Section: OBGY

Original Research Article

MENSTRUAL PROBLEMS IN NURSING STUDENTS - A CROSS-SECTIONAL STUDY IN A TERTIARY CARE HOSPITAL

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Abstract

Background: Menstrual cycle is an important indicator of normal reproductive health of woman; however most of the women experience some form of menstrual problem in their lifetime. These disorders may be so severe that they influence the routine physical activity of the girls and affect their quality of life.
Materials and Methods: A college based cross – sectional prospective study was conducted on 250 unmarried nursing students. They were asked to fill and return a semi-structured self- explanatory questionnaire in English containing details of sociodemography, menstrual history and menstrual problems.
Results: The mean age of menarche was 13.04 ±1.133 years. The mean body mass index (BMI) was 20 ± 4.63kg/m2. Among 250 students, 9.6% have irregular cycles, 90.4% have regular cycles and 70.8% have cycle length of 24-38 days. Majority of girls has one or more menstrual problems. 85.6% have dysmenorrhea as most prevalent symptom and among them 29.2% have severe dysmenorrhea resulting in absenteeism to classes. 41.6% have heavy menstrual flow based on PBAC score. Most of students 78% have premenstrual symptoms.
Conclusion: Dysmenorrhea and PMS are more prevalent among nursing students. Timely diagnosis and early management of these menstrual problems can help these students to lead a healthy life.

INTRODUCTION

Menstruation is the visible manifestation of cyclic physiologic uterine bleeding due to shedding of the endometrium following invisible interplay of hormones mainly through the hypothalamic-pituitary-ovarian axis[1].Menstruation is a natural phenomenon which is an important indicator of women's health, reflecting their endocrine function. Menstrual disorders are an acute class of problem that young women face during their reproductive years, the most prominent gynecology sickness occurring between 20 and 25 years of age.[2] This not only affects their family life but also the day-to-day activities seldom affecting the quality and standard of life, as well the social and national economy.[3] Menstrual disorders are one of the main difficulties faced by women worldwide,[4] greatly affecting the daily life activities of young women,[5] and represents 1% of women's gynaecological appointment.[4] Most of the women experience some or other form of menstrual problem [excessive uterine bleeding, dysmenorrhea, and premenstrual syndrome (PMS)] in their lifetime, most prevalent in adolescence and early twenties. [6]

Dysmenorrhea is a common problem, yet it remains poorly understood and is not taken into consideration when assessing adolescent health problems. Dysmenorrhea is a cramping pain with menstruation, with incidence of 53.8–89.7% in medical/nursing students.[7-11] Premenstrual syndrome is a cyclic physical and behavioural symptom, appearing in days preceding menses and interferes with work or lifestyle, followed by a symptom-free interval. Most common PMS physical symptoms include abdominal bloating, extreme fatigue, breast tenderness, and headaches, all occurring in 50–90% of cases and behavioural symptoms are mood liability, irritability, depressed mood, increased appetite, forgetfulness, and difficulty with concentration, occurring in 50–80% of cases. Premenstrual symptoms are very common, reported by up to 75% of woman with regular menstrual cycles.[12] Reported incidence of PMS in medical/nursing students is 46.7- 69%.[7,9-11]

Stressed lifestyle, irregular food habits, and lack of exercise in medical students make them vulnerable for menstrual abnormalities,[11,13] Dysmenorrhea and PMS are the commonest grounds of absenteeism from class/college, limiting social, academic, sports, and daily activities.[7, 9]

MATERIALS AND METHODS

This is a nursing college based cross sectional study. After approval from the institutional ethics committee, 250 unmarried female nursing students consented and willingly participated in the study. They were explained the purpose of the study and requested to anonymously fill a predesigned semi-structured self-explanatory questionnaire prepared in English and return it to the author immediately. The questionnaire provided data related to their sociodemographic, and gynaecologic information. It contained questions related to anthropometric details, history of excess of facial or body hair and acne, menstrual history including age of menarche, average length of cycle, regularity of the cycle, and number of pads used per day, amount of bleeding is calculated as per PBAC scoring. Menstrual abnormalities like dysmenorrhea was noted and graded as: mild (able to do routine activities), moderate (relieved by medication), severe (absence from the class). Presence or absence of increased vaginal discharge; or a vulval rash were also noted. Occurrence of breast tenderness, bloating, tiredness, headache, anxiety and depression were noted for diagnosing PMS. Number of students who skipped classes and needed medication for some menstrual abnormality and its type were also noted. Medical history, coagulation disorders, habits were noted.

