

Cognizance about Menstruation among Urban Young Women of Delhi-NCR: A Socio-Cultural Perception

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Received date: 18-01-2018; **Accepted date:** 03-02-2018; **Published date:** 10-02-2018

Abstract

The understanding about menstruation among women is lacking in India. Although there are several studies carried out in rural areas about menstruation and its handling, the data was trivial from urban regions in North India. The respondents had a respectable economic background i.e. the family of 45.68% fell in 1-5 lac annual income group while those of 32.34% in 5-10 lac annual income group. They belonged to various religious and cultural backgrounds. In our study we found that 52.05% girls knew about menstruation before menarche and 76.69% also knew about the organs and hormones involved in the process. Moreover, 79.98% said that menstruation keeps their hormones in balance. Significantly greater number of females, i.e. 89.84% used sanitary pads and 85.83% bathed daily. Similarly, significantly higher number of females thought that increase in menstrual flow is directly dependent on increase in physical activities. The mothers of respondents were educated with 41.99% being graduates and 17% being post-graduates and above. To summarize, our study indicated that the young adult girls in the area of study, belonging to different social, cultural and economic backgrounds, are reasonably aware of their needs to maintain good reproductive health.

Context: Maintenance of reproductive hygiene during menstruation in young women of Delhi-NCR, India from socio-economic perspective

Aims: To comprehend the handling of menstruation by young women in various socio-economic sections in Delhi-NCR, India.

Settings and Design: Young college going girls were approached to voluntarily become part of the study and were asked to fill the detailed questionnaire. An informed written consent was taken from each respondent.

Methods and Material: The study was undertaken as a curiosity to understand the minds of young female population in Delhi-NCR (India) about menstruation. The survey was carried out from August, 2015 to June, 2016. The survey comprised 974 girls, age ranging from 18-24 years studying in various graduation and post-graduation courses in different colleges of Delhi and National Capital region (NCR), India and included girls who were having normal physiological menstruation. The data was collected by purposive sampling i.e. the girls who volunteered to provide correct information were selected. The girls were asked to fill the detailed questionnaire to elicit information about their socio-economic parameters, menstrual patterns and handling, physical and psychological complaints during menstruation etc. Along with collecting the information during the survey, we also explained the aims of the survey and questionnaire to them. Informed written consent was obtained from each of the respondents.

Statistical analysis used: Mostly the data on the annual income of family, education of mother, responses of girls regarding knowledge about menstruation, and sources of first information about menstruation was calculated as percentage. The data on different hygienic practices, viz. sanitary protection, daily bath during menstruation and influence of physical activity on the menstrual flow was arranged in five groups and was tested for normality using Kolmogorov-Smirnoff Test using statistical software, SAS Version 9.0. Normality test confirmed its normal distribution and thereafter the data was subjected to one-way analysis of variance (ANOVA) using the statistical software SAS 9.0 and the means were compared using Tukey's Test.

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DOI:

10.4103/2278-960X.194511

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Results: The families of majority of respondents fell in the income group of 1-5 lakhs (45.68%) followed by 5-10 lakhs (32.34%). While 52.05% girls knew about menstruation before menarche, 46.81% did not know about the process. Majority of the girls (76.69%) knew about the hormones and organs playing role during menstruation while 19.81% did not know about them, with 3.49% not having any idea about hormones. Also, 79.98% knew that menstruation is important to maintain the normal levels of hormones in body while 13.76% did not believe in this and 6.26% did not know anything about such correlation. Mothers were the first source of information about menstruation (52.36%) followed by school/teachers (19.61%) and friends (12.11%). Statistically significant number of respondents (89.84%) used sanitary pads during menstruation while some (1.64%) used cloth as sanitary protection. Significantly greater numbers of girls were concerned about hygiene during menstruation as 85.83% bathed daily in this period. Similarly, significantly large number of respondents believed that physical activity increased the menstrual flow (62.32%).

