

A CROSS-SECTIONAL STUDY ON KNOWLEDGE AND PRACTICE REGARDING MENSTRUAL HYGIENE AMONG FEMALE NURSING STUDENTS IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: Menstruation, though a normal physiological process in the females of the reproductive age group, is surrounded by various misconceptions and social taboos. Inadequate knowledge and unhygienic menstrual practices can adversely affect female health. Infections of the reproductive and genitor-urinary tracts, cervical cancer, school absenteeism, academic achievement, poor self-abilities, and diminished well-being have been linked to poor menstrual hygiene practices. We conducted this study to evaluate the knowledge and practices regarding menstruation in female nursing students in a tertiary care hospital.

Methods: This questionnaire-based cross-sectional survey was carried out over a period of 3 months on female B.Sc nursing students at the department of Pharmacology in a tertiary care hospital. Data regarding sociodemographic profile, knowledge of obstetric and gynecological factors, perception of menstruation, and hygienic practice of the participants during their menstruation were collected.

Results: Responses from 165 participants were analyzed. The mean age of the students was 19.64 years. Most of their parents had education up to a diploma and above (47.27% among mothers and 70.9% among fathers). The majority of the participants used to experience dysmenorrhea (52.72%) and had premenarcheal ideas about menstruation (78.18%). Mother was the most common source of information (54.54%), followed by teachers (16.96%) and media (13.33%). Most of the participants knew the source (89.09%) and cause (100%) of menstrual bleeding. A considerable portion (45.45%) thought menstruation was the sign of conception. The majority (96.36%) used commercially made sanitary pads and used to dispose of the used sanitary pads in the dustbin (98.19%) by wrapping them with paper (98.19%).

Conclusion: The present study found an encouraging picture regarding knowledge and hygienic practices during menstruation among the participants. Education regarding menstrual hygiene should be imparted at the grassroots level. In this regard, Anganwadi and health-care professionals, educators, and public network can play a significant role. All mothers need to be taught about the importance of hygienic practices during menstruation, convey correct information to their daughters, and should be encouraged to break the age-old myths and taboos associated with menstruation.

Keywords: Cross-sectional, Menstrual hygiene, Nursing students, Knowledge, Practice.

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INTRODUCTION

One distinctive aspect of female sexual development is the menstrual cycle. The regular flow of vaginal blood and the shedding of uterine mucosa make up these ubiquitous and natural phenomena, which typically manifest 2 years after the emergence of secondary sexual characteristics [1]. During this period, women used to get ready for a clean and safe menstruation experience. In addition, girls have experienced a variety of settings at this point in their lives, including high school.

Regretfully, teenage girls typically go into puberty unprepared, primarily due to inadequate information [2]. Girls have limited access to sufficient information on menstruation since it is still socially taboo. Even the little information that does find its way into their lives through friends, family, and religious organizations is biased and full of misconceptions. Ethiopians are among those who view menstruation as a lifelong process, a sign of a sickness, a punishment from God, or an indication that they have been cursed [3,4]. 70% of females in Indian research had never heard of menstruation before menarche [5]. Girls are the subject to a variety of restrictions during their menstruation, which causes them to become unpleasant about the experience. Due to the detrimental effects of culture and society, there is still a lack of knowledge on this topic. Adolescent females' daily activities, academic and school performance, and social connections have been negatively impacted by these conditions [6].

Menstruating girls' perceptions about menstruation have an impact on how hygienic they practice. Infections of the reproductive and genitor-urinary tracts, cervical cancer, school absenteeism, academic achievement, poor self-abilities, and diminished well-being have been linked to poor menstrual hygiene practices [7]. According to reports, 40–45% of teenage schoolgirls are unaware of the risks associated with their monthly flow and follow risky hygiene habits [2]. This has significant clinical ramifications for the health-care system's efforts to promote menstrual hygiene practices. Enormous initiatives with policy consequences are needed to raise girls' awareness of menstruation and teach them safe hygiene behaviors starting in their adolescence.

In the health-care provider hierarchy, nurses hold a critical position. Even in many isolated and underdeveloped parts of India, they serve as a conduit for information between patients and the medical community. At the local level, they can teach women what they know. This emphasizes the significance of evaluating their menstrual behaviors and understanding of menstruation. Few researches were conducted on nursing students, although numerous studies were done to assess teenage girls' knowledge and practice-related menstruation. The current study was conducted to evaluate the menstrual behaviors and knowledge of female nursing students working in a tertiary care facility.

