



A STUDY ON MENSTRUAL HYGIENE PRACTICES AND MANAGEMENT AMONG ADOLESCENT GIRLS OF UHTC AND RHTC AREAS OF JLN MEDICAL COLLEGE, AJMER, RAJASTHAN: A CROSS SECTIONAL STUDY

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ABSTRACT

Introduction: Adolescents are a large and growing segment of the world's population where more than half of the world's population is below the age of twenty-five defined as a period of life between 10–19 years. 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. **Material and methods:** A cross-sectional study was conducted on 200 adolescent girls of RHTC and UHTC field practice areas of Department of Community Medicine, JLN Medical College, Ajmer from 1st August 2021 to 31st July 2022. **Results:** 61.5% of the participants were from the age group 15-19 years and 92.5% were Hindus with the majority belonging to General and OBC caste. 52% girls belonged to a nuclear family and 85.5% had toilet facility at home. 61.5% girls had no knowledge about menstruation prior to menarche. 50.5% were educated about the same by their mothers. 54.4% felt afraid at the onset of menarche while 39% had a normal reaction. Only 41.5% used sanitary pads while 54% still used cotton cloth. 81% of the respondents faced abdominal pain and 49.5% suffered from irritation and mood swings. **Conclusion:** The present study is an effort to assess the perceptions and practices among adolescents regarding reproductive health which may help policy makers to formulate action plans and strengthen community-based programmes aiming at better health of adolescents.

KEYWORDS :**Introduction**

Adolescents are a large and growing segment of the world's population where more than half of the world's population is below the age of twenty-five defined as a period of life between 10–19 years.¹

According to UNICEF report (The State of World's Children 2011), it is estimated that there are 1.2 billion adolescents aged 10- 19 years in the world, forming 18% of world population and about 88% of them live in developing countries.²

By year 2025, the population of adolescents in developed and developing countries would be around 19% and 27% respectively. Adolescents have to face a challenge during puberty due to hormonal, psychological, cognitive and physical changes.³

India has the largest adolescent population in the world, 253 million, and every fifth person is between 10 to 19 years. India stands to benefit socially, politically and economically if this large number of adolescents are safe, healthy, educated and equipped with information and life skills to support the country's continued development. However, adolescent girls are especially vulnerable to poor nutritional status, early marriage and childbearing, affecting their ability to live empowered, healthy lives, which in-turn affects the next generation.⁴ 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.⁵

Girls also seek information from their peers who themselves do not know much better. Thus, there is a continuous information gap in this regard. 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.⁶⁻⁹

Hence, this study was done with the aim to assess and compare the knowledge, practices and management among adolescent girls regarding menstrual hygiene in RHTC and UHTC areas of JLN Medical College Ajmer.

AIMS AND OBJECTIVES**AIMS**

To conduct a comparative study of menstrual hygiene practices and

management among adolescent girls of UHTC and RHTC areas of JLN Medical College, Ajmer, Rajasthan: A cross sectional study

OBJECTIVES

- To study the socio-demographic profile of adolescents, perception of pubertal changes, prejudices, beliefs and taboos related to reproductive health.
- To study of the attributes, practices and management of menstrual hygiene.

Material and methods:

The Cross sectional study was done under RHTC and UHTC field practices areas of under Department of Community Medicine at J.L.N. Medical College Ajmer duration was From 1st August 2021 to 31st July 2022. 200 adolescent girls (10-19 years), 100 from RHTC and 100 UHTC area were selected. Study subjects were selected by multi stage random sampling technique from anganwadis and school of rural and urban areas.

INCLUSION CRITERIA

- Adolescent girls (10-19 years) who are permanent residents of Ajmer. (Those who are living in Ajmer for 1 year or more.)

EXCLUSION CRITERIA

- Mentally retarded or otherwise handicapped individuals who cannot respond to the questionnaire.
- Adolescent girls who are not willing to participate in the study.

Result & Discussion:

Socio-demographic profile of adolescent girls							
Socio-demographic profile	Rural		Urban		Total		P
	No.	%	No.	%	No.	%	
Age groups (Years)							
10-14	41	41%	36	36%	77	38.5	0.025
15-19	59	59%	64	64%	123	61.5%	
Total	100	100%	100	100%	200	100%	
Religion	No.	%	No.	%	No.	%	P
Hindu	96	96%	89	89%	185	92.5%	<0.1
Muslim	3	3%	5	5%	8	4%	
Sikh	1	1%	4	4%	5	2.5%	

