

Association of sociodemographic characteristics with KAP regarding menstrual hygiene among women in an urban area in Delhi

PALAK GOEL, RAJESH KUMAR, GS MEENA, SUNEELA GARG

Department of Community Medicine, Maulana Azad Medical College, New Delhi, India

ABSTRACT

Introduction: Menstruation despite being a natural process is linked with several misconceptions and false practices, which sometimes results in adverse health outcomes. The aim of this study was to assess knowledge, attitude, and practices regarding menstrual hygiene and their association with sociodemographic determinants among women in an urban area of Delhi.

Materials and Methods: A community-based cross-sectional survey was conducted for a period of 1 year among 350 women age 18–45 years residing in an urban resettlement colony in Delhi. Semi-structured questionnaire containing questions regarding subject's demographic profile, their knowledge, attitude, and practices pertaining to menstrual hygiene was used. It had seven questions regarding knowledge and eight questions each about attitude and practices regarding menstrual hygiene, respectively. A 5-point Likert scale was used to assess women's responses to attitude questions. Practices satisfactory or unsatisfactory were based on UNICEF guidelines. Data were analyzed using SPSS software version 17.

Results: The mean age of women was 26.53 ± 0.295 years. More than three-fourths (88.3%) women had good knowledge, whereas only 32.3% of women had a positive attitude regarding menstrual hygiene. More than two-thirds of the women were using sanitary pads as menstrual absorbent. Significant association was seen between knowledge and subject's marital status ($P = 0.034$) and subject's occupation ($P = 0.046$). A significant association was observed between attitude and socioeconomic status of the participant ($P = 0.001$).

Conclusion: These findings indicate the need for education about healthy menstrual practices. Health education is an essential requirement to fill the knowledge gap to promote accessibility, availability, and sanitary facilities and products.

Key words: Attitude; knowledge; menstrual hygiene; practices.

Introduction

Menstruation is a phenomenon unique to females. Menstruation is the cyclical shedding of the inner lining of the uterus, the endometrium, under the control of hormones of the hypothalamopituitary axis.^[1] Poor menstrual hygiene may lead to problems such as itching or rashes in the perineal region, bad odor, and also major complications such as pelvic inflammatory disease and toxic shock syndrome.^[2] To create a world in which every woman and girl can manage

her menstruation in a hygienic way – wherever she is – in privacy, safety, and with dignity “Menstrual Hygiene Day” is celebrated every year on 28 May.^[3]

The myths and misconceptions regarding menstruation are widespread. Restrictions during menstruation that limit the

Address for correspondence: Dr. Palak Goel,
III-A 167 Nehru Nagar, Ghaziabad, Uttar Pradesh, India.
E-mail: palakgoel.89@gmail.com

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daily activities and routines of women are widely practiced in India.

Since mother and elder sisters are most common first informants for pubertal girls, it is necessary to enquire their knowledge and attitude toward menstruation. Therefore, this study was conducted in reproductive age group women residing in an urban area in Delhi.

Materials and Methods

Study design: This is a community based cross-sectional study

Study area: Gokalpuri, New Delhi

Study period: January 2016–December 2016

Study population: Women of 18–45 years age.

Inclusion criteria

1. All women in the age group of 18–45 years who gave informed consent to be part of the study.
2. The person was a resident of the study area for a minimum of 1 year.

Exclusion criteria

1. Pregnant women or those in lactational amenorrhea were excluded from the study.
2. Persons who were unable to give consent because of mental illness or severe illness.

Sample size

At 95% confidence level and taking the prevalence of satisfactory menstrual hygiene as 33.3%,^[4,5] with a relative error of 15%, the sample size came out to be 348 using the following formula:

$$n = Z\alpha^2 p q/l^2$$

Therefore, a total of 350 subjects were included in the study.