Conclusions: The young women of Delhi-NCR are very well aware of their needs to maintain good reproductive hygiene during menstruation. This observation was beyond the limits of the social and economic strata they belonged to. Moreover, the social and economic status of respondents did not seem to interfere in adopting better methods to maintain a better reproductive hygiene.

Key-words

Menstruation, hormones, menstrual hygiene management (MHM), reproductive tract infections (RTIs)

Key Message

Our study gave us insights into the way young women of Delhi-NCR, India handle menstruation these days. We found that the girls are better equipped to handle flow during menstrual days. They have better understanding of the process and its handling unlike in rural areas or where people are illiterate due to which several taboos are associated with menstruation.

Introduction

Menstruation is the regular discharge of blood and mucosal tissue from the inner lining of the uterus through the vagina every month. There are some symptoms associated with it which include acne, tender breasts, bloating, tiredness, irritability, and mood changes. Although menstruation is an important and indispensable phenomenon experienced by all women, there is still lack of knowledge about the process which may lead to poor handling of menstruation and thus, several reproductive tract infections. Increased awareness about the process leads to less reproductive tract infections (RTI) in females [1, 2]. This study also showed that 44.72% urban girls and 30.07% rural girls were unaware of menstruation before menarche, in South Parganas of West Bengal, India. Similarly Dasgupta et al. [3] reported from rural areas of Hoogly district, West Bengal, India that 32.5% girls were not aware about menstruation before it started; Kamath et al. [4] Also showed that in Manipal district of Karnataka, India 33.27% urban and 35.82% rural girls did not know about the process before menarche. Patle et al. [5] too reported that in Nagpur, India 63.38% urban girls and 47.57% rural girls were ignorant about menstruation before menarche. Girls in the urban India are more aware of menstruation as compared to the girls in rural areas [6]. Similar study by

Kuhlmann et al. [7] in Ethiopia has shown that urban girls have more resources to handle menstruation in a better way as compared to rural or resource-poor girls.

Many girls and women are subjected to restrictions in their daily lives just because they are menstruating. The underlying bases of such myths are also the cultural and religious beliefs of impurity associated with menstruation. According to a study by Kumar and Srivastava [8], women believed that during menstruation the body emits some specific smell or ray, which makes the preserved food bad. However, if general hygiene measures are practiced, there is no scientific basis for the same [9]. Since, menstruation is a phenomenon experienced by every girl and is also an indicator of their reproductive maturity, they should be aware about the changes happening in their bodies.

Literature survey revealed that no population-based studies have been performed on understanding of menstrual health and hygiene among young college going girls of Delhi-NCR. Also, since there is poor understanding about the phenomenon in rural areas, as has been shown by several studies, we wanted to confirm if the same situation exists in cities as well, as in cities too there are people from various social and economic backgrounds. Thus, our study attempts to analyse the knowledge, awareness, hygienic practices followed by young women in our capital city Delhi and National Capital Region (NCR), from a socio-economic perspective.

Subjects and Methods

Study area: The study was conceptualized for the young women residing in Delhi-NCR, with more emphasis on the undergraduate and postgraduate female students of the University of Delhi and other colleges in National Capital Region (NCR), India. There are few central universities, state universities and many colleges in Delhi-NCR, so female students from various states of India come here to study and they belong to varying cultural, religious and regional backgrounds. This gave us an opportunity to understand their handling of

menstruation and their awareness about the need to maintain a good reproductive health.

Study design: The study was undertaken as a curiosity to understand the minds of young adult females, studying in various colleges in Delhi-NCR (India) about menstruation and maintaining reproductive hygiene during menstruation. The survey was carried out from August, 2015 to June, 2016. All the girls who had attained reproductive adulthood and were unmarried were included in the study, falling in the age group of 18-24 years.