Christian	0	0%	2	2%	2	1%	
Total	100	100%	100	100%	200	100%	
Cast category	No.	%	No.	%	No.	%	P
General	32	32%	41	41%	73	36.5%	0.85
OBC	38	38%	34	34%	72	36%	
SC	16	16%	18	18%	34	17%	
ST	14	14%	7	7%	21	10.5%	
Total	100	100%	100	100%	200	100%	
Education	No.	%	No.	%	No.	%	P
Illiterate	7	7%	0	0%	7	3.5	0.12
Literate	6	6%	0	0%	6	3	
Primary school	7	7%	6	6%	13	6.5	
Middle school	28	28%	18	18%	46	23	
High school	29	29%	36	36%	65	32.5	
Higher secondary	29	29%	40	40%	69	34.5	
Total	100	100%	100	100%	200	100%	
Marital status	No.	%	No.	%	No.	%	P
Married	2	2%	0	0%	2	1%	0.012
Unmarried	98	98%	100	100%	198	99%	
Total	100	100%	100	100%	200	100%	
Type of Family	No.	%	No.	%	No.	%	P
Nuclear	47	47%	57	57%	104	52%	0.126
Joint	39	39%	33	33%	72	36%	
Three generation	14	14%	10	10%	24	12%	
Total	100	100%	100	100%	200	100%	
Toilet facility at home	No.	%	No.	%	No.	%	P
Yes	73	73%	98	98%	171	85.5%	0.029
No	27	27%	2	2%	29	14.5%	
Total	100	100%	100	100%	200	100%	

The table shows that 61.75% adolescents were in the age group 15-19 years and 38.25% adolescents were in the age group 10-14 years. Mean age observed to be 15.3 years (SD= 12.21). Similar finding were observed by Sonowal Pranjal et al. (2021) a reported that majority of the adolescents were between the age of 14-16 years (50%) followed by 17-19 years (35.3%) and 14.7% were from 10-13 years,⁽¹¹⁾ and in the study by Choudhary Neha et al (2019) on 19.8% adolescents were in the age group 10-13 years, 60.4% were 14-16 years, and 19.8% adolescents were 17-19 years. Mean age was observed to be 15.04±1.62 years.⁽¹²⁾

In the study by Tundia et al (2018) 26.59%, 23.86%, 18.64%, 18.41%, 10% and 02.50% participants were from 16, 15, 17, 14, 13 and 18 years of age respectively.⁽¹³⁾

The table shows that majority of the adolescent girls and boys were Hindu by religion in both rural (95.5%) and urban (89.5%) areas, followed by Muslim (4.5%), Sikh (1.4%) and Christian (0.75%) religion. Study by Sonowal Pranjal et al. (2021) found that 78% of the adolescents were Hindus and 22% were Muslims and others.⁽¹¹⁾ Choudhary Neha et al (2019) reported that majority of the adolescent were Hindu 88.2% and Muslim and other were 11.8%.⁽¹²⁾

The table shows that overall maximum subjects belonged to General caste in both rural (33.5%) and urban (43.5%) areas followed by OBC (31.75%) and SC (20.75%). Minimum were ST in both rural (9.5%) and (8.5%) areas. A study by Choudhary Neha et al (2019) found that out of all adolescents belonged to OBC 61.8%, SC/ST 27.8%, and other 10.4%,⁽¹²⁾ which is dissimilar to our study.

The table shows that maximum no. of adolescents had education up to high school (33.5%) and higher secondary school (30.5%) followed by middle school (25%) and primary school (7.75%). 7 girls in rural areas were illiterate. The study by Choudhary Neha et al. (2019) reported that adolescents in 8th standard were 22.7%, 9th-10th were 44.7% and 11th-12th were 32.7%.⁽¹²⁾ In our study 3.25% of the adolescents girls received no education whereas NFHS-3, about one- fifth of adolescent girls and one- tenth of boys in the age of 15 to 19 years have received no education.⁽¹⁴⁾

This table show that only 4% boys and 2% girls were married in rural areas while in urban areas all the adolescents were unmarried. While Choudhary Neha et al. (2019) observed that 10 (4.7%) adolescents were married in rural while 2 (0.9%) adolescents were married in urban areas,⁽¹²⁾ and according to NFHS-3, though age at marriage is increasing; 27% young women and 3% young men in the age group of 15-19 year are married, as many as 44.5% of the married women aged 20 to 24 years reported being married by the age of 18 years.⁽¹⁴⁾ This dissimilarity can be attributed to high literacy rate of the study area (Ajmer district) and good awareness about state laws on marriageable age.