Methodology

The study was conducted by house-to-house visit using systematic random sampling in an urban area, Gokalpuri. Individuals fulfilling the inclusion criteria were selected from each household. If the eligible candidate was not available at the first contact, another visit was made to the household before declaring the subject unavailable. The investigator first explained the nature and purpose of the study and then interviewed the eligible candidates who agreed to participate in the study after getting written informed consent. After recording preliminary data, the candidate was subjected

Table 1: Distribution of study subjects according to socio-demographic profile

Factors	Number of subjects, n (%)
1.Age (in completed years)	
18-20	50 (14.3)
21-30	231 (66.0)
31-40	59 (16.8)
41-45	10 (2.9)
2.Socio-economic status	
I (>=6391)	22 (6.3)
II (3196-6390)	73 (20.9)
III (1917-3195)	151 (43.1)
IV (959-1916)	96 (27.4)
V (= <958)	8 (2.3)
3.Type of family	
Nuclear	305 (87.1)
Joint	45 (12.9)
4.Religion	
Hindu	325 (92.9)
Muslim	25 (7.1)
5.Education status	
Secondary or higher	222 (63.4)
Middle	57 (16.3)
Primary	33 (9.4)
Illiterate	38 (10.9)
6.Mother's education status	
Secondary or higher	47 (13.4)
Middle	24 (6.9)
Primary	30 (8.6)
Illiterate	249 (71.1)
7.Marital status	
Married	282 (80.5)
Unmarried	65 (18.6)
Widow	2 (0.6)
Separated	1 (0.3)
8.Occupation	
Homemakers	261 (74.6)
Student	60 (17.1)
Government job	11 (3.1)
Private job	10 (2.9)
Self-employed	8 (2.3)

to interview through semi-structured questionnaire. The questionnaire was administered in local language, Hindi, for their easy understanding. It had seven questions regarding knowledge and eight questions each about attitude and practices regarding menstrual hygiene, respectively. Practices satisfactory or unsatisfactory were based on UNICEF guidelines.^[6]

Association of sociodemographic determinants with knowledge, attitude, and practices regarding menstrual hygiene

Seven questions were asked pertaining to knowledge regarding menstrual hygiene. For each correct response, they

were awarded a score of 1. Hence, the total possible range of score was 0–7. A subject scoring 4 or more was considered as having good knowledge. Similarly, eight questions were asked regarding attitude and a 5-point Likert scale was used to elicit responses. Hence, the total possible range of score was 8–40. A subject scoring 24 and above was considered to have a positive attitude. For practices regarding menstrual hygiene, eight questions were asked and each correct response was awarded a score of 1 and the possible range of score was 0–8. A subject scoring 4 or more was considered as having good practices.

Statistical analysis

Data were collected, compiled, processed, and analyzed by SPSS software version 17. Quantitative data were expressed by mean and standard deviation, and qualitative data were expressed by percentages; the difference between the proportions was observed by Chi-square test or Fisher's exact

test. Confidence interval of 95% was used and $P < 0.05$ was considered significant.

Ethical considerations

1. The objectives and procedure of the study were explained to all women.
2. Informed written consent was taken from all women willing to participate in the study.
3. The option to opt out of the study was kept open without any clause.
4. Complete confidentiality regarding patient information was maintained through all stages of the study.

Results

Demographic profile

The largest proportion of women belonged to the age group of 21–30 years, and the mean age came out to be 26.53 ± 0.295 years. The highest proportion of women belonged to Class III (43.1%) of Modified B.G. Prasad scale of socioeconomic status.^[7,8] Most of the women were married (80.5%), homemakers (74.6%), belonging to nuclear families (87.1%), and Hindu (92.9%) by religion [Table 1].

Knowledge regarding menstruation

The majority of the women (59.4%) acquired knowledge from their mother. More than two-thirds (69.1%) of women were scared at the time of their first menstruation. Almost all (97.7%) women knew that menstruation is a physiological process. It was seen that 44.0% of women knew uterus is the source of menstrual blood [Table 2].

Attitude regarding menstruation

The majority (95.1%) of the study participants strongly disagreed that a woman can enter temple/pray during menstruation. Most of the women agreed that a woman can enter kitchen (82.9%) or take bath (89.1%) during menses. More than half of the women (60.9%) agreed that a woman can wash hair during menses. The majority of the participants (86.8%) agreed that a woman can sleep on the same bed during her menses. Most of the women disagreed

Table 2: Distribution of study participants according to knowledge about menstruation

