

Urban-Rural Differences in Menstrual Problems and Practices of Girl Students in Nagpur, India

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Menstruation in adolescent girls is often associated with menstruation related problems and poor practices. The study was planned to investigate the menstrual related problems and menstrual practices among school going adolescent girls. The study was a community based cross sectional study in a girls' school in Nagpur. Majority of menstrual practices were significantly better in urban girls as compared to rural girls ($P < 0.05$). Majority of the girls (71.83%) had at least one problem related to menstrual cycles. There was a significant difference in proportion of menstrual problems in rural and urban girls ($P < 0.01$). Menstrual problems are a common source of morbidity in this population.

Key words: Adolescent, Females, India, Menstruation, School.

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The period of menarche needs special attention because menstruation in adolescent girls is often associated with related problems and poor practices [1]. Dysmenorrhea and Premenstrual syndrome (PMS) are common menstrual problems experienced by many adolescent girls [1-5]. Very few studies have addressed menstrual problems and detailed aspects of the menstrual practices among adolescent girls. This study was planned to investigate the menstruation related problems and to assess the menstrual practices among school going adolescent girls.

METHODS

A community-based, cross sectional study was undertaken among school-going adolescent girls in the field practice area of the Rural Health Unit and Training Centre, Saoner, District Nagpur during January to March 2011. Jawahar Kanya School was the only girls' school available in the study area and was selected for this study. Girls from eighth and ninth standard were selected. Assuming menstrual problems in urban and rural girls' population to be 50-60% (based on pilot study findings), 387 girls were sufficient to estimate the true proportion in the study population with a 10% relative precision and 95% confidence interval. Informed consent was sought from the girls or the parents. Participants >15 years old consented verbally whereas parents of <15 years old participant consented to the class teacher. Institutional ethics committee cleared the study protocol.

A pre-designed, pretested and structured schedule was used for the data collection. Data collection was done through personal interview of study subjects by a single female investigators. Out of 407 girls, information on 387 participants was collected on topics relating to menstrual problems experienced by study participants and hygienic practice during menstruation. An International Classification of disease-10 symptoms checklist for PMS [6] was used to identify girls with PMS. Clinical criteria were used to record other problems pertaining to menstruation [7]. The residential status and chronological age were elucidated from school record. The participant told the education of mother and age at menarche. For the study purpose, ANM/MPWs/Staff nurse or doctor were considered as health care providers (HCP).

The data were analyzed using the STATA (version 10.2) software packages. Descriptive statistics was used to determine mean and percentages. Categorical data were analyzed using Chi-square test.

RESULTS

Three hundred and eighty seven girls in the age group of 12-16 years, with the mean (SD) age of 13.82 (0.83) years, were studied. Majority of the participants, 62.3% belonged to urban areas. Majority (92.5%) mothers of the study participants were educated.

Table I reveals that significantly more (60.6%) urban

girls were using sanitary pad as compared to rural (30.8%) girls ($P=0.001$). Cleaning of external genitalia was unsatisfactory in higher number of rural girls (79.4%) than urban girls (58.1%) ($P<0.01$). The median (IQR) number of absorbents used during the last menstrual period was 8 (3.18) by each subject (range, 1-18), and was not significantly different between rural and urban girls.

Majority of the girls (71.8%) had one or the other problem related to menstrual cycles. Dysmenorrhoea in (61%), PMS in (55.8%) and other problems pertaining to menstruation were reported in (55.3%) of the study participants. Three (1%) girls had menstrual period for less than two days whereas the bleeding of 27 (7%) subjects lasted for more than six days. Abnormal bleeding was reported in 35 (9%) of the subjects. About 15% had irregular cycles and a few had missed their cycles.

Table II shows the comparison of menstruation related issues among rural and urban girls. Dysmenorrhoea and PMS were significantly more in urban than the rural girls ($P=0.01$). Substantial proportion (22.3%) of girls never discussed their menstrual problem with anybody.

DISCUSSION

The age of menarche and absence of urban-rural difference in it are consistent with the findings of other researchers [2-4, 8]. Previous studies have reported 11.2 - 20% girls using sanitary pad [2,5]. Finding of satisfactory cleaning of genitalia are consistent with the studies conducted by other authors [5, 9]. In the rural girls, low use of sanitary pad and unsatisfactory cleaning of genitalia could be possibly due to low socioeconomic status of family, lack of knowledge about menstrual hygiene, unavailability of sanitary napkin and privacy.

