Original Article

A comparative study of perception and practices regarding menstrual hygiene among adolescent girls in urban and rural areas of Jodhpur district, Rajasthan

Neha Choudhary[1], Manoj K. Gupta[2]

[1]School of Public Health and [2]Department of Community Medicine and Family Medicine, AIIMS, Jodhpur, Rajasthan, India

Abstract

Context: There are vast disparities of information gap between urban and rural adolescent girls in India, which do have an impact on the practices during menstruation. **Aim:** To assess and compare the knowledge, perceptions, and practices of adolescent girls regarding menstrual hygiene in rural and urban areas of Jodhpur. **Settings and Design:** It was a cross-sectional study, which was conducted on school going adolescent girls in urban and rural schools of Jodhpur. **Materials and Methods:** The sample size for the study was 450, which was divided into rural and urban adolescent girls. A self-administered questionnaire was used for data collection. **Statistical Analysis Used:** Data were analyzed using SPSS v. 16. Inferences were drawn using Chi-square test and t test. **Results:** The mean age of menarche was 13.41 ± 1.07 years. A significantly more number of girls from an urban area (56.2%) were using sanitary napkins during menstruation. Only around one-fourth of the girls in study area had ever been counseled for menstrual hygiene. Awareness about adolescent health clinic was significantly more among urban girls. **Conclusion:** Significant differences were observed among urban and rural adolescent girls in terms of knowledge, perception, and practices related to menstrual hygiene.

Keywords: Adolescents, hygiene, knowledge, menstruation, perception

Introduction

Menstruation is a normal physiological process that indicates the beginning of reproductive life. It is, but sometimes it is considered as an impure phenomenon in the Indian society owing to cultural taboos and insufficient and incorrect information and causes unnecessary restrictions in the day to day normal activities of the menstruating girls.[1] As a cultural practice, the information is passed from mother to daughter which is often not sufficient and sometimes even incorrect.[2] Girls also seek information from their peers who themselves do not know much better. Thus, there is a continuous information gap in this regard.

Address for correspondence: Dr. Manoj Kumar Gupta, Department of Community Medicine and Family Medicine, AIIMS, Jodhpur, Rajasthan - 342 005, India.
E-mail: drmkgbhu@gmail.com

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Many studies have indicated that there are vast disparities of this information gap between urban and rural adolescent girls, which do have an impact on the practices during menstruation.[2-5] Hence, this study was done with the aim to assess and compare the knowledge, perceptions, and practices of adolescent girls regarding menstrual hygiene in rural and urban areas of Jodhpur.

Subjects and Methods

This was a school-based cross-sectional study, which was conducted from April to July 2018 in Jodhpur district of Rajasthan state. Adolescent girls who had attended their menarche were included in the study. From the literature search, the prevalence of awareness about the menstruation among adolescent girls varies from 30% to 75%.[2,3,6-11] Hence, the sample size was

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calculated assuming 50% prevalence and 10% relative margin of error by formula z^2pq/L^2. Considering 10% non-responses, the final sample size was 450. This was distributed between urban and rural area by adopting a probability proportion to size depending on the total number of girls enrolled in selected schools.

Three urban and three rural Government schools were selected from the Jodhpur district. Girls from 8th to 12th standards were selected depending on availability at school on the day of the survey. Prior written permission was obtained from District Education Officer, Jodhpur, and due clearance was taken from the institutional ethics committee. A self-administered semi-structured questionnaire was prepared and pretested. The questionnaire was translated into vernacular and validated after retranslation with the help of language experts. The questionnaire along with accent form were distributed to adolescent girls in classes, and the objective of the study was explained. A total of 60 min were given for each group of girls to fill the questionnaire. One by one questions were read by the investigator and girls were instructed to fill it carefully. Data were analyzed using SPSS v. 16. Appropriate tables and graphs were prepared, and inferences were drawn using Chi-square test and t test.

