Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2014; 2(4D):1431-1435 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com **DOI:** 10.36347/sjams.2014.v02i04.058

Research Article

Prevalence and Severity of Physical Symptoms Encountered During Menstrual Cycle in Healthy Young Girls

Sonika Agarwal[1], Babita Bansal[2], Jaspreet Takkar[3], Deepak Kumar Agrawal[4], V. K. Chawla[5]
[1]Certified as specialist in fitness nutrition by ISSA, Senior Dietician, Prettislim Bandra(W), Mumbai, Maharashtra, India
[2]Ph.D Scholar (Med. Physiology), Senior Demonstrator, Department of Physiology, Gian Sagar Medical College & Hospital, Ramnagar, Patiala, Punjab-14060, India
[3]Assistant Professor, Department of Physiology, Gian Sagar Medical College & Hospital, Ramnagar, Patiala, Punjab-140601, India
[4]Resident, Department of Orthopaedics, Sri Guru Ram Das Institute of Helath Sciences & Research, Sri Amritsar, Punjab, India
[5]Professor & Head, Department of Physiology, Jodhpur Medical College (A Unit of National University-JNU), Jodhpur, Rajasthan, India

***Corresponding author**
Ms. Babita Bansal
Email: babitanvi@gmail.com

Abstract: The present study was carried out on 600 unmarried healthy college going girls between the age of 18 to 23 years, with regular menstrual cycles from Jodhpur(Western Rajasthan), during the period from June 2006 to May 2007 to compare the prevalence and severity of physical symptoms experienced during menstrual cycle. The mere mention of the topic has been tabooed in the past and even to this day the cultural and social influences appear to be hurdle for advancement of knowledge on the subject. This study is a moderate attempt to asses not only prevalence and severity of various physical symptoms associated with menstruation in healthy young girls but also to know the extent of effect it has on their productivity at home or at work place. In the present study, girls were asked to provide information related to age, religion, age of menarche, menstrual history and physical symptoms associated with menstrual cycle. It was observed that 89.8% of girls had varying degree of physical problems. In some problems were severe enough to affect the quality of work at their home or work place and to warrant medical treatment. Thus, menstrual problems are not a trivial complaint. Because of its high prevalence and adverse impact, girls should be encouraged to talk about their problems during menstruation, so that effective measures can be taken to decrease the severity of their symptoms and enhance their working capability and quality of life.
Keywords: Menstrual Cycle, Prevalence, Physical Symptoms, Severity.

INTRODUCTION

The menstrual cycle has been the subject of many traditional tales, myths and mystery. The menstrual cycle may affect women physically, psychologically and behaviorally, but the majority of changes experienced do not interfere with their lives. Some women however do experience menstrual disturbances, either psychological or physical, which profoundly affect their ability to function as they would like.

Menstruation is the vaginal discharge of blood along with degenerative uterine endometrium for 3-5 days, every month. It is called menstruation (menstrualis, monthly) because, strangely enough, it's periodicity of 30+3 days almost coincides with that of our calendar month [1]. It is linked and controlled by cyclic fluctuations in the levels of female sex hormones estrogen and progesterone. In cross sectional surveys, 60% to 93% of all women of reproductive age report experiencing uncomfortable physiological and psychological symptoms [2-4].

The mere mention of the topic has been tabooed in the past and even to this day the cultural and social influences appear to be hurdle for advancement of knowledge on the subject. This study is a moderate attempt to asses not only prevalence and severity of various physical symptoms associated with menstruation in healthy young girls but also to know the extent of effect it has on their productivity at home or at work place.

MATERIALS AND METHODS

The present study was carried out on 600 unmarried healthy college going girls between the age

of 18 to 23 years, with regular menstrual cycles from Jodhpur(Western Rajasthan), during the period from June 2006 to May 2007.Prior ethical approval from Institutional Ethical Committee was obtained. The subjects were explained the purpose of study and were assured of their identity secrecy. This was essential for their full cooperation and appropriate results. Cases of irregular cycles, chronic disease, with history of drug affecting the menstrual cycle and those who were non cooperative or reluctant in providing information were excluded from the study.

For the purpose of study a prepared questionnaire was distributed to each girl and they were asked to provide information related to age, religion, age of menarche, menstrual history and physical symptoms associated with menstrual cycle. Information so obtained was analyzed to find out (a) The average age of menarche, (b).Menstrual history, (c).Average duration (in years)for regularization of cycles since menarche, (d).The prevalence and severity of problem/symptoms associated with menstrual cycle as per questionnaire .