Sampling Method: The survey included 974 girls, age ranging from 18-24 years viz. those who were in their early years of attaining reproductive maturity, and included girls of graduation and post-graduation courses studying in different colleges of University of Delhi and National Capital region (NCR), India. The data was collected by purposive sampling i.e. the respondents who volunteered to provide correct information were selected. The respondents were asked to fill the detailed questionnaire to elicit information about their socio-economic parameters, menstrual patterns, first information about menstruation etc. Along with collecting the information during the survey, we also explained the aims of the survey and the importance of maintaining a good reproductive health. The questionnaire was anonymized and confidentiality of the participants was maintained. Informed written consent was obtained from each of the respondents before filling the questionnaire

Statistical analysis: The data on the annual income of family, education of mother, responses of girls regarding knowledge about menstruation, and sources of first information about menstruation was calculated as percentage. The data on different hygienic practices, viz. sanitary protection, daily bath during menstruation and influence of physical activity on the menstrual flow was arranged in five groups and was tested for normality using Kolmogorov–Smirnov Test using statistical software, SAS Version 9.0. Normality test confirmed its normal distribution and thereafter the data was subjected to one-way analysis of variance (ANOVA) using the statistical software SAS 9.0 and the means were compared using Tukey’s Test

Results

Our survey showed that the average annual income of the families of majority of respondents was between 1-5 lakhs (45.68%) followed by 5-10 lakhs (32.34%) [Figure 1]. The survey also showed that the educational qualification of mothers of respondents were mostly graduation (41.9%) followed by post-graduation (17.96%), class XII (17.04%) and class X (9%) [Figure 2].

While 52.05% girls knew about menstruation before menarche, 46.81% did not know about the process.

Majority of the girls (76.69%) knew about the hormones and organs playing role during menstruation while 19.81% did not know about them, with 3.49% not having any idea about hormones. Also, 79.98% knew that menstruation is important to maintain the normal levels of hormones in body while 13.76% did not believe in this and 6.26% did not know anything about such correlation [Figure 3].

The first information about menstruation and how to handle it was provided by mothers in 52.36% cases. The other two major sources of this information were school/teachers (19.61%) and friends (12.11%) [Figure 4].

The results of one-way ANOVA revealed that significantly ($F = 76.93$; $P < 0.0001$; $d.f. = 4,24$) large number of respondents (89.84%) used sanitary pads during menstruation while some (1.64%) used cloth as sanitary protection. However, tampons and cotton were almost entirely rejected by the Indian girls [Table-1]. Our results also revealed that significantly greater number of girls ($F=179.26$; $P \leq 0.0001$; $d.f. = 2,14$) were concerned about hygiene during menstruation as 85.83% bathed daily in this period. However, when asked if any kind of physical activity increased the menstrual flow then significantly greater number of girls ($F = 77.23$; $P < 0.0001$; $d.f. = 2,14$) (62.32%) responded in support and said yes compared to 31.72% who did not agree and said no [Table 1].

Hygienic practices		n (%)	Mean \pm S.D.	Details ANOVA	of
Sanitary protection	Cloth	16 (1.64%)	3.00 \pm 1.22a		
	Sanitary pads	875 (89.84)	175 \pm 43.30c	$F = 76.93$	
	Cotton	2 (0.21)	0.40 \pm 0.55a	$P < 0.0001$	
	Tampons	2 (0.21)	0.40 \pm 0.55a	$d.f. = 4,24$	
	No information	79 (8.11)	15.80 \pm 4.09b		
Daily bath during menstruation	Yes	836 (85.83)	167.20 \pm 25.47c	$F = 179.26$	
	No	128 (13.14)	25.60 \pm 4.34b	$P < 0.0001$	
	Sometimes	10 (1.02)	2.00 \pm 0.71a	$d.f. = 2,14$	
Does physical activity increase the menstrual flow?	Yes	607 (62.32)	121.40 \pm 23.00c	$F = 77.23$	
	No	309 (31.72)	61.80 \pm 7.46b	$P < 0.0001$	
	Don't know	58 (5.95)	11.60 \pm 1.52a	$d.f. = 2,14$	