The table shows that maximum no. adolescents 48.5% had nuclear family followed by 37.5% and 14% adolescents who belonged to joint and three generation family respectively in both rural and urban areas. The study by Sonowal Pranjal et al. (2021) found that 76.7% adolescents belonged to nuclear families while only 23.3% belonged to joint families.⁽¹¹⁾ Choudhary Neha et al. (2019) found that 65.3% adolescents belonged to joint families while 34.7% belonged to nuclear families.⁽¹²⁾ A study conducted in Rajasthan Tundia MN et al (2018) it was found that maximum no. of adolescents 63.86% nuclear family followed by 27.50% and 8.63% who belonged to three generation and joint family respectively in both rural and urban areas.⁽¹³⁾ All the above observation is the studies were different from our study.

The table shows that 72.5% adolescents in rural areas and 97.5% adolescents in urban areas had access toilet facility at home, while similar finding was observed by Choudhary Neha et al. (2019) states that 90.6% urban adolescents and 83.7% rural adolescents have access to toilet facility at their homes.⁽¹²⁾

Attributes related to menarche among adolescent girls							
Knowledge prior to menarche	Rural		Urban		Total		P
	No.	%	No.	%	No.	%	
Yes	33	33%	44	44%	77	38.5%	0.085
No	67	67%	56	56%	123	61.5%	
Total	100	100%	100	100%	200	100%	
The source of information regarding menarche	No.	%	No.	%	No.	%	P
Friends	17	17%	22	22%	39	19.5%	0.049
Mother	54	54%	47	47%	101	50.5%	
Teacher	5	5%	10	10%	15	7.5%	
Sister	24	24%	21	21%	45	22.5%	
Total	100	100%	100	100%	200	100%	
The reaction at first menses	No.	%	No.	%	No.	%	P
Afraid	55	55%	54	54%	109	54.5%	0.890
Thought due to wound	5	5%	8	8%	13	6.5%	
Normal reaction	40	40%	38	38%	78	39%	
Total	100	100%	100	100%	200	100%	
Mean age of menarche (years)	13.78±0.860		13.15±1.044		13.45±1.016		<0.001

The table shows that a higher proportion of adolescent girls in urban areas (44%) had knowledge about menses prior to the attainment of menarche as compared to the rural areas (33%). The difference was found to be statistically insignificant. The study by Gupta P. et al (2018) reported that adolescent girls in urban areas (73.67%) had knowledge about menses prior to the attainment of menarche as compared to the rural areas (59.33%).⁽¹⁵⁾ A study conducted by Choudhary Neha et al (2019) reported that a proportion of adolescent girls in urban areas (67.7%) had knowledge about menses prior to the attainment of menarche as compared to the rural areas (59.1%) and a p-value of 0.059 also statistically insignificant.⁽¹²⁾

The table shows that mothers were the most common source of information regarding menarche to adolescent girls in both rural (54%)

and urban (47%) areas followed by sister (22.5%) and friends (19.5%). The difference in source of information in rural and urban areas was found out to be statistically significant. (chi square value being 1.13 and P value being 0.049). The study by Gupta P. et al (2018) Most of the urban girls (84.67%) had got the knowledge about menses from their mother, as compared to rural girls (73.33%).⁽¹⁵⁾

The table shows that maximum no. of girls were afraid at the onset of menarche (54.5%) while 39% girls reacted normally. A study conducted by Choudhary Neha et al (2019) reported approximately two-third of the adolescent girls reacted abnormally to the first bleeding, and this was significantly higher among rural girls.⁽¹²⁾

Average age of menarche in adolescent girls was 13.45±1.016 years with the range of 10-16 years. Average age of menarche in adolescent girls was earlier in urban areas (13.15±1.044) years as compared to rural areas (13.78±0.860) years. The difference in age of menarche between rural and urban adolescent girls was found to be statistically highly significant. (t test assuming equality of variances was applied, t value= 6.070, P= value<0.001). Kotecha et al and Mittal et al also observed the similar median age for attainment of menarche among the girls i.e. 13 years.^(16,17)

Menstrual Hygiene Practise and management						
	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Types of material used during menstruation						
Sanitary pads	12	12%	71	71%	83	41.5%
Cotton and gauze	4	4%	5	5%	9	4.5%
Clean cloth	84	84%	24	24%	108	54%
Total	100	100%	100	100%	200	100%
Disposal of used material	No.	%	No.	%	No.	%
Throw it off by hygienic disposal	11	11%	68	68%	79	39.5%
Burn it	18	18%	14	14%	32	16%
Bury it	6	6%	2	2%	8	4%
Wash it and reuse it	65	65%	16	16%	81	40.5%
Total	100	100%	100	100%	200	100%
Anti-infective treatment	No.	%	No.	%	No.	%
Dip in antiseptic solution	31	31%	52	52%	83	41.5%
No special care	69	69%	48	48%	117	58.5%
Total	100	100%	100	100%	200	100%
Problems faced during menstruation	No.	%	No.	%	No.	%
Pain in abdomen	86	86%	76	76%	162	81%
Pain in lower back	42	42%	58	58%	100	50%
Pain in breast	13	13%	28	28%	41	20.5%
Swelling on face and body	7	7%	13	13%	20	10%
Tiredness	46	46%	30	30%	76	38%
Irritation	56	56%	43	43%	99	49.5%
Constipation	3	3%	10	10%	13	6.5%
Any other (heavy bleeding, irregular cycle etc)	11	11%	7	7%	18	9%

