



## AN OBSERVATIONAL STUDY ON PREMENSTRUAL SYMPTOMS AND DYSMENORRHOEA AMONG NURSING STUDENTS

Ankita Ashoka<sup>1</sup>, Lata Radhakrishna Kollur<sup>2</sup>

**Financial Support:** None declared  
**Conflict of interest:** None declared  
**Copy right:** The Journal retains the copyrights of this article. However, reproduction of this article in the part or total in any form is permissible with due acknowledgement of the source.

### How to cite this article:

Ashoka A, Kollur LR. An Observational Study on Premenstrual Symptoms and Dysmenorrhoea among Nursing Students. Ntl J of Community Med 2015; 6(4):597-600.

### Author's Affiliation:

<sup>1</sup>Intern; <sup>2</sup>Associate professor, Department of Community Medicine, SDMCMS&H, Dharwad

### Correspondence:

Dr. Lata R.Kollur  
Email: kollur1@yahoo.com

**Date of Submission:** 05-09-15

**Date of Acceptance:** 14-12-15

**Date of Publication:** 31-12-15

## ABSTRACT

**Background:** The distressing symptoms of Premenstrual syndrome have been recognized for centuries by physicians.

**Material and methods:** An Observational study including a total of 79 First year BSc Nursing students of SDM College of Nursing Sciences was carried out over a period of 3 months. Predesigned semi-structured questionnaire containing questions regarding sociodemographic profile, menstrual cycle abnormalities, dietary habits and physical exercise was used for data collection. Premenstrual Symptom reporting diaries were given to participants for reporting symptoms over a duration of two consecutive menstrual cycles.

**Results:** Total 79 girls studying in first year BSc nursing were included in the study. Mean age of participants was 17.8 years. Mean age at attainment of menarche was 13.4 years. Out of 79 girls 6(7.59%) had irregular menses. Heavy flow during menses was noted by 18 participants. Dysmenorrhoea was reported by 58(73.4%) participants. One or more symptoms during the two consecutive menstrual cycles were reported by 29 (36.7%) participants. No statistically significant association was found between occurrence of Premenstrual symptoms and consumption of junk food, exercise, consumption of sugar, salt and citrus fruits.

**Conclusion:** Even though menstruation is a physiological process, many suffer from disorders of menstruation and premenstrual symptoms, which needs attention.

**Key words:** Adolescence, Menstrual cycle, Menarche, Premenstrual symptoms, Dysmenorrhoea

## INTRODUCTION

The distressing symptoms of Premenstrual syndrome (PMS) have been recognized for centuries by physicians. Since description of syndrome by Frank in 1931, literature published on PMS has been abundant. But we are no closure to understanding the syndrome today than when it was first described by Frank.<sup>1</sup>

PMS is the cyclical appearance of one or more physical, emotional or behavioural symptoms during the luteal phase of menstrual cycle followed by amelioration of symptoms with onset of menstrual

flow such that the symptoms affect work, efficiency, relationships and social life of the women.<sup>1</sup>

Most menstruating women experience some premenstrual symptoms, but only 2 to 5% suffer from symptoms severe enough to warrant medical treatment.<sup>2</sup>

Whereas Dysmenorrhoea which is derived from Greek origin means difficult monthly flow but now taken as painful menstruation, is distinctly different entity characterized by cramping lower abdominal pain that radiates to back and

legs, Malaise, gastrointestinal and neurological symptoms may accompany the pain. <sup>2</sup>

Hence the present study was undertaken among first year BSc Nursing students to know the number of girls suffering from premenstrual symptoms and the factors influencing the occurrence of premenstrual symptoms.