Table 1: Maintenance of hygiene during menstruation

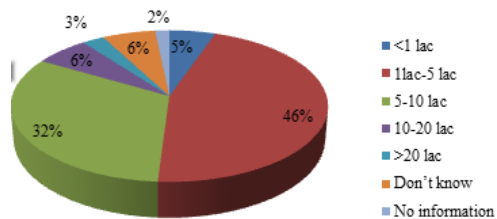


Figure 1: Annual income of the family of respondents

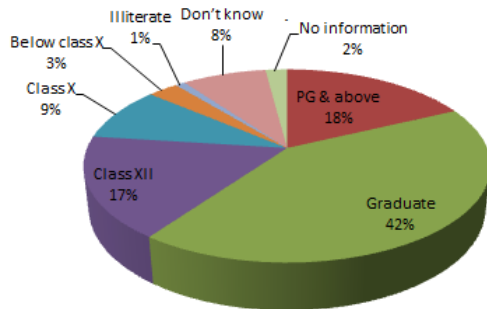


Figure 2: Educational qualification of mothers of respondents

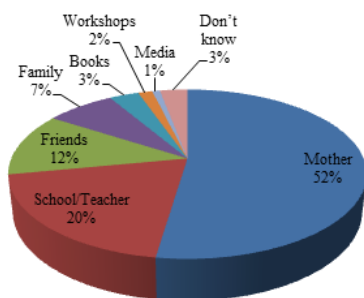


Figure 3: Sources of first information about menstruation

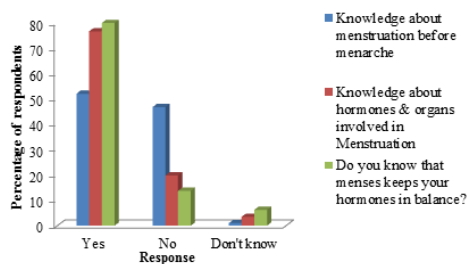


Figure 4: Knowledge of some significant aspects of menstruation

Discussion

Out of the 974 girls who participated in the survey, majority were of the age group 18-22 years. The average annual income of the families was 1-5 lakhs in 45.69% cases followed by 5-10 lakhs in 32.34% cases. This survey was much needed as we find people of all social and economic strata residing in big cities in search of livelihood. We found that not only the young women of modest economic background but those of reasonably economic background were also equally aware and had

switched on to the better practices of maintaining good reproductive hygiene. Since all these young women studied together in the colleges, majority of them were at par in the basic understanding and the need to maintain good hygiene during menstruation.

Mothers play a very important role in educating the girls about their reproductive health, freely discussing all aspects of menstruation, as was seen in our study wherein in 52.36% cases mother was found to be the first source of information about menstruation to girls. This was followed by school and teachers (19.61%) and friends (12.11%). In a similar study by Paria et al.^[1] It was reported that 76.84% girls had their mother as the first source of information about menstruation. In similar lines, Omidvar and Begum^[10] also reported that mothers and friends are the first source of information about menstruation to girls. Another study by Kansal et al^[11] reported that in rural areas too mothers and teachers play the most important role in understanding and handling menstruation by the young girls. These observations stress on the significant role played by mother in making her daughter understand menstruation as a normal phenomenon and importance of maintaining a proper hygiene when they are menstruating. This will become even more fruitful if the mother herself is educated as illiterate mothers may ask their daughters to follow the traditional unhygienic practices as she herself might have followed since her adolescence. We found in our study that majority of the mothers were graduates (41.99%) followed by post-graduates and above (17.98%). This might explain to some extent the better handling adopted by the respondents in our study. Moreover, now the schools have started imparting knowledge about menstruation to young girls to make them understand the phenomenon and tackle it properly as was seen in our study that in 19.60% cases, the girls got first information about menstruation from their schools. A similar study by Upasha et al.^[12] also revealed that the educational status of parents, especially mother has more positive influence on the menstrual hygiene management (MHM) by the adolescent girls.