METHODS

This questionnaire-based cross-sectional survey was carried out at the Department of Pharmacology in a tertiary care hospital from August to October 2022. Female B.Sc nursing students (1st year to 4th year) of this institute willing to participate in the study were included. Students unwilling to participate were excluded. This study employed a convenience nonprobability sampling strategy. The project got underway after receiving approval from the institutional ethics committee.

An interviewer-administered structured questionnaire with four parts was used to gather the data: part I of the questionnaire was used to collect sociodemographic information and sources of information about menstruation (mothers, relatives, teachers, Anganwari workers, and the media). Data on the participants' obstetric and gynecological characteristics were collected in part II of the questionnaire; part III was used to collect data regarding their knowledge and perception of menstruation; and part IV was used to capture data about their hygiene practices during their menstrual flow.

The knowledge of the participants regarding menstruation was evaluated using a series of 20 Likert scale questions adopted from different works of literature [3,4]. Scores spanning from 0 to 3 were provided to each of the 20 questions (0 being strongly disagree, one being disagree, two being agree, and three being highly agree). Questions were framed using both conclusively and disapprovingly termed elements related to menses, and negatively worded statements were scored reversely. Those scoring 30 or higher were considered to have good knowledge of menstruation. Hygienic practice during menstruation was assessed using ten questions. A response indicating good and poor practice was scored "one" and "0," respectively. The tool's overall cumulative score falls between 0 and 10. Participants with a total sum score of more than five were considered to have good menstrual hygiene practices.

Three female senior residents and one supervisor (an assistant professor) of the same department participated in taking interview and data collection process. Each participant faced one session of interviews with an average duration of 30 min.

Statistical analysis

For data analysis, the Statistical Package for the Social Sciences version 20.0 was used. Qualitative data were expressed as frequency and percentage and quantitative data as mean \pm standard deviation (SD).

Ethical clearance

Taken from the Institutional Ethics Committee as Reference No.: MC/KOL/IEC/NON-SPON/1339/0/22.

RESULTS

A total of 165 female nursing students participated in the study. The mean (\pm SD) age of the students was 19.64 (\pm 1.09) years. Most of their parents had education up to a diploma and above (47.27% among mothers and 70.9% among fathers). About 21.81% of the participants were unaware of the hygiene practices associated with menstruation before menarche. In most of the cases, the source of the information was the mother (54.54%), followed by relatives (19.39%), teachers (12.12%), and the Anganwari workers (10.90%) (Table 1).

The mean age of menarche of the participants was 13.43 \pm 1.32 years. Most participants' menstrual cycles were regular for the past 6 months (78.18%). The majority of the participants used to experience severe pain during menstrual flow (52.72%) (Table 2).

Most participants knew that menstruation was a normal phenomenon (80%) and unique to females (70.9%). Most of them strongly disagreed regarding the fact that menstruation was a lifelong process (50.9%) that stopped after the initiation of sexual intercourse (63.63%). The

Table 1: Sociodemographic profile of the study subjects (n=165)

Variables	Categories	Frequency	Percentage
Age	18-22 years	165	100
Living with	Parents	20	12.12
	Peers	128	77.57
	Alone	6	3.63
	Others	11	6.66
Residency	Town	72	43.63
	Rural	93	56.36
Birth order	First	96	58.18
	In between	24	14.54
	Last	45	27.27
Maternal education	Unable to read and write	3	1.81
	Able to read and write	9	5.45
	Primary	15	9.09
	Secondary	60	36.36
Paternal education	Diploma and above	78	47.27
	Unable to read and write	3	1.81
	Able to read and write	6	3.63
	Primary	6	3.63
Family structure	Secondary	33	20
	Diploma and above	117	70.90
	Nuclear	135	81.81
	Extended	30	18.18

Table 2: Obstetric and gynecological-related factors (n=165)

Variables	Categories	Frequency	Percentage
Age of menarche	<12 years	12	7.27
	12-15 years	141	85.46
	>15 years	12	7.27
Regularity of menses for the last six consecutive menstrual cycles	Irregular	36	21.82
	Regular	129	78.18
Family history of dysmenorrhea	Yes	39	23.64
	No	126	76.36
Duration of menses flow	<3 days	21	12.72
	3-5 days	111	67.27
	>5 days	33	20
Pain during menstruation	Yes	87	52.72
	No	78	47.27

majority of them knew different sizes of menstrual pads (92.35%) and medicated pads (89.03%). However, 45.45% of students had the notion that menstruation was the sign of conception, and 18.18% believed that it was a pathological condition. The mean score of knowledge of the participants was 52.03 (range: 36-59) (Table 3).