**MATERIALS AND METHODS**

The present observational study was carried out from October 2012 to December 2012 in order to cover the duration of two consecutive menstrual cycles. Ethical clearance was obtained from Institutional ethical committee. Participants were informed about the purpose and importance of the study and were told how to report symptoms in PMS diary. Informed consent was obtained from the participants. Total 79 female first year BSc Nursing students from Shri Dharmasthala Manjunatheshwara College of Nursing Sciences were selected for the study and each student was given a questionnaire to complete. Confidentiality was maintained. Questionnaire included sociodemographic data like age, education, religion, socioeconomic status, father's and mother's education occupation, number of family members, address. It also included questions regarding menstrual problems, dietary habits and physical exercise. They were also given premenstrual symptom diary to be maintained for a period corresponding to duration of two consecutive menstrual cycles. Statistical analysis- Descriptive statistics was performed. Test of significance like chi square test was applied to see the association between consumption of junk food, citrus fruits, exercise with occurrence of Premenstrual symptoms and dysmenorrhoea using IBM SPSS version 20 Software.

**RESULTS**

All 79 girls in first year BSc nursing gave informed consent to participate in the present study. Their age ranged from 17 to 23 years with mean age of participants of 17.8 years

Most of them were Christian by religion 57(72%) and Hindus were 22(27.8%). Most of them belonged to nuclear families 61(77.2%). None of the girls were married. All girls had achieved menarche. Minimum age at attainment of menarche was 10 years and maximum age was 16 years with mean age at attainment of menarche of 13.4 years.

Out of 79 girls 6(7.59%) had irregular menses. Heavy flow during menses was noted by 18 participants. Dysmenorrhoea was reported by 58(73.4%) participants. Use of medication for relief of pain

was reported by 19(24.05%) participants of which 2 used homeopathic medication and one girl used fenugreek seeds.

**Table 1: Age wise distribution of study participants**

Age in completed years	Number (%)
17	26 (32.9)
18	44 (55.7)
19	7 (8.9)
22	1 (1.3)
23	1 (1.3)
<b>Total</b>	<b>79 (100)</b>

**Table 2: Distribution of study participants according to age at menarche**

Age at menarche	Number (%)
10	1 (1.3)
11	1 (1.3)
12	11 (13.9)
13	32 (40.5)
14	19 (24.1)
15	14 (17.7)
16	1 (1.3)
<b>Total</b>	<b>79 (100)</b>

**Table 3: Percentage of Premenstrual symptoms reported by study participants**

Premenstrual symptom	Number (%)
Breast Tenderness	5 (6.33)
Abdominal Pain	29 (36.7)
Leg Pain	17 (21.5)
Anger	23 (29.1)
Irritation	26 (32.9)
Backache	19 (24.1)
Headache	8 (10.1)
Tired	4 (5.06)
Vomiting	1 (1.27)
Depression	11 (13.9)
Moodiness	11 (13.9)
Nausea	1 (1.27)
Abdominal Bloating	4 (5.06)
Pimple	5 (6.33)

When asked, whether they had any prior information regarding menstruation, 70 girls replied positively, source of information being mother in majority of answers followed by information provided through school health education. When asked opinion regarding menstruation most of them considered it to be the sign of maturity followed by natural event, flow of impure blood.

Participants were asked to describe the premenstrual symptoms, they described it as combination of 1 to 4 symptoms. From the above table commonest symptom reported was abdominal pain followed by irritation, anger.

These were symptoms reported by the study participants in the PMS diary. Out of 79 study participants 29 (36.7%) had reported one or more symptoms during the two consecutive menstrual cycles. Premenstrual symptoms were occasional in 5(6.2%)

and were absent in 37(46.8%) girls. However PMS diary of 8(10.1%) girls was incomplete.

No statistical association was seen between occurrence of premenstrual symptoms and consumption of junk food as shown in table no. 4

**Table 4:- Association between dietary habits and exercise with occurrence of premenstrual symptoms**

	Occurrence of Premenstrual symptoms		Total	P value
	Absent (n=16) (%)	Present (n=63) (%)		
<b>Consumption of junk food</b>				
More frequent (1 or > times in a week)	10 (62.5)	54 (85.7)	64	0.067
Less frequent (once in a month)	6 (37.5)	9 (14.3)	15	
<b>Consumption of extra sugar</b>				
More frequent(>1 per week)(1)	11(68.7)	36 (57.1)	15	0.570
Less frequent(</=1 per week) (0)	5 (31.2)	27(42.8)	64	
<b>Exercise</b>				
More frequent(1 />1 per week)(1)	2(12.5)	11(17.4)	13	1.000
Less frequent(</=1 per week) (0)	14(87.5)	52(82.5)	66	
<b>Consumption of fruit</b>				
More frequent(>1 per week)(1)	3 (18.7)	16(25.3)	15	0.748
Less frequent(</=1 per week) (0)	13(81.2)	47 (74.6)	64	

