http://jmscr.igmpublication.org/home/
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v7i12.111

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Menstrual Health Awareness amongst Adolescent Girls: A Literature Review

Authors
Sudhadevi.M[1*], Dr Navaneetha.M[2]
Research Scholar[1] Professor, Community Health Nursing[2] College of Nursing, Pondicherry Institute of Medical Sciences, Pondicherry
*Corresponding Author
Sudhadevi. M
Research Scholar, College of Nursing, Pondicherry Institute of Medical Sciences, Pondicherry, India

Abstract
Menstrual Hygiene is one of the important aspects of adolescent health which is often ignored particularly in developing countries such as India. In this regard onset of menstruation is often a period when adolescent girls don't have any knowledge about the healthy practices during menstruation. Many studies have reported that adolescent girls particularly from developing world have inadequate knowledge of maintenance of hygiene during menstruation. Many young girls don't have luxury of using sanitary pads and are forced to use cloth and then wash it and reuse it during next cycle thus making them vulnerable for genitourinary tract infection which may sometimes be serious and life threatening such as toxic shock syndrome. Proper knowledge about hygienic menstrual practices needs to be imparted to adolescent girls by mothers, nurse, nurse educator, nurse researcher and nurse administrator.
We undertook this literature review with an aim to understand level of awareness about menstrual hygiene in Indian adolescent girls.
Keywords: *Adolescents, Menstrual Hygiene, Genitourinary infections, Nursing.*

Introduction

India has one of the fastest growing youth population in the world and teenage girls between the age group of 13-19 years constitute more than 105 million. Teenage is known as turbulent period, they attain menarche which is considered as a most evident sign of sexual maturity in them. Although teenage is an important period of life, many teenagers are often less informed, less experienced, less comfortable in accessing reproductive health information and services than adults. This in turn results in incorrect and unhealthy behavior during this menstrual period[1].

Menarche is the beginning of a series of periodic discharge of blood, mucus and broken-down cell tissue, tissue of uterus that occur approximately every 28 days till women reach the stage of menopause. In the Indian context the age of onset of menarche is generally between 11to 15 years. Teenage represents a critical stage of transition from childhood to womanhood in girl's life[2]. The physical and emotional experiences, knowledge and skills acquired during this phase have important implications during adulthood. The research studies which had been carried out on menstrual management indicated that superstitions, illogical beliefs, and

misinterpretation are more common than accurate understanding of the process of menstruation, menstrual hygiene, and self-care practices among females. In the view of this it becomes important for the parents, teachers, and health care practitioners to be adequately involved in the promotion of adolescents' menstrual hygiene and self- care practices to reduce disease burden and poor health outcome associated with poor menstrual management among teenagers. Majority of girls who got educated about various aspect of menarche before attaining it were found to have coped up with it ease[3].

There is a substantial lacuna in the knowledge about menstruation among adolescent girls. Several research studies have revealed this gap showed that there is low level of awareness about menstruation among girls when they first experience it. How a girl view her menarche and subsequent periods of menstruation depend to a large extent on what knowledge she has about these, whether she has mental preparation for the phenomena and how society views it. Besides it, the information must be given to the girls with regard to menarche by teachers, and friends through effective media like educational books, magazines, VCD, etc. Better knowledge about menstrual physiology and its management to teenagers lead to correct attitude towards it and responsible reproductive health behaviour. Because poor hygiene and inadequate self- care practices are major determinants of morbidity and other complications among these age - group Very few urban mothers are found to make deliberate efforts to inform their daughters regarding menarche before they experience it[4].

Lifestyle modifications like regular physical activities, decreasing the intake of junk food and promoting healthy eating habits should be emphasized in health programs to improve teenage girls' reproductive health[5].

Materials and Methods

The studies done on the topic of menstrual hygiene in adolescent girls were identified by online search. The analysis covered all the studies which were done on the topic of menstrual hygiene amongst adolescent girls in India. There was no date limit so as to be able to ensure that all the papers on the relevant topics are included in this meta-analysis. The online databases such as EMBASE, PubMed and MEDLINE and google scholar were included in the search. In case some important relevant study was found in the references of the reviewed paper then it was also analyzed and if found eligible for inclusion in the review then it was also included in the review. The search terms were used to be able to include all the relevant studies and consisted of menstrual hygiene, adolescent and India.