Results

Table 1 depicts that a total of 450 adolescent girls were included in the study with the mean age of 15.04 ± 1.62 years. Majority of them were unmarried. Joint family system was prevalent. The overall status of illiteracy was significantly higher for parents of rural adolescent girls.

The mean age of menarche was 13.41 ± 1.07 year. Abnormal responses to pubertal changes and first bleeding were significantly predominant among rural girls. Immediateness in passing the information about first bleeding was significantly higher among urban adolescent girls [Table 2].

Table 3 depicts that significantly more number of girls from an urban area were using sanitary napkins during menstruation.

Table 1: Socio-demographic profile of adolescent girls

	Urban (*n*=235)		Rural (*n*=215)		Total		*P*
Age groups (adolescence)							
10 to 13 (Early)	45	(19.1)	44	(20.5)	89	(19.8)	0.850
14 to 16 (Middle)	145	(61.7)	127	(59.1)	272	(60.4)	
17 to 19 (Late)	45	(19.1)	44	(20.5)	89	(19.8)	
Mean age	14.99±1.58		15.08±1.66		15.04±1.62		0.566
Education							
8th	63	(26.8)	39	(18.1)	102	(22.7)	**0.028**
9th to 10th	97	(41.3)	104	(48.4)	201	(44.7)	0.130
11th to 12th	75	(31.9)	72	(33.5)	147	(32.7)	0.722
Marital status							
Unmarried	233	(99.1)	205	(95.3)	438	(97.3)	**0.012**
Married	2	(0.9)	10	(4.7)	12	(2.7)	
Type of Family							
Joint	148	(63.0)	146	(67.9)	294	(65.3)	0.273
Nuclear	87	(37.0)	69	(32.1)	156	(34.7)	
Mean family size	7.38±3.93		7.44±2.92		7.41±3.48		0.858
Religion							
Hindu	194	(82.6)	203	(94.4)	397	(88.2)	**<0.01**
Muslim and others	41	(17.4)	12	(5.6)	53	(11.8)	
Cast category							
SC/ST	56	(23.8)	69	(32.1)	125	(27.8)	0.051
OBC	148	(63.0)	130	(60.5)	278	(61.8)	0.584
Other	31	(13.2)	16	(7.4)	47	(10.4)	**0.046**
Educational status							
Father*							
Illiterate	17	(7.3)	37	(17.3)	54	(12.1)	**0.001**
Up to primary	45	(19.3)	54	(25.2)	99	(22.1)	0.132
6-12 class	157	(67.4)	113	(52.8)	270	(60.4)	**0.002**
>12 class	14	(6.0)	10	(4.7)	24	(5.4)	0.531
Mother*							
Illiterate	59	(25.4)	131	(61.5)	190	(42.7)	**<0.01**
Up to Primary	63	(27.2)	55	(25.8)	118	(26.5)	0.750
6-12 class	104	(44.8)	26	(12.2)	130	(29.2)	**<0.01**
>12 class	6	(2.6)	1	(0.5)	7	(1.6)	0.076 (Fishers)

Bold: *P* values which are significant (*P*<0.05)