Most students (96.36%) used commercially made sanitary pads during the menstrual period. Most of them frequently cleaned external genitalia (96.36%) and used to dispose of the used sanitary pads in a dustbin (98.19%) by wrapping them with paper (98.19%). Most of them used to follow a vegetarian diet (69.23%) during menstruation, and none were found to be allergic to soap. The mean score of the participants' practice was 8.4 (range: 6-10) (Table 4).

DISCUSSION

Despite being a typical physiological occurrence in females during their reproductive years, menstruation is associated with several taboos and beliefs about the paranormal [4]. Due to this, a large number of teenage girls are unable to obtain sufficient information about menstruation and good hygiene practices [3]. We selected female nursing students as our study group because nurses have a vital contribution to reproductive health care and are future potential mothers.

We found that the subjects' mean age of menarche was 13.43 \pm 1.32 years. This was comparable to research carried out by Balasubramanian and Shanbhag *et al.* [3,8]. 78.18% of the

Table 3: Knowledge of the participants regarding menstruation (n=165)

Questions	Strongly disagree (0)	Disagree (1)	Agree (2)	Strongly agree (3)
Menstruation				
1. Is a normal phenomenon	0 (0)	0 (0)	33 (20)	132 (80)
2. Is unique to females	6 (3.63)	3 (1.81)	39 (23.63)	117 (70.90)
3. Is a lifelong process	84 (50.9)	72 (43.63)	9 (5.45)	0 (0)
4. Comes with pain and ill health	100 (60.60)	30 (18.18)	15 (9.09)	20 (12.12)
5. Will be stopped after initiation of sexual intercourse	105 (63.63)	42 (25.45)	15 (9.09)	3 (1.81)
6. Is a sign of conception	75 (45.45)	27 (16.36)	45 (27.27)	18 (10.9)
7. Has foul smell	6 (3.63)	48 (29.09)	108 (65.45)	3 (1.81)
8. Is a pathological condition	87 (52.72)	45 (27.27)	30 (18.18)	3 (1.81)
What do you think about the sources of menstrual bleeding?				
9. Uterus	18 (10.9)	0 (0)	0 (0)	147 (89.09)
10. Bladder	165 (100)	0 (0)	0 (0)	0
11. Vagina	147 (89.09)	0 (0)	0 (0)	18 (10.9)
12. Abdomen	165 (100)	0 (0)	0 (0)	0 (0)
What is the cause of menstrual bleeding according to your perception?				
13. Hormonal	0 (0)	0 (0)	0 (0)	165 (100)
14. Diseases	165	0 (0)	0 (0)	0 (0)
15. Curse	165	0 (0)	0 (0)	0 (0)
Which is good to be done during menstruation?				
16. Not allowing to touch others	100 (60.60)	59 (35.75)	4 (2.42)	2 (1.21)
17. Not allowed to go to kitchens	165 (100)	0 (0)	0 (0)	0 (0)
18. Embarrassing/not good to discuss with someone about menses	115 (69.69)	38 (23.03)	7 (4.24)	5 (3.03)
19. Activities done by menstruating women are not blessed	120 (72.72)	30 (18.18)	8 (4.84)	7 (4.24)
20. Being free from menses is a fate	122 (73.93)	37 (22.42)	4 (2.42)	2 (1.21)

Table 4: Menstrual hygienic practice of the participants (n=165)

Questions	Frequency	Percentage
1. I always use absorbent materials during my menstrual flow	117	70.90
2. I always use commercially made sanitary pads during my menstruation period	159	96.36
3. I change pads or clothes more than 3 times a day during menstruation	132	80
4. I used to wear clean clothes washed with soap and water during my menstrual bleeding	129	78.18
5. I commonly dry sanitary clothes with sunlight	66	40
6. I frequently clean my external genitalia during menstruation	159	96.36
7. I dispose of pads by wrapping them in paper	162	98.19
8. I wash and bathe daily with soap during menstruation	153	92.72
9. I constantly clean external genitalia with water and soap during menstruation	147	89.09
10. I dispose of sanitary pads in the dustbin	162	98.19

participants in our study experienced regular menstrual periods. This was similar (73%) to the survey conducted by Kshirsagar *et al.* [9]. However, in the survey by Shanbhag *et al.*, 66% of the participants had regular cycles [3]. In our study, 36.36% of participants' mothers were educated up to high school, while 47.27% had an education of a diploma and above. This is in contrast to the findings by Shanbhag *et al.*, where 52.4% of mothers were illiterate, and only 9.5% completed their primary education [3].