Knowledge regarding menstruation	Number of subjects, n (%)
1. Primary source of Information	
Mother	208 (59.4)
Sister	42 (12.0)
Relative	34 (9.7)
Neighbour	43 (12.3)
Teacher	23 (6.6)
2. Reaction to first menstruation	
Scared	242 (69.1)
Usual	96 (27.5)
Discomfort	12 (3.4)
3. Source of menstrual bleeding	
Uterus	154 (44.0)
Urinary bladder	46 (13.1)
Don't know	150 (42.9)
4. Awareness regarding menstruation process	
Physiological	342 (97.7)
Curse of god/Disease/Result of some sin	8 (2.3)
5. Frequency of changing soakage material	
Every 3-6 h	51 (14.6)
After first gets soaked	299 (85.4)

Table 3: Distribution of study participants according to attitude regarding menstruation

	n (%)				
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
1.A woman can enter temple/pray during menstruation	333 (95.1)	11 (3.2)	0 (0.0)	6 (1.7)	0 (0.0)
2.A woman can enter kitchen/cook food during menstruation	3 (0.9)	57 (16.2)	0 (0.0)	290 (82.9)	0 (0.0)
3.A woman can take bath during menstruation	0 (0.0)	10 (2.9)	0 (0.0)	312 (89.1)	28 (8.0)
4.A woman can wash hair during menstruation	0 (0.0)	131 (37.4)	0 (0.0)	213 (60.9)	6 (1.7)
5.A woman can sleep on same beds as others during menstruation	0 (0.0)	44 (12.6)	0 (0.0)	304 (86.8)	2 (0.6)
6.A woman can touch pickle during menstruation	1 (0.3)	299 (85.4)	1 (0.3)	48 (13.7)	1 (0.3)
7.A woman need not avoid any foods during menstruation	0 (0.0)	191 (54.6)	0 (0.0)	158 (45.1)	1 (0.3)
8.A woman can have sexual intercourse during menstruation	19 (5.4)	292 (83.5)	19 (5.4)	20 (5.7)	0 (0.0)

that a woman can touch pickle (85.4%) or have sexual intercourse (83.5%) during her menses. More than half of the women (54.6%) subjects disagreed that a woman need not avoid any foods [Table 3].

Practices regarding menstruation

More than two-thirds (74.3%) of the women were using sanitary pads as menstrual absorbent. The majority (86.3%) of women were using satisfactory soakage material (according to UNICEF guidelines).^[6] The soakage material was stored satisfactorily by 99.1% of women. The frequency of changing of soakage material was satisfactory in only 13.7%. Disposal

of soakage material was satisfactory in 100% subjects. All personal hygiene practices were found to be satisfactory in more than 90% of women, the highest being privacy for changing of soakage material (100%), followed by bathing during menstruation (97.1%). Satisfactory washing of genitals was seen in 95.1% of women, and reuse of soakage material was satisfactory in 96.6% of women [Table 4].

Table 4: Menstrual and personal hygiene practices among study participants

Practices	Satisfactory n (%)	Unsatisfactory n (%)
1. Soakage material	302 (86.3)	48 (13.7)
2. Storage of soakage material	347 (99.1)	3 (0.9)
3. Frequency of changing soakage material	48 (13.7)	302 (86.3)
4. Disposal of soakage material	350 (100.0)	0 (0.0)
5. Bathing during Menstruation	340 (97.1)	10 (2.9)
6. Washing of genitals after micturition	333 (95.1)	17 (4.9)
7. Privacy for changing of soakage material	350 (100.0)	0 (0.0)
8. Reuse of soakage material	338 (96.6)	12 (3.4)

Association of sociodemographic determinants with knowledge, attitude, and practices regarding menstrual hygiene

A total of 88.3% of women had good knowledge pertaining to menstrual hygiene. Significant association was seen among good knowledge and subject's marital status ($P = 0.034$) and subject's occupation ($P = 0.046$) depicting that married women and working women had better knowledge than their counterparts [Table 5]. Only 32.3% of women attained a score of >24 and had a positive attitude regarding menstruation. It was observed that significant association was found between positive attitude and socioeconomic status ($P = 0.001$) [Table 6]. More than one-third population had satisfactory practices regarding seven of the eight questions asked, hence association was found between frequency of change of soakage material (the remaining question) and

Table 5: Association of socio-demographic determinants with knowledge regarding menstrual hygiene in study participants

