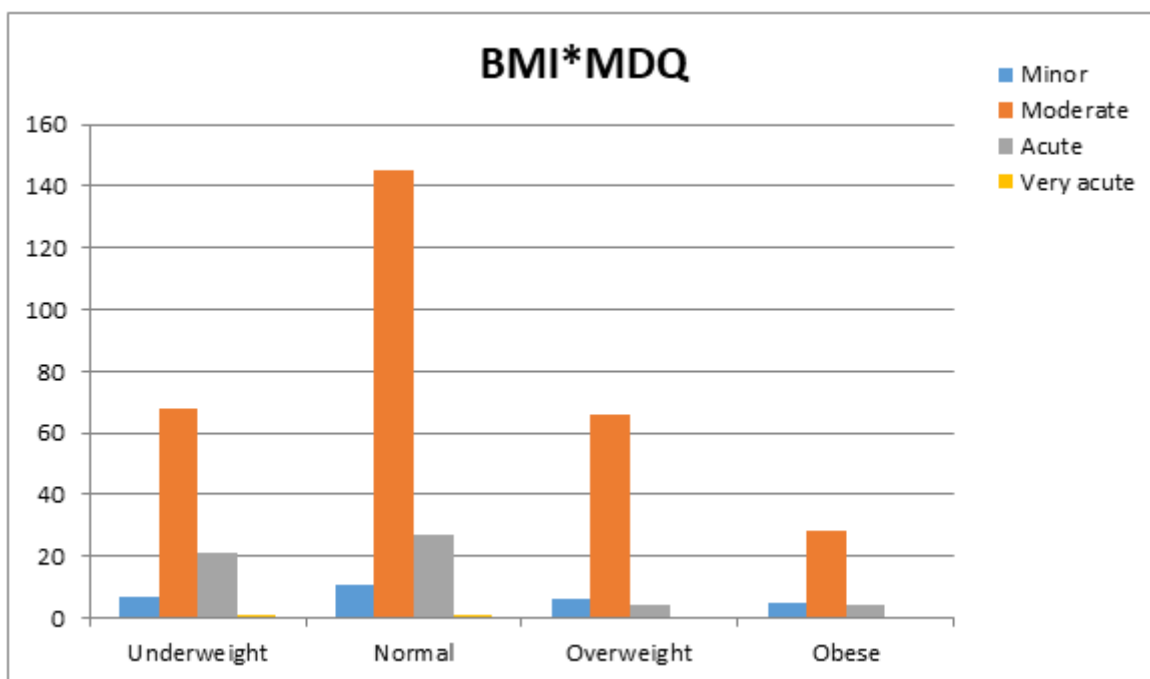
Figure 1: Shows relationship between MDQ and BMI.

Table 1: Showed the menstrual distress level.

	Frequency	Percent
Valid	29	7.4
Minor	307	77.9
Moderate	56	14.2
Acute	2	0.5
Very acute	394	100

A previous study showed that female students whose menarche starts at early age experienced any one pre-menstrual symptom were having menstrual pain and distress. Stress score and BMI were remarkable predictors for menstrual cycle irregularity. Students who had higher stress score or lower BMI are more likely to have experienced premenstrual symptoms (p=0.003) or irregular menstrual cycle (p=0.017). [15]

A survey was conducted on women textile workers in china and compared women with low stress, to moderate stress and high-stress women, In females with moderate stress are at >60% risk of dysmenorrhea and those with high stress are more than twice at risk as compared to females with moderate stress. [1]

In Pakistan we found only few researches that were only related to menstrual distress among school and college students. We have determined the menstrual distress during the menstrual cycle. In past studies we found that no study was conducted to determine the menstrual distress during the menstruation.

It is recommended that all female students (school and college) should be provided with different courses on management techniques of distress as a curriculum part. All schools and colleges should make plans for initial identification of female students with their perceived stress and different problems of menstruation because of perceived stress and menstrual problems academic performance of the female students was compromised but can also harm their psychological and reproductive health.

We highly recommend similar researches conducted in other schools, colleges and academies of Lahore, including other staggering factors such oral contraceptive pills use, inability to sleep (lack of sleep), and socio-economic status of parents to be the cause of menstrual disorder. In a cross-sectional survey it was not feasible to draw a causative relationship between BMI and menstrual distress. Other staggering factors e.g. contraceptive pills (oral) less sleep and socioeconomic status effects were not seen in this research.

Conclusion

We recommend similar studies to be conducted in other town schools and colleges including other staggering factors such as the use of oral contraceptive pills, lack of sleep, and parent's socioeconomic status causing menstrual disorder. It was a cross-sectional survey so it was not possible to conclude a causative relationship between menstrual distress and body mass index. The effect of other confounding factors such as oral contraceptive pills, lack of sleep, and parent's socio-economic status was not considered.

The investigated data depend on questionnaire only and no medical examination and no history was taken.

Acknowledgement

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