After considering inclusion and exclusion criteria a total of 15 studies were included in this analysis. As a first step first duplicate studies were removed. The authors screened the titles, abstracts as well as keywords and mesh terms and analyzed them with a specific purpose of being able to determine whether the study qualifies for inclusion on the basis of a predefined inclusion and exclusion criteria. The adolescent girls and their knowledge and attitude towards menstrual hygiene were assessed on the basis of results of these studies. Particular attention was focused on knowing the Knowledge about the biology of menstruation and menstrual hygiene in adolescent girls. Presence of correct information regarding the physiology of menstruation, assessment of presence of skills in coping with onset of menstruation and its psychological effects, behavioral adaptions, methods of coping with the pain associated with menstrual cycle and presence of belief regarding menstrual cycle were analyzed. Once the study was decided to be included in the meta-analysis then the full text of the article was obtained and analyzed. The details of the papers included in this study included publication details such as author and title as well as month and year of publication, The place where study was conducted, study design and methodology of the study, sociodemographic details and presence of knowledge about the

menstrual hygiene in the participants were all analyzed and compared. As different studies were found to be using different study designs as well as the parameters, they have studied only common parameters were analyzed and compared. The statistical analysis was done using SSPS 21.0 software. Microsoft Excel was used for pooling and comparison of data.

Inclusion Criteria

1. Paper published in English language.
2. Peer reviewed journals.
3. Original Research papers.
4. Eligible participants were adolescent girls residing in India.

Exclusion Criteria

Meta-analysis, peer review and project reports etc even if published in peer reviewed journals were excluded from the study.

Review of Literature

We analysed 15 studied which were included in this literature review after assessing them on the basis of a predefined inclusion and exclusion criteria. Our purpose was to assess the presence of knowledge about healthy menstrual practices amongst adolescent girls.

Savita Kumari et al conducted a descriptive survey in which 150 adolescent girls residing in selected orphanages of Haryana were studied. Purposive sampling technique was used to select the adolescent girls for study. The data was obtained by structured knowledge questionnaire and structured practice questionnaire. The authors found that Out of 150 adolescent girl's majority of the girls (67.3%) had below average knowledge about menstrual hygiene whereas 16.7% girls had average knowledge. Only 16% girls had good knowledge about menstrual hygiene. On the basis of response to questionnaire it was found that 95.30% girls were using sanitary pads during menstrual cycle whereas 4.70% patients were using plain cloth. Out of the girls who were using cloth during menstrual cycle it was found that majority of the girls were using only water for washing this cloth whereas 33% girls were using water with soap for the purpose of washing this cloth. Majority of the girls (76%) said they disposed of the sanitary pad by throwing it in dust bin whereas it was being disposed off in open fields, drains and toilets in 76%, 10%, 7% and 7% respectively[6].

Tarhane S et al conducted a study in which the authors interviewed through pretested questionnaire. We found that 89% girls thought menstruation to be a normal process, 79% girls used sanitary napkins while 21% girls used clothes as absorbent during menses. The authors found that mothers were the primary source of information in 88% girls. The authors recommended that girls should be educated about the menstruation and hygienic practices which can be achieved by educational television programs, school/nurses health personnel, compulsory sex education in school curriculum and knowledgeable parents[7].

Dasgupta A et al conducted a descriptive, cross sectional study in which the authors studied 160 adolescent girls of a secondary school situated in the field practice area of Rural Health Unit and Training Center, Singur, West Bengal, with the help of a pre-designed and pre-tested questionnaire. Data were analyzed statistically by simple proportions. The authors found that Out of 160 respondents, 108 (67.5%) girls were aware about menstruation prior to attainment of menarche. Mother was the first informant regarding menstruation in case of 60 (37.5%) girls. One hundred and thirty-eight (86.25%) girls believed it as a physiological process. Seventy-eight (48.75%) girls knew the use of sanitary pad during menstruation. Regarding practices, only 18 (11.25%) girls used sanitary pads during menstruation. For cleaning purpose, 156 (97.5%) girls used both soap and water. Regarding restrictions practiced, 136 (85%) girls practiced different restrictions during menstruation. Based on these findings the authors concluded that health education trained school nurses/health personnel, motivated schoolteachers and knowledgeable parents can play a very important role in

transmitting the vital message of correct menstrual hygiene to the adolescent girl of today[8].