Factors	Good knowledge n (%)	Poor knowledge n (%)	Chi square/Fisher's Exact	Degree of freedom	P
1. Age (in completed years)					
18-20	41 (82.0)	9 (18.0)	2.445	3	0.459
21-30	207 (89.6)	24 (10.4)			
31-40	52 (88.1)	7 (11.9)			
41-45	9 (90.0)	1 (10.0)			
2. Socio-economic status*					
High	89 (93.7)	6 (6.3)	3.674	1	0.055
Low	220 (86.3)	35 (13.7)			
3. Subject's literacy status					
\geq Secondary	199 (89.6)	23 (10.4)	6.680	3	0.077
Middle	53 (93.0)	4 (7.0)			
Primary	28 (84.8)	5 (15.2)			
Illiterate	29 (76.3)	9 (23.7)			
4. Mother's literacy status					
\geq Secondary	44 (93.6)	3 (6.4)	3.756	3	0.284
Middle	19 (79.2)	5 (20.8)			
Primary	28 (93.3)	2 (6.7)			
Illiterate	218 (87.6)	31 (12.4)			
5. Marital status					
Married	254 (90.1)	28 (9.9)	4.473	1	0.034
Others [#]	55 (80.9)	13 (19.1)			
6. Occupation					
Homemaker	233 (89.3)	28 (10.7)	6.144	2	0.046
Student	48 (80.0)	12 (20.0)			
Working [§]	28 (96.6)	1 (3.4)			

*High socio-economic status includes Class I and II of Modified B.G. Prasad scale and low socio-economic status includes Class III, IV and V. [#]Others include unmarried, widow and separated. [§]Working includes self-employed, government job and private job

Table 6: Association of socio-demographic determinants with attitude regarding menstrual hygiene in study participants

Factors	Positive attitude <i>n</i> (%)	Negative attitude <i>n</i> (%)	Chi square/Fisher's Exact test	Degree of freedom	<i>P</i>
1. Age (in completed years)					
18-20	19 (38.0)	31 (62.0)	3.264	3	0.364
21-30	69 (29.9)	162 (70.1)			
31-40	23 (39.0)	36 (61.0)			
41-45	2 (20.0)	8 (80.0)			
2. Socio-economic status*					
High	44 (46.3)	51 (53.7)	11.740	1	0.001
Low	69 (27.1)	186 (72.9)			
3. Subject's literacy status					
≥Secondary	83 (37.4)	139 (62.6)	7.248	3	0.064
Middle	13 (22.8)	44 (77.2)			
Primary	8 (24.2)	25 (75.8)			
Illiterate	9 (23.7)	29 (76.3)			
4. Mother's literacy status					
≥Secondary	18 (38.3)	29 (61.7)	4.430	3	0.219
Middle	9 (37.5)	15 (62.5)			
Primary	5 (16.7)	25 (83.3)			
Illiterate	81 (32.5)	168 (67.5)			
5. Marital status					
Married	93 (33.0)	189 (67.0)	0.319	1	0.572
Others [#]	20 (29.4)	48 (70.6)			
6. Occupation					
Homemaker	85 (32.6)	176 (67.4)	0.217	2	0.897
Student	18 (30.0)	42 (70.0)			
Working [§]	10 (34.5)	19 (65.5)			

*High socio-economic status includes Class I and II of Modified B.G. Prasad scale and low socio-economic status includes Class III, IV and V. [#]Others include unmarried, widow and separated. [§]Working includes self-employed, government job and private job

sociodemographic determinants. Only 48 (13.7%) women changed the soakage material satisfactorily. Statistically significant association was observed between frequency of change of soakage material and age ($P = 0.012$), mother's literacy status ($P = 0.050$), subject's marital status ($P = 0.003$), and subject's occupation ($P = 0.020$) [Table 7].

Discussion

The majority of the studies done previously on menstrual problems have been confined to adolescents, and only a few have focused on the knowledge regarding menstruation among women of 18–45 years age group. In this study, the mean age of women was 26.53 ± 0.295 years. In the study conducted by Katiyar *et al.*,^[9] maximum girls belonged to Class II (45.1%), whereas in our study more than one-third (43.1%) of women belonged to Class III Modified B.G. Prasad socioeconomic class.

The role of teachers was negligible in imparting education about various aspects of menstruation; the majority of the women (59.4%) acquired knowledge regarding menstruation from their mothers. Correct information and education regarding menstruation and reproductive health is still a big challenge in India and in most of the developing countries.