There was a noticeable level of menstrual awareness in this study. Before their first period, more than three-quarters (78.18%) of the females knew what menstruation was. According to research by Nnennaya *et al.*, 76.1% of participants were aware of menstruation before having it [10].

According to the present study, mothers of the participants were the primary source of information on menstruation, (54.54%). This corresponds with the results (56%) of Bhavya's study [11]. Prajapati and Patel also found that 48.9% of individuals got the initial information regarding menstruation from their mothers [12]. Nonetheless, research done in Egypt revealed that most participants (67.8%) learned about their periods from acquaintances, with the media coming in second with 57% [13]. According to a Ghanaian study, teachers are the best source of information about menstruation [14]. Low literacy rates and parents' reluctance about bringing up this subject with their daughters could be the causes [14].

Similar to Bhavya's study, where 86% of participants knew that menstrual bleeding originated in the uterus, the majority of participants in our study (89.09%) were aware of this fact [11]. Since they participated in both research, nursing students are presumably well versed in this information. This result contrasts with the study by Prajapati and Patel, which showed that only 17% of participants knew this information [12].

96.36% of individuals in our survey reported using sanitary pads when menstruating. This is significantly more than what was seen in the research by Prajapati and Patel and Shanbhag *et al.*, where only 26% and 44% of the participants, respectively, utilized sanitary pads [3,12]. Once more, the explanation might be found in the study's participant selection process, which included nursing students who were adequately informed about menstrual hygiene habits.

According to our findings, 80% of the participants changed knickers or pads more than 3 times a day during menstruation. Compared to a study done in Ile-Ife, Southwest Nigeria, 42.5% of the individuals had this habit [15], a substantially more significant percentage. It is comparable to research conducted in Sokoto, northwest Nigeria, where 70% of participants reported changing their absorbents three or more times a day [16].

Most survey participants (98.19%) disposed of their spent absorbents in the dustbins. This is more than the research by Evans and Helene;

Kshirsagar *et al.*, in which 64% and 59% of participants, respectively, disposed of sanitary pads in dustbins [9]. According to the results of another study, dustbins (25.6%), burning (27.3%), and latrines or restrooms (34.7%) were the other methods of getting rid of spent absorbents [10].

92.72% of the participants in our study had a daily, soap-filled bath while they were menstruating. This contrasts with research conducted in Nepal, which found that 43% of participants showered on alternate days during menstruation, and 57% of individuals bathed only once a day [17]. In two different studies conducted in Ife and Benin City, it was found that 84.1% and 83.3% of the participants, respectively, took baths at least twice daily [15]. It is best for their health that most of the girls (89.09%) use soap and water. 53.8% of the participants in Shanbhag *et al.*'s study [3] cleansed their external genitalia after voiding each time.

With a mean knowledge score of 52.03, all participants possessed good knowledge of menstruation. This is in contrast to a study by Nahar *et al.*, where about 57.5% of the respondents had moderate and 19.9% had poor knowledge of menstruation [18]. Regarding menstrual hygiene practices, all individuals exhibited good hygiene, as evidenced by their mean practice score of 8.4. In their investigation, Nahar *et al.* found that just 28.7% of the subjects had good practice [18]. On the other hand, 90.9% of participants in a comparable study in Ethiopia reported adequate menstrual hygiene behaviors [19].

CONCLUSION

While the participants' knowledge and habits around menstruation were generally positive, there were some gaps, such as the belief that menstruation is a symptom of disease or conception and that it is associated with pain and poor health. The teaching and knowledge of menstruation hygiene among female adolescents can be significantly aided by the health sector (Anganwadi and health-care workers), school authorities (teachers), and the media.

AUTHORS' CONTRIBUTIONS

Preparation of the protocol and collection of data were done by Alak Kumar Das. Statistical analysis was done by Jinia Ghosh and Alak Kumar Das. Preparation of the manuscript was done by Jinia Ghosh and Alak Kumar Das.

CONFLICT OF INTEREST

There is no conflict of interest.

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