



PROFILE OF MENSTRUAL CYCLES AMONGST EDUCATED YOUNG ADULT FEMALES IN A METROPOLITAN CITY

Physiology

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ABSTRACT

This cross-sectional interview-based study was conducted on 93 women (education: 12th Standard and above; average age: 20.08 $\pm$ 1.75 years) in a metropolitan city in Maharashtra, India. Their average ages at menarche and awareness of menstruation were 12.96 $\pm$ 1.33 years and 11.85 $\pm$ 1.57 years, respectively. The average duration of menstrual bleeding was 4.97 $\pm$ 1.52 days, with a majority reporting moderate flow. Perimenstrual symptoms included fatigue / tiredness, craving for foods, breast tenderness and mental irritability. Only 23 out of 59 symptomatic respondents (38.98%) had sought treatment. Nearly one-half of the respondents changed sanitary pads two times or less per day and cleaned the genital area only while bathing. 47 (50.53%) disposed off their used sanitary pads along with household waste. The menstrual practices and problems divulged by the educated respondents indicate the need for a larger study for devising interventional programmes.

KEYWORDS

Educated women, Menstruation, Menstrual cycle, Menstrual problems

INTRODUCTION

Menstruation is the cyclical discharging of blood, secretions, and tissue debris from the uterus in non-pregnant females in the reproductive age group. The term "menarche" [Greek: mens = month; arkhē = beginning] refers to the onset of menstruation. Menarche is one of the milestones in a girl's transition to womanhood and her reproductive health is determined by her reaction to menarche and the emotional support she receives from her female relatives and peers. [1] Menarche typically occurs between the ages of 10 and 16 years, [2] but earlier onset can occur with improvement in hygiene, nutritional, and socio-economic conditions in a society. [3, 4]

A woman menstruates for nearly 1800 days, equivalent to 6 years, with blood loss amounting to approximately 80 ml per cycle, from the age of 11-15 years (menarche) till the age of 45-50 years (menopause). [5] A woman spends 1/5th portion of her reproductive life menstruating. [6] Myths and misconceptions are associated with this physiological phenomenon, which adversely affects access to education, employment and health care. [7, 8]

The socio-cultural clampdown on open discussions on menstruation and menstrual practices with taboos is responsible for the social taboos and unfavourable health outcomes related to menstrual problems. [9] Physical (pain and discomfort), psychological and emotional symptoms occur before and during menstruation. [10] Though women's menstrual complaints are widespread, not much attention is paid to understanding them. [10-12] The Global Burden of Disease estimates do not include menstrual dysfunction, like other facets of sexual and reproductive health. [13] Poor personal hygiene and unsafe sanitary conditions during menstruation increase susceptibility to reproductive tract infections and gynecological problems. [14-17]

The risk factors for dysmenorrhoea include young age, [18] nulliparity, earlier age at menarche, heavy menstrual flow and positive family history. [19-22] In women aged between 14 and 20 years, attempts to lose weight were reportedly correlated with increased menstrual pain, independent of body mass index. [23] Depression, anxiety, and disruption of social support networks have been associated with menstrual pain. [24]

The present study was conducted to assess the profile of menstrual cycles among educated young adult females in a metropolitan city.

MATERIALS AND METHODS

This cross-sectional descriptive interview-based study was conducted in a metropolitan city in the state of Maharashtra, India. After explaining the purpose of the study, the consenting participants (adult

females doing post-12th Standard studies or graduation) were interviewed by a female investigator (MSJ), using a pre-tested and pre-validated semi-structured questionnaire.

The data were entered in Microsoft Excel Spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using EpiInfo Version 7.0 (public domain software package from Centre for Disease Control and Prevention, Atlanta, GA, USA). Categorical data were presented as frequencies and continuous data as Mean and Standard deviation (SD). The 95% Confidence Interval (CI) was expressed as: [Mean-1.96*Standard Error] to [Mean+1.96*Standard Error]. Statistical significance was determined at $p < 0.05$.

RESULTS AND DISCUSSION

Demographics: A total of 93 women participated in the study. Their average current age was 20.08 $\pm$ 1.75 years (95% CI: 19.72-20.43 years). Their average body mass index was 21.27 $\pm$ 3.71 kg/m² (95% CI: 20.52-22.03 kg/m²). 48 (51.62%) were vegetarians, 09 (9.67%) consumed mixed diet (non-vegetarian & vegetarian), while 36 (38.71%) consumed non-vegetarian foods only on specific days of the week. Their median current age, median age at menarche and median age of awareness of menstruation were 20 years, 13 years and 12 years, respectively. (Fig. 1).