Similarly no statistically significant association was found between extra consumption of sugar,exercise, consumption of citrus fruits and occurrence of premenstrual symptoms as shown in table 4. Consumption of citrus fruits, junk food, excess sugar and exercise showed no association with occurrence of dysmenorrhoea. There was no statistically significant association between occurrence of Premenstrual symptoms and dysmenorrhoea.

**DISCUSSION**

Menstruation is a physiological process. Most of the women consider pain and other symptoms which occur before and during menstruation as a normal phenomenon or because of timidity and shyness do not bring forth these problems. But even if it is a physiological process ,it has significant impact on life of females.

In the present study mean age at menarche has been 13.4 years. Similar finding has been reported by another study,<sup>3</sup> where the mean age at menarche has been 13.6 years. P. R. Kokiwar et al,<sup>4</sup> studied adolescent girls during 2007 and observed the mean age at menarche to be 12.8 years. Other studies <sup>5,6</sup>observed that the mean age at menarche has been ranging from 10.8 years to 13.6years which is similar to observation in the present study.

Out of 79 girls, in the present study, 6(7.59%) had irregular menses. Heavy flow during menses was noted by 18 participants. Dysmenorrhoea was reported by 58(73.4%) participants. Agarwal K.N. et al,<sup>7</sup> studied 300 adolescent rural Delhi girls out of

which 97 have reached menarche.In 70.8% there has been dysmenorrhoea .The mean age of menarche has been 12.8 years in dysmenorrhoea girls. Vaidya R.A.et al,<sup>8</sup> found that out of 782 girls that have been studied 586 have attained menarche and in 586, 12 have reported to have menstruated only once.In this study the prevalence of dysmenorrhoea has been 55%,and profuse period of menorrhagia in 47(8.2%) girls. Hegde K et al,<sup>9</sup> observed that the girls having regular cycles to be 61%,55% of which have been painful. Goswami S.et al,<sup>10</sup> studied 124 adolescent girls attending the gynaecological outpatient department,have found that Menstrual disorders have been the commonest problems(70.83%) which varied from amenorrhea (29.16%) to menstrual dysfunction(70.83%).Seventeen girls have menorrhagia.

In the present study,most of the adolescent girls have considered menstruation to be the sign of maturity followed by natural event, flow of impure blood. In a study done by Shilpa Nagar et al<sup>11</sup>,many of them (42%) agreed that menstruation is unclean/dirty/bad blood while the rest thought it as a monthly process .

When asked regarding prior information about menstruation, in the present study, reply of 70 (88.6%) girls has been positive and source of information in majority of answers has been mother followed by information provided through school health education.

Almost similar findings were reported by Avril M.Houston<sup>12</sup> where mother has been source of information for most (85%)of them whereas health

care provider has been the source of information for only 2% of adolescents. (Knowledge, Attitudes, and Consequences of Menstrual Health in Urban Adolescent Females -Avril M. Houston, *J Pediatr Adolesc Gynecol* (2006) 19:271e275)

In present study ,out of 79 study participants, one or more symptoms during the two consecutive menstrual cycles have been reported by 29 (36.7%). Premenstrual symptoms have been occasional in 5(6.2%) and absent in 37(46.8%) girls. However , in case of 8(10.1%) girls PMS diary has been incomplete.

PMS has been the most prevalent (84.3%) menstrual disorder in study population, followed by dysmenorrhea (65%), abnormal cycle lengths (13.2%), and excessive bleeding (8.6%) in a study done by Avril M.Houston <sup>12</sup>.