RESULTS

We observed that the mean age of menarche was 13.9 years with majority of girls (86.3%) attaining menarche between 13 to 15 years(Table 1,figure 1).The average intermenstrual period was 28-30 days and the average duration of bleeding was 3 to 5 days. 55.8 % of the girls had regular cycles since menarche, while in another 26.3%girls, menstrual cycle became regular within first year of menarche. Overall 93.8% of girls experience some cyclical perimenstrual symptoms, which included physical, psychological, autonomic and behavioural. Each girl had a combination of either two or more than two problems. However 5.2 % of the girls did not have any complaint.

Physical problems was present in 539 cases (89.8%) girls with varying degree of severity(mild to moderate)with maximum numbers of girls experienced lower abdominal pain and low back pain.Table-2 shows prevalence of various physical symptoms according to the subjective severity. Lower abdominal pain was main physical complaint experienced by 65% of subjects of varying degree with mild pain in 22.7%moderate in 24.5%,and 17.8% subjects reported severe pain during cycle. Low back pain was complained by 50.5% subjects with mild pain in 23.8%,moderate in 17.5% and 9.2 % subjects had backache beyond tolerance. Pain in lower limbs was found in 39.0% of the subjects with mild pain in 18.5% moderate in 12.8% and severe pain in 7.7% subjects. Bodyache and headache was complained by 20.0% and 12.7% subjects respectively with mild pain in 14.2% and 8.7 %, moderate in 3.7% and 2.2% subjects respectively. Whereas, only 2.1% and 1.8%subjects had severe degree of bodyache and headache respectively. Fatigue and breast pain was complained by 51.2% and 5.5% of subjects.

In some subjects (18.8%) the severity of physical problems was great enough to warrant the medical treatment (Fig. 2).

Table 1: Age of Manarche

Age of menarche (years)	Number	%
less than 13 (12)	48	8.0
13-15	518	86.3
more than 15 (16)	34	5.7
total	600	100

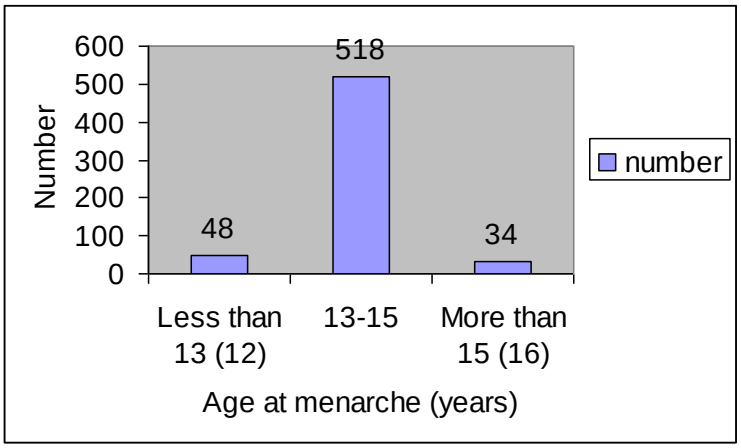

Fig. 1: Age of Menarche

Table 2: Prevalence and Severity of Physical Symptoms related to Menstrual Cycle

Symptoms	Absence of Physical Symptom [n(%)]	Presence of Physical Symptoms			
		Incidence of Symptoms n (%)	Mild n(%)	Moderate n (%)	Severe n (%)
Lower abdominal pain	210(35.0)	390(65)	136(22.7)	147(24.5)	107(17.8)
Low back pain	297(49.5)	303(50.5)	143(23.8)	105(17.5)	55(9.2)
Pain in lower limbs	366(61.0)	234(39)	111(18.5)	77(12.8)	46(7.7)
Bodyache	480(80.0)	120(20)	85(14.2)	22(3.7)	13(2.1)
Headache	524(87.3)	76(12.7)	52(8.7)	13(2.2)	11(1.8)
Mailase/Fatigue	293(48.8)	307(51.2)			
Breast Pain	567(94.5)	33(5.5)			