Dysmenorrhea (55.8%) was the commonest menstruation-related problem reported in this study. This is similar to previous reports [1-4, 9,10]. The complaints of the study participants were well within the range as reported by the other researchers [11-13]. Backache/joint pain, muscular tension/ fatigue, breast heaviness, change in appetite and poor concentration were the most common pre-menstrual symptoms experienced by the participants. Higher level of literacy status of mother, low influence of cultural factors, and more knowledge about menstruation possibly contributed to reporting of high proportion of dysmenorrhea and PMS in urban girls.

TABLE I PRACTICE OF MENSTRUAL HYGIENE IN THE STUDY POPULATION (N=387)

Menstrual hygiene practices	No (%)	Urban (n=241) No (%)	Rural (n=146) No (%)	P value
<i>Use of material during menstruation</i>				
Sanitary pad	191 (49.3)	146 (60.6)	45 (30.8)	0.001
Old cloth	177 (45.7)	86 (35.7)	91 (62.3)	0.001
New cloth	19 (4.9)	9 (3.7)	10 (6.8)	0.066
<i>Cleaning of External genitalia</i>				
Satisfactory*	131(33.8)	101 (41.9)	30 (20.5)	0.001
<i>Material used for cleaning of External genitalia</i>				
Only water	157 (40.5)	95 (39.4)	62 (46.4)	0.554
Soap and Water	225 (58.2)	143 (59.3)	82 (56.1)	0.540
Water and antiseptic	5 (1.3)	3 (1.2)	2 (1.4)	0.916
<i>Storage of absorbent</i>				
Bathroom	135 (34.9)	75 (31.1)	60 (41.1)	0.045
Don't store	133 (34.4)	93 (38.6)	56 (38.4)	0.607
Store with routine cloth	96 (24.8)	61 (25.3)	25 (17.1)	0.001
Others	20 (5.2)	12 (5)	9 (6.16)	0.888
<i>Method of disposal</i>				
Burn it	202 (52.2)	113 (46.9)	89 (60.9)	0.002
Throw it in routine waste	154 (39.8)	109 (45.2)	18 (12.3)	0.001
Others (Don't dispose/Flush/Hide)	26 (6.7)	19 (7.9)	39 (22.6)	0.020

* Satisfactory- cleaning of external genitalia > two times in a day during menstruation.

WHAT THIS STUDY ADDS?

- Baseline data on menstruation related problems and practices in students of a girl's school in Nagpur is provided.

Menstrual symptoms caused heavy impact on school and social responsibilities in adolescent girls, a finding similar to a previous study [2]. This cross-sectional study from India found that 17% of adolescent girls reported missing school classes due to dysmenorrhea, while 60% reported disruption of their daily activities [2]. Rate of absenteeism in rural participants was more. This may be due to restrictions imposed by elders, fear of leakage of menstrual blood while transit, or lack of awareness about remedial measures. Other common disorders in the present study were abnormal menstrual flow and abnormal duration of flow, followed by irregular length of cycle. In a study from Malaysia [14], a "long cycle" was a common menstrual disorder among adolescent girls; suggestive of anovulatory cycles at the time of study.

The study was conducted in one school; hence, the results of the study cannot be generalized. Findings are based on perceptions of the study participants and may also be associated with recall biases.

Majority of the study subject discussed their menstrual problem with their mother and very few had discussed the problem with HCPs. In a previous study from Pondicherry [15], 58.1% of the girls had consulted a doctor for medical advice. Although menstrual irregularity can be normal during the first few years after menarche, other menstrual signs and symptoms such as, dysmenorrhea, PMS, amenorrhea and abnormal uterine bleeding may indicate a pathological condition, which requires prompt attention and referral. Thus, the HCP has an opportunity to discuss reproductive health issues with mother and their daughters who are going through pubertal transition. It is essential to design a mechanism

to address menstrual problems and access of adolescent health care facility. There is a need to study menstruation related problems and health seeking behavior in adolescent girls in different regions of the country.

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TABLE II MENSTRUATION-RELATED ISSUES AMONG THE STUDY POPULATION (N=387)

Variable	Total No.(%)	Urban girls (n=241), No. (%)	Rural girls (n=146), No. (%)
Age at menarche	12.79	12.76±0.09	12.86±0.9
Dysmenorrhea*	236 (60.98)	175 (72.61)	61 (41.78)
Premenstrual symptom*	216 (55.8)	165 (68.4)	51 (34.9)
School absence*	89 (23.0)	33 (13.7)	56 (38.3)
Discussed with mother*	148 (38.2)	117 (48.5)	31 (21.2)
Discussed with health care provider	18 (4.6)	15 (6.2)	3 (2.0)

Data are shown as mean±SD or number (percentage) as applicable; *P<0.001.

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