Our study also reflected that majority of the girls (76.69%) think that menstruation is a normal physiological process as they knew about the organs and the hormones involved in menstruation and 79.98% believed that it keeps their hormonal levels in balance while 52.05% knew about menstruation before menarche. This is supported by studies conducted in Rajasthan, India by Khanna et al.^[13] and in West Bengal, India by Dasgupta and Sarkar^[3], which said that 86.25% girls believed it to be a normal physiological process. However, a study conducted by Thakre et al.^[14] reported that in rural areas of Nagpur district, Maharashtra, India only 18.35% girls believed that menstruation is a normal physiological process. Since, their study was done in rural areas, it may indicate that such belief might be due to the poor education of mothers or due to lack of health

education and other awareness programmes in schools. Although, the health programmes are being conducted by government at various levels, there is still more need for educating the girls about the process so that they can take care of themselves during this crucial time in a hygienic way and remain away from the reproductive tract infections (RTIs).

Our study further reported that about 89.84% girls used sanitary pads while only 1.64% used cloth as sanitary protection ($F = 76.93$; $P \leq 0.0001$; d.f. = 4,24) and 85.83% took daily bath during menstruation ($F = 179.26$; $P \leq 0.0001$; d.f. = 2,14). However, Balamurugan et al.^[15] reported that in rural areas of Tamilnadu, India only 35% women used sanitary pads while a majority used cloth. They wash the cloth and reuse it in next menstrual cycle and till then they hide this cloth in their houses, sometimes in unhygienic places. Similar study by El-Gilany et al.^[16] in Mansoura, Egypt and van Eijk et al.^[17] reported the reuse of cloth and not changing pads at regular intervals. They also reported that girls did not take bath during menstruation and lacked privacy, which further resulted in poor menstrual hygiene.

Kansal et al.^[11] also reported that most of the respondents used old clothes as absorbent in rural areas of Varanasi, India. There may be several reasons for not using the sanitary pads like lower socio-economic status, poor knowledge about the need of menstrual hygiene, social taboos, non-availability of sanitary pads in villages etc. However, the scenario seems different in bigger cities like Delhi-NCR as the families are educated, they understand the need to maintain proper hygiene during menstruation and this prevents them from contracting Reproductive Tract Infections (RTIs)^[18,19]. Also, since the girls are made aware of the process as a normal physiological event, they are now moving away from the taboos associated with menstruation unlike their counterparts in rural areas.

According to our study, 62.32% girls believed that physical activity increases the menstrual flow while 31.72% didn't believe so ($F = 77.23$; $p \leq 0.0001$; D.F. = 2, 14). Due to this restrain, girls often hesitate in doing more physical works like exercising, running etc. and it puts a psychological stress on them which may result in decreased output. This view is supported by a study conducted by Julian et al.^[20] wherein they have reported that menstrual cycle reduces the maximal endurance performance when the female soccer players are in the mid luteal phase of their cycles as compared to non-menstruating days.

Since, menstruation is a phenomenon experienced by every girl and is also an indicator of their reproductive maturity, they should be aware about the changes happening in their bodies. Also, since this phenomenon was and is considered a taboo even in today's time in India, there is more need of such type of studies to understand the needs of the female population, make

them aware about maintaining good reproductive hygiene and the ways and means to handle it more systematically and rationally. The most important step to be taken is to educate the girls about the facts of menstruation, physiological implications, significance of menstruation and above all, about proper hygienic practices, like the sanitary napkin should be changed frequently in a day to prevent vaginal or uterine infections. Along with this, hygienic absorbents should be made available at community level and they should also be taught how to dispose of the used absorbents^[17]. The findings of our study and the literature available on the handling of menstruation reinforce the need to encourage safe and hygienic practices among the girls, rural and urban, during menstruation and bring them out of the traditional misconceptions regarding menstruation and give them an opportunity to exercise their right of good reproductive health and thus their overall well-being.

Conflict of interest

None

Acknowledgement

The authors, at Maitreyi College, New Delhi are thankful to the Department of Biotechnology (DBT), Government of India for the necessary financial support under its Star College Scheme.