Table 2: Attributes related to menarche among adolescent girls

	Urban (*n*=235)		Rural (*n*=215)		Total		*P*
Mean age of menarche (years)	13.25±1.14		13.59±0.97		13.41±1.07		**0.001**
Reaction about bodily changes							
Normal	147	(62.6)	102	(47.4)	249	(55.3)	**0.001**
Scared/Depressed	88	(37.4)	113	(52.6)	201	(44.7)	
Reaction about bleeding							
Normal	112	(47.7)	55	(25.6)	167	(37.1)	**<0.01**
Scared/Depressed	123	(52.3)	160	(74.4)	283	(62.9)	
Aware about the menarche	159	(67.7)	127	(59.1)	286	(63.6)	0.059
Source of information*							
Mother	86	(54.1)	53	(41.7)	139	(48.6)	**0.038**
Sister	33	(20.8)	54	(42.5)	87	(30.4)	**<0.01**
Friend	25	(15.7)	13	(10.2)	38	(13.3)	0.174
Others	15	(9.4)	7	(5.5)	22	(7.7)	0.216
First informant about menarche							
Mother	192	(81.7)	137	(63.7)	329	(73.1)	**<0.01**
Sister	29	(12.3)	58	(27.0)	87	(19.3)	**<0.01**
Friend	10	(4.3)	12	(5.6)	22	(4.9)	0.515
Others	4	(1.7)	8	(3.7)	12	(2.7)	0.184
Time of first information about menarche							
Immediately	170	(72.3)	116	(54.0)	286	(63.6)	**<0.01**
Same Day	42	(17.9)	72	(33.5)	114	(25.3)	**<0.01**
Next Day	13	(5.5)	16	(7.4)	29	(6.4)	0.410
Later	10	(4.3)	11	(5.1)	21	(4.7)	0.665

Bold: *P* values which are significant (*P*<0.05). *Out of those who were aware about menarche

Table 3: Distribution of adolescent girls according to hygienic practices during menstruation

	Urban (*n*=235)		Rural (*n*=215)		Total		*P*
Toilet facility at home	213	(90.6)	180	(83.7)	393	(87.3)	**0.028**
Takes daily bath	229	(97.4)	209	(97.2)	438	(97.3)	0.876
Satisfactory cleaning of external genitalia	210	(89.4)	131	(60.9)	341	(75.8)	**<0.01**
Material used during menstruation							
Only cloth	47	(20)	27	(12.6)	74	(16.4)	**0.033**
Only sanitary napkin	132	(56.2)	63	(29.3)	195	(43.3)	**<0.01**
Both	56	(23.8)	125	(58.1)	181	(40.2)	**<0.01**
Pads/cloths changing timings							
Once daily	41	(17.4)	29	(13.5)	70	(15.6)	0.247
Twice a day	90	(38.3)	99	(46)	189	(42)	0.096
Thrice a day	89	(37.9)	71	(33)	160	(35.6)	0.283
More than Thrice	15	(6.4)	16	(7.4)	31	(6.9)	0.658
Reuses the cloth*	87	(84.5)	128	(84.2)	215	(84.3)	0.956
Wash clothes with soap and water**	86	(98.9)	115	(89.8)	201	(93.5)	**0.009**
Dry cloth in sunlight**	41	(47.1)	43	(33.6)	84	(39.1)	**0.046**
Reuse of sanitary pads***	38	(20.2)	15	8	53	(14.1)	**0.001**
Methods of disposal of sanitary pads***							
Throw in dustbin	150	(79.8)	45	(23.9)	195	(51.9)	**<0.01**
Burn	34	(18.1)	128	(68.1)	162	(43.1)	**<0.01**
Bury in pit	4	(2.1)	14	(7.4)	18	(4.8)	**0.016**
Flush in toilet	0	0	1	(0.5)	1	(0.3)	NA
Place to buy sanitary pads***							
Medical shop/General store	182	(96.8)	107	(56.9)	289	(76.9)	**<0.01**
School/Public health facility	6	(3.2)	81	(43.1)	87	(23.1)	
Aware about subsidy on sanitary pads***	70	(29.8)	28	(13)	98	(21.8)	**<0.01**

Bold: *P* values which are significant (*P*<0.05). *Out of those who were using cloth, **Out of those who were re-using cloth, ***Out of those who were using sanitary napkins

As much as 84.3% girls were reusing the cloth after washing. Urban girls were significantly more aware of the subsidy on sanitary napkins.

Table 4 represents that urban girls were following significantly more restriction practices. Most common restrictions were not allowing girls to enter the kitchen followed by avoiding going to

temple, attending religious function, and going to school. Contrary to this, food restrictions were significantly more prevalent among rural girls. It was shocking to know that 23.3% of girls perceived that restriction practices should be imposed during menstruation.