RESULTS

250 unmarried, nursing students participated in this study. The mean age of all participants was 21.50 ± 1.120 years. The mean age of menarche was 13.04 ±1.133 years. The mean body mass index (BMI) was 20 ± 4.63kg/m^2. Sociodemographic and physical details were shown in Table 1. Menstrual details and problems were shown in Table 2. Among 250 students, 9.6% have irregular cycles, 90.4% have regular cycles and 70.8% have cycle length of 24-38 days. Majority of girls has one or more menstrual problems. 85.6% have dysmenorrhea as most prevalent symptom and among them 29.2% have severe dysmenorrhea resulting in absenteeism to classes. Out of 250 students, 41.6% have heavy menstrual flow based on PBAC score. Most of students 78% have premenstrual symptoms. Among them 50% have tiredness 32.4% have tender breasts, 30.8% have anxiety, 24.4% have headache, and 13.2% have bloating, 42% have acne and 12.8% have facial hair. 38.4% have vaginal discharge, and 11.6% have vulval itching. Table 3 to 5 shows association between of BMI with regularity, cycle length, and PBAC score.

Table 1: Sociodemographic, physical details

Variables	Mean ± SD
Age (years)	21.50 ± 1.120
Height (cm)	152.99 ± 8.73
Weight (kg)	46.90 ± 9.35
BMI mean (kg/m^2)	20.13 ± 4.63
BMI (kg/m^2) (n=250)	
Normal	126(50.4%)
Underweight	96(38.4%)
Overweight	28(11.2%)
Presence of	
Facial hair	32(12.8%)
Acne	105(42%)

Table 2: Menstrual details and problems

Age of menarche	13.04±1.133
Menstrual cycle	
Regular	226(90.4%)
Irregular	24(9.6%)
Menstrual cycle (days)	
< 24	57(22.8%)
24-38	177(70.8%)
> 38	16(22.8%)
Dysmenorrhea	
Mild	125(50%)
Moderate	16(6.4%)
Severe	73(29.2%)
Heavy menstrual bleeding	
PBAC < 100	146(58.4%)
PBAC > 100	104(41.6%)
PMS symptoms	
Tiredness	125(50%)
Tender breasts	81(32.4%)

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Anxiety	77(30.8%)
Headache	61(24.4%)
Bloating	33(13.2%)
Vaginal discharge	96(38.4%)
Vulval itching	29(11.6%)

Table 3: Correlation between BMI and regularity of cycles

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	**9.666[a]**	**4**	**.046**
Likelihood Ratio	8.501	4	.075
Linear-by-Linear Association	1.333	1	.248
N of Valid Cases	250		
P<0.05 Significant			

Table 4: correlation between BMI and cycle length

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	**29.965[a]**	**8**	**.000**
Likelihood Ratio	29.866	8	.000
Linear-by-Linear Association	16.262	1	.000
N of Valid Cases	250		
P<0.05 Significant			

Table 5: correlation between BMI and PBAC Score

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	**7.636[a]**	**4**	**.106**
Likelihood Ratio	9.053	4	.060
Linear-by-Linear Association	.365	1	.546
N of Valid Cases	250		

P>0.05 , Not Significant

DISCUSSION

Menstruation is an indicator of normal reproductive and sexual health of a woman and deviation from normal is common. Abnormalities of menstruation may affect physical, physiological or psychological wellbeing of the girls, more so in medical profession who are staying away from their home in hostels, experiencing changed eating pattern, daily routine and stress of studies.