References

1. Paria B, A Bhattacharyya A. A Comparative Study on Menstrual Hygiene Among Urban and Rural Adolescent Girls of West Bengal. *S Das. J. Family Med Prim Care.* (2014);3(4):413-7.
2. Shingade P, Suryavanshi J, Kazi Y. Menstrual hygiene among married women: a hospital based cross-sectional study in an urban slum of Mumbai, India. *Internat J Comm Med Publ Health* (2016);3(1):57-61.
3. Dasgupta A, Sarkar M. Menstrual hygiene: How hygienic is the adolescent girl? *Ind J Comm Med* (2008);33:77-80.
4. Kamath R, Ghosh D, Lena A, Chandrasekaran V. Study on knowledge and practices regarding menstrual hygiene among rural and urban adolescent girls in Udupi Taluk, Manipal, India. *GLOB J MED PUB HEALTH* (2013);2(4): 1-9
5. Patle, S Kubde R. Comparative study on menstrual hygiene in rural and urban adolescent girls. *Int. J. Med Sci Public Health* (2013); 3(2):129-32.
6. Vyas S, Deepshikha, Mahmood SE, Sharma P, et.al .Are Menstrual Knowledge Outcome Scores Similar Among Rural and Urban Girls? *J Basic Clin Repro Sci* (2017);6(1):110-16
7. Kuhlmann SA, Kaysha H, Lewis. Menstrual Hygiene Management in Resource-Poor Countries. *WL.Obstet Gynecol Surv* 2017;72 (6): 356-76.
8. Kumar A, Srivastava K . Cultural and social practices regarding menstruation among adolescent girls. *Soc Work Public Health* (2011);26:594-604.
9. Garg S, Anand T. Menstruation related myths in India: strategies for combating it. *J Family Med Prim Care* (2015);4(2): 184-96.
10. Omidvar S, Begum K. Menstrual pattern among unmarried women from south India. *J Nat Sci Biol Med* (2011);2(2):174-179

11. Kansal S, Singh S, Kumar A. Menstrual Hygiene Practices in Context of Schooling: A Community Study Among Rural Adolescent Girls in Varanasi. *Ind J Comm Med*, 2016;41(1): 39-44
12. Upasha SP, Tekelab T, Mekonnen J. Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. *BMC Women's Health* (2015);15:84
13. Khanna A, Goyal RS, Bhawsar R. Menstrual and reproductive problems: A study of adolescent girls in Rajasthan. *J Health Manag* (2005);7:91-107.
14. Thakre SB, Thakre SS, Reddy M, Rathi N, Pathak K et al. Menstrual hygiene: Knowledge and practice among adolescent school girls of Aoner, Nagpur district. *J Clin Diagn Res* (2011);5:1027-33.
15. Balamurugan SS, Shilpa SS, Shaji S. A Community Based Study on Menstrual Hygiene among Reproductive Age Group Women in a Rural Area, Tamil Nadu. *J Basic Clin Repro Sci*, (2011);3(2):83-7.
16. El-Gilany AH, Badwi K, El-Fedawy S. Menstrual hygiene among adolescent schoolgirls in Mansoura, Egypt. *Reprod Health Matters* (2005);13:147-52.
17. Eijk AMV, Sivakami M, Thakkar MB, et al. Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. *BMJ Open* 2016;6: e010290.
18. R Garg, S Goyal, S Gupta (2012). India moves towards menstrual hygiene: subsidized sanitary napkins for rural adolescent girls-issues and challenges. *Matern Child Health J* 16(4):767-74.
19. Suman SK, Prasad B. Cross-sectional study on menstruation and menstrual hygiene among adolescent girls of RHTC, ANMMCH, Gaya IAIM. (2017); 4(6):196-200.
20. Julian R, Hecksteden A, Fullagar HHK, Meyer T, Lucía A. The effects of menstrual cycle phase on physical performance in female soccer players (2017); *PLoS ONE* 12(3).