It is evident from Table 5 that significantly more number of urban girls received counseling for menstrual hygiene. Mother was declared as main counselor. Most girls (92.7%) had ever faced any kind of health problem during menstruation. Urban girls were significantly more aware about adolescent health clinic.

Discussion

The mean age of menarche for the girls was 13.41 ± 1.07 years. The finding is almost similar to the findings from other studies conducted in various parts of the country.[3,5-10,12-16]

Table 4: Toilet facilities at school and restriction practices during menstruation

	Urban (*n*=235)		Rural (*n*=215)		Total		*P*
Changes pads in the school	70	(29.8)	43	(20)	113	(25.1)	**0.017**
Toilet facility at school	223	(94.9)	211	(98.1)	434	(96.4)	0.063
Clean*	167	(74.9)	157	(74.4)	324	(74.7)	0.908
Dirty*	56	(25.1)	54	(25.6)	110	(25.3)	
Privacy in toilets at school*	131	(58.7)	136	(64.5)	267	(61.5)	0.222
Restriction practices	116	(49.4)	66	(30.7)	182	(40.4)	**<0.01**
Food restrictions	57	(24.3)	83	(38.6)	140	(31.1)	**0.001**
Perception about restriction practices							
Should be imposed	42	(17.9)	63	(29.3)	105	(23.3)	**0.004**
Should not be imposed	114	(48.5)	94	(43.7)	208	(46.2)	0.309
Do not know	79	(33.6)	58	(27)	137	(30.4)	0.126
Periods disturb the life	176	(74.9)	159	(74)	335	(74.4)	0.819
Menstruation make impure	97	(41.3)	86	(40)	183	(40.7)	0.783

Bold: *P* values which are significant (*P*<0.05). *Out of those who were having toilet facilities at school

Awareness regarding menstruation

Approximately, two-third of the adolescent girls reacted abnormally to the first bleeding, and this was significantly higher among rural girls. Similar kind of findings have been observed by many other studies.[2,3,5,10,13] Deo *etal.* (2012) reported these abnormal reactions were significantly higher among urban adolescent girls.[11] Approximately, two-third of girls were aware about menarche before its onset, which is similar to the findings from other studies.[2,6-8] Comparatively, low level of awareness has also been reported by many authors.[3,10,17] For every second girl, mother was the main source of information, which is supported by many other studies.[2,3,5,7-11,13,18,19]

Hygienic practices during menstruation

It was observed that 87.3% of girls were having toilet facilities at their home. Similar kind of observations have been made by other studies.[3,5] Majority (97.3%) of the girls were taking a daily bath during menstruation, which is much higher than the findings of Jothy K *et al.* (2012).[8] Present study revealed that 89.4% urban girls and 60.9% of rural girls were having good practice of satisfactory cleaning (≥2 times a day) of external genitalia ($P < 0.01$). Variable findings have been reported by different authors in this regard.[3,5,7-9]

More than half of the girls from an urban area were using sanitary napkins, whereas in a rural area significantly less number of girls (29%) were doing so. Similar kind of observations have been made by many other studies.[2,3,5,9,10,17,20] Contrasting findings have also been reported by many studies.[6,7,13,15,19] In this study, 84.3% of the girls were reusing cloth after washing, which is quite higher than the findings reported by other authors.[2,7,8] Most of them (93.5%) were reusing it after washing with soap and water. Similar findings have been reported by Sarkar I *et al.* (2017).[21] Only 47% of girls in an urban area and around one-third girls