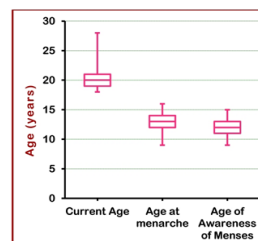


Fig-1: Box plot of age distribution

The average age at menarche was 12.96 $\pm$ 1.33 years (95% CI: 12.52-13.18 years) in the present study. A Mumbai-based study reported that 96.9% of respondents had attained menarche before the age of 15 years and that the mean age at onset of menarche was 13.02 $\pm$ 1.34 years. [25] An Indore-based study reported that the mean age of menarche was 13 years with a range of 9-17 years. [26] The average age of onset of menarche has been reported to be 12.84 $\pm$ 0.96 years [27] and 14.3 $\pm$ 1.2 years. [28]

Age of awareness: In the present study, the average age at which the respondents became aware of menstruation was 11.85 $\pm$ 1.57 years

(95% CI: 11.53–12.17 years). Awareness about menstruation at the time of menarche has been reported to be 89.15% by a Mumbai-based study [25] and over 85% by an Egyptian study. [29] 51 (54.83%) of the respondents revealed that the source of information was a family member while for 16 (17.20%), teachers were the source of information. Similar findings have been reported by an Indian [25] and a Nigerian study. [30]

Table-1: Self-reported pattern of menstrual cycle and perimenstrual symptoms

Parameter	Frequency (n=93)
Irregular menses	19 (20.43%)
Moderate flow	74 (79.56%)
Heavy flow	17 (18.27%)
Passage of clots	59 (63.44%)
Pain and / or cramps	80 (86.02%)
Fatigue / tiredness	73 (78.49%)
Craving for food	58 (62.36%)
Breast tenderness	33 (35.48%)
Mental irritability	78 (83.87%)
Intermenstrual bleeding	20 (21.50%)
Nausea and/or vomiting	21 (22.58%)
Sleep problems	42 (45.16%)
Low back pain	51 (54.83%)

Duration of menses: The average duration of menstrual bleeding was 4.97 +/- 1.52 days (95% CI: 4.67–5.28 days). This compares with the duration of 4.74 +/- 1.11 days reported by another study. [25] 19 (20.43%) reported irregular menstrual cycles in the present study, which is somewhat similar to the frequencies reported by other studies. [25, 31]

Menstrual problems: A majority reported moderate flow but more than one-half of the respondents complained of passing clots. Perimenstrual symptoms included fatigue / tiredness, craving for foods, breast tenderness and mental irritability. (Table 1) 20 (21.5%) had moderate to heavy inter-menstrual bleeding, which was accompanied by pain. 83 (89.24%) had vaginal discharge that was whitish in colour (n=71), scanty (n=40), thick (n=55), and foul smelling (n=24). The symptoms experienced by respondents during menstrual and perimenstrual period are akin to that reported by another study. [25]

Treatment seeking behaviour: In the present study, out of 93 respondents, 59 were self-reporting symptomatics but only 23 out of 59 respondents (38.98%) had sought treatment. 13.97% took iron and vitamin supplements and 7.52% reported that they had sometimes taken medication to postpone their menstrual cycles. Though effective medications are available, studies have reported that dysmenorrhoea adversely affects quality of life, daily activities, socialization, and academic performances, [19, 32] while in the United States, dysmenorrhoea, is reportedly, a leading cause of short-term school absenteeism. [20-22]

Menstrual hygiene: 90 (96.77%) respondents used commercially available branded sanitary pads. Though these respondents were educated, during their menses, 45 (48.38%) changed sanitary pads two times or less per day and 38 (40.86%) cleaned the genital area only while bathing. For cleaning the genital region during menses, 49 (52.68%) used soap and water while 40 (43.01%) used plain water. Another study reported that 52 (40.31%) respondents used soap and water, while 77 (59.69%) used plain water. [25] A study from Indore reported that only 42% washed their genital area daily. [26] A key priority for women and girls is to have the necessary knowledge, facilities and cultural environment to manage menstruation hygienically. [33] In the present study, 47 (50.53%) disposed off their used sanitary pads along with household waste, which is similar to the results reported by another study. [25]

CONCLUSION

Though it was not possible to verify the self-reported data reported by the respondents, the menstrual practices and problems divulged by the educated respondents indicate the need for a larger study for devising interventional programmes.

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