In our study mean age of participants is 21.50 ± 1.12 with mean age of menarche is 13.04±1.133. The mean age of menarche seen by Aref *et al.* and Verma Indu *et al.* was 13.2±0.318 years and 13.37±1.40 years respectively, which are similar to our findings.[6,10]

In our study 24(9.6%) students have irregular cycles and regular cycles were seen in 226(90.4%) with cycle length of 24-38 days in 177(70.8%) which is similar to a study conducted by Verma Indu *et al.* with 88.52% students having regular cycles.[6] In a cross sectional study conducted by Karki and Gupta among 177 students, the mean age of menarche was 12.95±1.08years and 33.3% of their students were having irregular cycles which are more than our observation of 9.6%.[7] Study conducted by Teshome *et al.* showed irregular cycles in 46.2% which is higher compared to our study.[14]

In our study the most common menstrual problem was dysmenorrhea (85.6%). Out of them 6.4% have moderate dysmenorrhea and 29.2% have severe dysmenorrhea. PMS (78%) was the second most common problem. As compared to our study Verma Indu *et al.* reported PMS as most common problem with 85.24% and dysmenorrhea 60.66%.[6] Aref *et al.* reported 77% of dysmenorrhea with 8.5% of college absenteeism.[10] Karanth and Liya have seen dysmenorrhea in 62.5% of female nursing students.[15] Karki and Gupta reported lower incidence (53.8%) of dysmenorrhea.[7] Lakkawar *et al.* have shown a higher incidence 29% of absenteeism from classes due to dysmenorrhea similar to our findings.[9] Teshome *et al.* studied 470 university students of Euthopia for menstrual problems and factors associated with it. In their study, dysmenorrhea was noted in 85.1% which is similar to our study.[14] Aisha Mohammed Adam *et al.* studied menstrual disorders among nursing students in 149 students. Most students (74%) started their menarche at a normal age range of 12-15 years. A relatively high dysmenorrhea (94.0%) was observed among the participants. More than half of the respondents (55.0%) had irregular menstruation.[16] In our study 41.6% of nursing students have heavy menstrual bleeding as per PBAC score whereas Aref *et al.* found that 92.5% of their students had one or more menstrual problem with an incidence of heavy bleeding in 29.9% girls.[10] Ms Sivapriya S *et al.* have shown 84.7% had always regular menstruation. None of the students had irregular menstruation always. Only 15.3% had

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irregular menstruation in between. Menstrual irregularities were not associated with diet, BMI or academic stress.[17]

Symptoms of PMS were reported by 78% in our girls whereas Verma Indu *et al.* found higher incidence of 85.24%.[6] The commonest symptom in our study was tiredness(50%) followed by breast tenderness (32.4%) and anxiety (30%), headache (24.4%), bloating(14.8%) whereas Verma Indu *et al.* found mood swings (84.26%) followed by food cravings (73.72%), breast tenderness (39.74%) and edema or bloating (12.02%) as common symptoms.[6] Teshome *et al.* reported PMS in 72.8% of the girls, the commonest symptoms being irritability, fatigue, and depression.[14] Rumana studied PMS in 270 medical students of a private rural medical college and found prevalence of PMS to be 31.1% with features of mild, moderate, and severe in 20, 7.4, and 3.7%, respectively.[18] In a similar study done by Rafique and Al-Sheik on 738 female health science students in Saudi Arabia, aged 18–25 years, found a high incidence of dysmenorrhea (89.7%), with 12.4% having severe dysmenorrhea. They also noted PMS in 46.7% and the common symptoms of PMS were mood swings, anger, irritability, and tiredness.[11]

CONCLUSION

Dysmenorrhea and PMS are more prevalent among nursing students. Occurrence of dysmenorrhea is increasing in the population; such sufferings would affect the productivity among the females. Timely diagnosis and early management of these menstrual problems can help these students to lead a healthy life. Adequate counselling is recommended regarding physical and emotional health aspects.

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