In the present study no association has been found between occurrence of Premenstrual symptoms and exercise. In a study done by Anandha Lakshmi et. al<sup>13</sup> among the students doing physical exercise regularly, PMS has been reported by only 26.2% whereas 73.8% of the students who were not involved in physical exercise reported PMS. Borderline association has been found in the present study between consumption of junk food once or more frequently in a week. In another study,<sup>13</sup> out of 94 students having frequent fast food habits, 36.4% had pre-menstrual syndrome and 33.7% had dysmenorrhoea.

Similarly no association has been found between exercise and dysmenorrhoea in our study. Similar finding has been reported by another study where no association has been seen between exercise and dysmenorrhoea.<sup>13</sup> Prevalence of dysmenorrhoea among the respondents in the study by Dinesh et al<sup>14</sup>, has been 76.9% compared to 61% reported from Chennai<sup>15</sup> and 63.5% from Delhi<sup>16</sup>

## CONCLUSION

Even though menstruation is a physiological process, it causes considerable proportion of morbidity. Many beliefs and sociocultural factors play role in determining the way they think about menstruation and also the way they seek health care. This needs to be taken care of during adolescent period as they are going to be future mothers.

## REFERENCES

1. VR Walvekar,MJ Jasswalla,PH Anjaria .Reproductive endocrinology-A clinical approach ,2nd edition. New Delhi:Jaypee Publishers; 2001 .pg.no.234-41
2. Bijoy Sree Sengupta,SirisK Chattopadhyay. Sengupta:Gynaecology for postgraduates and practitioners,2nd edition.New Delh:Elsevier Publishers;2007. Pg.no. 96-108
3. Nair P,Grover V,Kannan A. Awareness and practices of menstruation and pubertal changes among unmarried female adolescents in a rural area of east Delhi.Letter to editor.Indian journal of community medicine,2007;32(2);156-57.
4. Kokiwar P.R.Saiprasad G.S: Anemia among adolescent girls.Indian Journal of Public Health;October -December 2007;51(4),pg.no.252
5. Kapoor J,Aneja S:Nutritional disorders in adolescent girls.Indian Paediatrics. 1992;29,969-973.
6. Singh J,Singh J.V,Shrivastava A.K.,Suryakant: Health status of adolescent girls in slums of Lucknow, Indian journal of Community medicine.April- June 2006;31(2) 102-103.
7. Agarwal K.N. :- Dysmenorrhoea in adolescent girls in rural area of Delhi.A community based survey.Indian Journal of Public health,1997;41(3);84-85
8. Vaidya R.A.: Menstrual pattern and growth of school girls in Mumbai .Journal of family welfare.1998;44(1);66-72
9. Hegde K ,Desai P,Hazra M.Adolescent menstrual pattern. Journal of obstetrics and gynaecology. 1989;269-74
10. Goswami S. Dutta Rekha,Sengupta Sibani. A profile of adolescent girls with gynaecological problems.J obstet gynaecol India;2005;55(4);353-55
11. Shipra nagar. Knowledge of adolescent girls regarding menstruation in tribal areas. Stud Tribes Tribals, 2010;8(1): 27-30
12. Avril M. Houston .Knowledge, Attitudes, and Consequences of Menstrual Health in Urban Adolescent Females . *J Pediatr Adolesc Gynecol*,2006; 19:271-75
13. Anandha Lakshmi. Prevalence of Premenstrual Syndrome and Dysmenorrhoea among Female Medical Students and its Association with College Absenteeism. *Int J Biol Med Res.* 2011; 2(4): 1011 -16
14. Dinesh Kumar .Menstrual Pattern among Unmarried Women from Northern India.*J Clin Diagn Res.* 2013; Sep; 7(9): 1926-29.
15. Sheila W, Malathy K, Premila S. Menstrual and gynecological disorders in 500 school girls in Madras city. *J Obstet Gynaecol India.* 1993;43:940-45.
16. Nair P, Grover VL, Kannan AT. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. *Indian J Community Med.* 2007;32:156-7.