Total	100	100%	100	100%	200	100%	
Food restriction taboos during menstruation	No.	%	No.	%	No.	%	P
Yes	38	38%	28	28%	66	33%	
No	62	62%	72	72%	134	67%	
Total	100	100%	100	100%	200	100%	

The type of absorbent material which is used is of primary concern, since reuse of the material could be a cause for infection if it is improperly cleaned and poorly stored. The table shows that in rural areas majority girls (84%) used clean cloth during menstruation while in urban areas majority girls (71%) used sanitary pads. Use of sanitary pads, cotton gauze and clean cloth was more appropriately use by urban adolescent's girls then rural and this was found to be statistically highly significant. (chi square value being 42.05 and P value less than 0.01). The study by Gupta P. et al (2018) shows that in rural areas girls (46%) used old cloths while in urban areas girl's majority (77.33%) used sanitary pads.⁽¹⁵⁾

The table shows that in rural areas, majority of the girls reused the cloth pieces (65%) and only 11% disposed it off while in urban areas, majority of the girls (68%) wrapped the used cloth pieces or sanitary pads in a paper bag and disposed in a place used for solid waste disposal. The hygienically disposal of used martial after menstruation was found to be more in urban adolescents girls and this difference was found to be statistically highly significant. (P value <0.001). The study by Gupta P. et al (2018), 42.00% of girls burn the waste material followed by 28.67% for open area disposal, on the other side 46.00% of urban girls and only 06.00% of rural girls use municipal dustbins.⁽¹⁵⁾

The table shows that only 31% girls in rural areas, and 52% girls in urban areas dipped the cloth in antiseptic solution before reusing it. In a study by Narayan et al and Quazi S.Z. et al reported that a majority of the rural school girls who used old clothes, sanitized the material by boiling and drying them before reuse.^(18,19) It was evident that such practices offered protection against the possible infections.

The above table shows that during menstruation, 86% girls in rural areas and 76% girls in urban areas and both rural and urban girls 81% reported pain in abdomen, 42% rural girls, 58% urban girls, both rural and urban girls 50% lower back pain, 56% rural girls, 43% urban, both rural and urban 49.5% irritation, 38% tiredness, 20.5% pain in breast and 9% girls experienced heavy bleeding and irregular cycles. P<0.001 this is highly statistically significant above variable. Mean cycle length was 29.3 days, the range was 20 to 60 days. The study by Tundia MN et al (2018) 28.18% participants had problem in daily activities and 37.27% had problem in specific activities. 45% were not able to go school due to their menstruation related problems we observed that 68.41%, 30.91%, 11.59% and 05.23% participants had problems of abdominal pain, irregular menstruation, heavy bleeding and less bleeding during last three cycles.⁽¹³⁾ A Nayak, Shubhangi, et al (2016) observed that during menstruation, 74.4% of the girls reported pain in abdomen, 57.7% reported lower back pain, and 29% experienced pain in breast and tiredness. Other problems faced were irritation, heavy bleeding, swelling on face and body, constipation, and so on. Mean duration of menstrual cycle was 29.5 days, ranging from 20 to 60 days.⁽²⁰⁾

The table shows that 38% girls in rural areas and 28% girls in urban areas practiced different food restrictions during menstruation. The result shows that the difference between rural girls Vs urban girls is statistically significant (p = 0.005). Majority did not eat pickle, sour foods while some did not drink milk during menstruation. While as per A Dasgupta et al (2008) only 15% girls did not practiced any restriction while 85% girls practiced different restrictions during menstruation. Among them, 50% girls did not eat certain foods such as sour foods, banana, radish and palm.⁽²¹⁾ The difference in findings depicted increasing awareness with time leading to decline in the food restriction practices.

Conclusion and Recommendations

The present study is an effort to assess the perceptions and practices among adolescents regarding reproductive health which may help policy makers to formulate action plans and strengthen community-based programmes aiming at better health of adolescents.

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