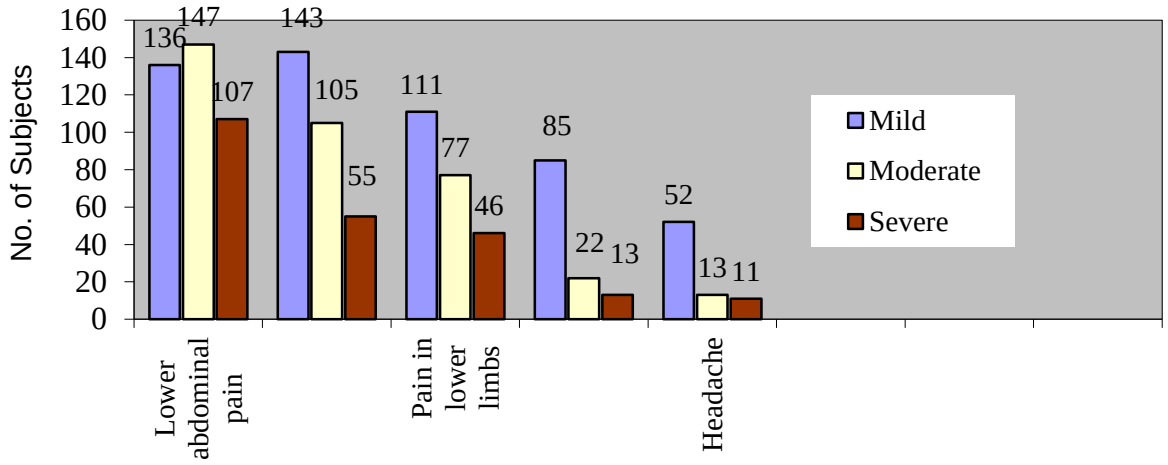

Fig. 2: Severity of Physical Symptoms

DISCUSSION AND CONCLUSION

The objective indicator of maturation among girls is menarcheal age, age at which first menstrual bleeding starts. The mean age of menarche in present study was 13.9 years which is consistent with Koshi *et al*. (1970) and Moronkola & Uzuegbu [5,6].

In the present study majority of girls (87.4%) had their duration of bleeding between 3-5 days. This is in agreement with the findings of Hawkins and Bourne [7]; Thomson [8]; Parker [9] suggesting 3 to 5 days duration of bleeding in most girls [7-9]. We see that 62.2 % girls had their cycles in the normal range of 28 to 30 days. A similar pattern that the average length of menstrual cycles ranges from 26 to 31 days was reported by Prasad and Sharma [10].

College going young girls frequently experience a variety of menstruation related problems including physical, psychological, autonomic and behavioural changes during menstrual cycle, of which only physical problems were analysed in the present study. In present study, physical problems were present in 89.8 % subjects indicating that it is one of leading problems in girls associated with menstrual cycle. McEvoy *et al*. also revealed painful periods as a common problem in girls [11]. Lower figures for physical problems were reported by Aggarwal K V. K. Chawla (70.8%) [12].

In the present study, subjects were asked for presence and severity of physical symptoms. The physical symptoms described by girls varied as is shown in table 2. Lower abdominal pain was the most common complaint present in about two third of girls. Similar observations were found by Montero *et al*. [13].

Further categorization of lower abdominal pain as shown in the present study is mild (22.7%), moderate (24.5%) and severe (17.8%). The incidence of intolerable pain in the present study is in accordance to the study conducted by Loveleen *et al*. (16.5%) [14]. The prevalence of moderate and severe pain are however higher in present study than those observed by Aggarwal K *et al*. (11.3%, 6.2%) [12] while prevalence of mild pain is lower in present study than observed by this author (52.6%). Prevalence of headache (12.7%) in present study was in consonance with the studies of Raja *et al*. (6%) [15] and Loveleen *et al*. (5.5%) [14]. Higher percentage of headache (40 to 90%) was reported by Ylikorkala & Dawood [16].

The present study revealed that percentage of backache (49.5%) was in consonance with the studies of Loveleen *et al*. (41.8%) [14] and Thomson (50%) [8] but was higher than Sheldrake and Cormack (26%) [17]. Fatigue was also a highly prevalent complaint

reported by 51.2% subjects in present study. Gath D *et al*. reported that 39% girls feel tired during menstruation[18].Higher percentage of fatigue(85%) was reported by Wentz AC(1985)[19].

5.5% of girls complained of breast pain in the present study. Slightly higher percentage of swollen/tender breast (14% to 22%) was found by Raja *et al*. [15]. In the present study, about 18.8% of the subjects warranted treatment due to severe pain during menstruation which is in accordance with the study conducted by Moronkola and Uzyegbu (20%) [6] and Patel *et al*. (14.1%) [20], but differs significantly from Demir SC *et al*., (41%) [21].

In our study the majority of observations related to menstrual problems matched with the observations already reported earlier. However, in some of the menstrual problems the incidences were lower and in some higher than what has been already reported in the past. At this juncture no scientific explanation could be made for the differences, hence study warrants further exploration. The possible explanation for this could be attributed to differences in genetic, geographic socio-economic, cultural, environmental conditions of the subjects. Further, each of these studies employed slightly different symptoms scales, and the samples varied greatly in age, parity and other demographic characteristics.