Table 5: Health seeking behavior during menstruation

	Urban (*n*=235)		Rural (*n*=215)		Total		*P*
Ever been counseled for menstrual hygiene	67	(28.5)	42	(19.5)	109	(24.2)	**0.026**
Who counseled for menstrual hygiene*							
Mother	47	(70.1)	25	(59.5)	72	(66.1)	0.254
Sister	11	(16.4)	3	(7.1)	14	(12.8)	0.159
Friends and others	9	(13.4)	14	(33.3)	23	(21.1)	**0.013**
Ever faced any health problem during menstruation	216	(91.9)	201	(93.5)	417	(92.7)	0.522
With whom discussed the health problem**							
Mother	133	(61.6)	110	(54.7)	243	(58.3)	0.156
Sister	46	(21.3)	64	(31.8)	110	(26.4)	**0.015**
Friend	33	(15.3)	18	(9)	51	(12.2)	**0.049**
Others	4	(1.9)	9	(4.5)	13	(3.1)	0.123
Consult the doctor for that health problem**	18	(8.3)	23	(11.4)	41	(9.8)	0.287
Reasons of not taking consultation from doctor***							
Feels shy	38	(19.2)	47	(26.4)	85	(22.6)	0.095
Felt no need	147	(74.2)	114	(64)	261	(69.4)	**0.032**
Fear of adverse effect of medicine	10	(5.1)	5	(2.8)	15	(4)	0.267
Not aware/Others	3	(1.5)	12	(6.7)	15	(4)	**0.010**
Awareness about adolescent health clinic	59	(25.1)	7	(3.3)	66	(14.7)	**<0.01**

Bold: *P* values which are significant (*P*<0.05). *Out of those who were ever counseled for menstrual hygiene. **Out of those who ever faced any health problem during menstruation. ***Out of those who faced any health problem during menstruation but did not consulted doctor

in a rural area had a good practice of drying the washed cloth in sunlight. This is higher than the findings of Patle *et al.*(2014)[2] but lower than the findings of other studies.[9,13]

Throwing the used sanitary napkin in dustbin was a common method of disposal. Similar methods of disposal have also been reported by many other studies.[3,5,6,9,22] In the present study, approximately 20% of the girls were aware about subsidy on sanitary napkins. This awareness was quite lower than the findings of Gupta *P et al.* (2018).[6]

Toilet facilities at school and restriction practices during menstruation

Present study depicts that one out of four girls were changing pads in the school. This practice is quite higher than reported by other authors.[3,9] Most common reason for not changing pads at school was feeling shy/uncomfortable, followed by no facility of the dustbin and uncleaned toilets. Kamath R *et al.* (2013) also observed similar findings.[13]Almost all adolescent girls accepted the existence of toilet facility at school, and out of them, more than three-fourthth girls perceived these facilities as clean. Shockingly, approximately 40% of girls claimed of not having privacy in toilet facilities at schools. This is supported by the findings of Jothy K *et al.* (2012).[8]

Around half of the urban girls and 30% of the rural girls were following any restriction practices during menstruation. These are quite lower than the findings reported in many other studies.[3,5,7-10,23] Slightly less than one-third of the girls were following certain food restrictions, which is quite lower than the practices reported by other authors.[8,19]

Health seeking behavior during menstruation

Majority of the girls had ever faced any kind of health problem during menstruation, and most of them discussed this with their mother. Similar kind of observations have been made by other studies.[16,22] Most common health problem during menstruation was pain in abdomen followed by irritation, heavy bleeding, and backache. This is supported by the findings of other studies also.[6,10,15,16] Less than 10% of the girls in the study area had ever consulted a doctor for their health problems. This is quite similar to the findings of Mohit *et al.* (2013).[12]

Conclusion and Recommendations

This study reveals that significant differences were observed among urban and rural adolescent girls in terms of knowledge, perception, and practices related to menstrual hygiene. The findings are comparable to other parts of the country. Ignorance, false perceptions, and unhygienic practices were also prevailing among adolescent girls. This indicated an urgent need for health promotion interventions in the form of regular awareness sessions and counseling for menstrual hygiene management at primary care level.

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Conflicts of interest

There are no conflicts of interest.

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