It was observed that more than two-thirds of the women were scared at the time of menarche which signifies that a majority of the study subjects had no/little knowledge about menstruation before its onset. In a study conducted by Guerry,^[10] 78.1% of the girls knew that menstrual blood comes from the uterus, whereas in our study only 44.0% women knew the correct source of bleeding.

In our study, the majority of the study subjects had a negative attitude toward a woman entering temple, touching pickle, or having sexual intercourse during her menses. These findings are in line with the results of several other Indian studies.^[1,9,11,12] Nearly half of the subjects disagreed that a women need not avoid any foods during menstruation, whereas they had a positive attitude toward women entering kitchen, taking bath, washing hair, and sleeping on same bed as others during her menses. These findings could be a reflection of the culture and taboos in the society regarding menstruation.

Hygienic menstrual absorbents help manage menstruation effectively, safely, and comfortably. In our study, more than two-third of the women used sanitary napkins, whereas in a study conducted by Mudey *et al.*,^[13] the majority of

Table 7: Association of socio-demographic determinants with frequency of change of soakage material in study participants

Factors	Satisfactory practice n (%)	Unsatisfactory practice n (%)	Chi square/Fisher's Exact test	Degree of freedom	P
1. Age (in completed years)					
18-20	13 (26.0)	37 (74.0)	10.272	3	0.012
21-30	24 (10.4)	207 (89.6)			
31-40	8 (13.6)	51 (86.4)			
41-45	3 (30.0)	7 (70.0)			
2. Socio-economic status*					
High	14 (14.7)	81 (85.3)	0.115	1	0.734
Low	34 (13.3)	221 (86.7)			
3. Subject's literacy status					
≥Secondary	29 (13.1)	193 (86.9)	0.867	3	0.833
Middle	8 (14.0)	49 (86.0)			
Primary	4 (12.1)	29 (87.9)			
Illiterate	7 (18.4)	31 (81.6)			
4. Mother's literacy status					
≥Secondary	12 (25.5)	35 (74.5)	7.585	3	0.050
Middle	1 (4.2)	23 (95.8)			
Primary	2 (6.7)	28 (93.3)			
Illiterate	33 (13.3)	216 (86.7)			
5. Marital status					
Married	31 (11.0)	251 (89.0)	9.084	1	0.003
Others [#]	17 (25.0)	51 (75.0)			
6. Occupation					
Homemaker	28 (10.7)	233 (89.3)	7.836	2	0.020
Student	13 (21.7)	47 (78.3)			
Working [§]	7 (24.1)	22 (75.9)			

*High socio-economic status includes Class I and II of Modified B.G. Prasad scale and low socio-economic status includes Class III, IV and V. [#]Others include unmarried, widow and separated. [§]Working includes self-employed, government job and private job

the girls used cloth (46.67%) and only 15.67% were using sanitary napkins. Mutunda^[14] in his study noted that girls had difficulties in maintaining proper standards of hygiene due to inadequate water and unfriendly sanitation facilities in schools and at home. These findings are in contrast to the findings of this study where more than 90% women had satisfactory personal hygiene practices.

A significant association was seen among knowledge and subject's marital status and subject's occupation. In a study conducted by Lawan *et al.*,^[15] a significant association was seen between respondent's age and knowledge. Statistically significant association was seen between attitude and participant's socioeconomic status, whereas no significant association was observed between attitude and other sociodemographic variables. Statistically significant association was observed between frequency of change of soakage material and participant's age, mother's literacy status, subject's marital status, and occupation depicting that respondents whose mothers had secondary or higher education had better practices. Similarly, students or working women had better practices compared to homemakers. In a study done by Kansal *et al.*,^[16] in Varanasi significant association was observed between menstrual hygiene

practices and subject's marital status, literacy status, religion, socioeconomic status, and mother's literacy status.

As mothers were observed to be the main source of information, health professional should involve mothers in general discussions about issues related to menstruation and how to deal with them. In addition, the role of teachers in imparting knowledge regarding menstrual hygiene was observed to be negligible, and therefore, it is important to train teachers to provide psychosocial support to girls and to provide regular hygiene promotion classes in every school. Universalized use of sanitary pads needs to be advocated to every woman by making them available easily and affordably through social marketing.

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Conflicts of interest

There are no conflicts of interest.

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