Thus, menstrual problems are not a trivial complaint. Because of its high prevalence and adverse impact, girls should be encouraged to talk about their problems during menstruation, so that effective measures can be taken to decrease the severity of their symptoms and enhance their working capability and quality of life.

ACKNOWLEDGEMENT

I would like to thank the Department of Physiology, Dr. S. N. Medical College, Jodhpur (Rajasthan), for having permitted me to carry out the present study in this institution and having allowed me use required institutional facilities; Dr. V. K. Chawla, M.D, Professor and Head, Physiology Department, Jodhpur Medical College & Hospital(A Unit Of National University-JNU) Jodhpur for his spectacular and absolutely marvelous guidance and encouragement by virtue of which I could do the best; Mr Ankit Agarwal, Assistant Vice President, SSJ Finance, Mumbai, for his data management assistance and to all the subjects whose contribution form the basis of this study.

REFERENCES

1. Beek JS, Adashi EY, Hillard PA; Puberty and Dysmenorrhea Treatment. In Novak's Gynecology. William & Wilkins Publication, 1996: 771-780.
2. Solmon N.Menstrual disorders,Zenith Infosis2005.
3. Lee LK, Chen PC, Lee KK, Kaur J; Menstruation among adolescent girls in Malaysia: a cross-sectional school survey. Singapor Med J., 2006; 47(10): 869-874.
4. Houston AM, Abraham A, Huang Z, D'Angelo LJ; Knowledge, attitudes and consequences of menstrual health in urban adolescent females. J Pediatr Adolesc Gynec., 2006;19(4): 271-275.
5. Koshi EP, Prasad BG, Bhushan V; A study of the menstrual pattern of school girls in an urban area. Ind J Med Res., 1970; 58(11): 1647-1652.
6. Moronkala OA, Uzuegbu VU; Menstruation: symptoms, management and attitude of female nursing students in Ibadan, Nigeria. Afr J Rep Health., 2006; 10(3): 84-89.
7. Padubidri GV, Daftary NS; Disorders of menstruation. In Hawkins and Baurne Shaw's textbook of Gynecology. 13th edition, 2004.
8. Thomson PDR; Family guide to women's health and prescription drugs. Copyright ©2004 Thomson Healthcare.
9. Parker WH, Parker RL; Problems with your periods. In A Gynecologist's second opinion, 2006.
10. Prasad BG, Sharma P; A study of menstruation of medical college girls at Luckhnow. J Obst Gynec Ind., 1972; 22: 690.
11. McEvoy M, Chang J, Coupey SM; Common menstrual disorders in adolescence :nursing interventions. Am J Matern Child Nurs., 2004; 29(1): 41-49.
12. Aggarwal K, Kannan AT, Puri A, Sharma S; Dysmenorrhea in adolescent girls in a rural area of Delhi-A community based survey. Ind J of Public Health., 1997; xxxxi(3): 84-85.
13. Montero P, Bermis C, Loukid M, Hilali K, Baali A; Characteristics of menstrual cycles in Moroccan girls. Prevalence of dysfunctions and associated behaviours. Ann Hum Biol., 1999; 26(3): 243-249.
14. Loveleen, Kumar R, Walia I; Menstrual problems among adolescents. Bulletin PGIMER, 1999; 33(3): 106-108.
15. Raja SN, Feehan M, Stanton WR, McGee R;. Prevalence and correlates of the premenstrual syndrome in adolescence. J Am Acad Child Adolesc Psychiatry, 1992; 31(5): 783-789.
16. Ylikorlala O, Dawood MY; New concepts in dysmenorrhea. Am J Obst and Gynec., 1978;130(7): 833-847.
17. Sheldrake P, Cormack M; Variations in menstrual cycle symptoms reporting. J Psychosom Res., 1976; 20(3): 169-177.
18. Gath D, Osborn M, Bungay G, Iles S, Day A, Bond A *et al*.; Psychiatric disorder and gynaecological symptoms in middle aged women: A community survey. BMJ, 1987; 294 (6566): 213-218.

19. Wentz AC, Novak ER, Jones GS, Jones HW; Dysmenorrhea, Premenstrual syndrome and related disorders. In Text book of Gynecology,12th edition, The Williams and Williams Company, Baltimore, 1985: 240.
20. Patel V, Tanksale V, Sahasrabhojanee M, Gupte S, Nevrekar P; The burden and determinants of dysmemorrhea: a population based survey of 2262 women in Goa, India. BJOG, 2006;113(4): 453-463.
21. Demir SC, Kadayyfcy TO, Vardar MA, Atay Y; Dysfunctional uterine bleeding and other menstrual problems of secondary school students in Adana, Turkey. J Pediatr Adolesc Gynec., 2000;13(4):171-175.