Drakshayni Devi et al conducted a cross sectional study in which the authors interviewed 65 females between the age group of 14-15 years old attending a rural high school in Guntur District in Andhra Pradesh to learn their knowledge and practices about menstruation. The authors found that all the students attained menarche at 12-13 years. The menstrual cycle was 26-28 days in length for 42 students. Menstrual bleeding lasted for 3-5 days for 52 students. Even though 43 knew that menstruation is a physiological process, 12, 4, and 5 thought it to be a curse from God, caused by a sin, and a disease, respectively. About 50% knew that hormones were responsible for menstruation. 18 believed weight gain caused it. Most students (51) knew that menstrual bleeding originated from the uterus. Other sites mentioned were abdomen, intestines, and kidneys. 48 received information about menstruation from their mothers. Other information sources included grandmothers, friends, and sisters. All but one used old cloth during menstruation. 25 reused the cloth. 16 disposed of the used cloth through Dhoby. 13 put it into a canal. 52 took special baths during menstruation. 27 students cleaned the external genitalia with only water. Only three students used water and soap. More than 50% were restricted from household work, taking part in religious activities, attending marriages, and playing during menstruation. 13 were restricted from attending school during menstruation. 38 would rest more often during menstruation than at other times. Foods restricted during menstruation included milk and milk products (20), vegetables (14), and prasadam (7). Some ate more quantities of dry coconut (15), Dhal (11), and jaggery and sweets (8) to maintain good health. The authors found that education about menstrual hygiene was important from the point of view of healthy transformation to adulthood[9].

Deshpande TN et al conducted a study to assess knowledge, beliefs, and source of information regarding menstruation, and also to assess hygiene among adolescent girls. For this purpose, data was collected using pre-tested proforma during the period of 1st June to 31th August 2017. Among the 100 adolescent girls, 72% were between 15 and 19 years. A maximum of 47% were having high school education. About 47% mothers were illiterate; 27% girls had menarche at 14 years and 82% had regular cycles. About 76% had no knowledge of menses before menarche. The source of information was mother in 84%. Only 16% girls commented that bleeding initiated in uterus. About 60% girls used sanitary pad and the rest used cloth pieces. About 22% used water and no soap for hand washing. Multiple restrictions were practiced. The authors concluded that menstrual hygiene was unsatisfactory among adolescent girls. Therefore, girls should be educated about the facts of menstruation and proper hygienic practices[10].

Kapoor G et al conducted a study amongst the adolescent school going girls in the Govt. Higher Secondary School in Marh block of Jammu district. 132 girls of the 8th, 9th, 10th, 11th and 12th standard of the school was selected for the study. A predesigned, pretested and structured questionnaire was used in the study. The data collection technique was a personnel interview of the study subjects. The study found that the mean age of menarche in the study subjects was 13.43 years. It was evident that only 65 (49.24%) of the participants were aware about menstruation before menarche and the most important source of the information about menstruation for them was found to be their mothers. 59.09% girls used sanitary pads only, 27.27% used new cloth and 13.64% used old washed cloth. 98.48% of the respondents followed some restriction or taboo during menstruation. 93.18% had daily bath. Regular hand washing was present in 90.91% subjects of which 86.36% subjects used soap and water for hand washing. Regular cleaning of the external genitalia was present in 65.91% subjects only, of which 66.67% used soap and water and 33.33% used only water. Based on these findings the authors concluded that there is a need to

educate the girls about menstruation, its importance and hygiene maintenance; to enable them to lead a healthy reproductive life in future[11].

Phani MKV et al conducted a cross-sectional study in the rural field practice area of the Department of Community Medicine, Andhra Medical College, Visakhapatnam. The study was done in a high school selected by simple random sampling among 400 adolescent girls who had attained menarche and were present in the schools during the days of survey after obtaining Institutional Ethics Committee approval, permission from the school authority and informed consent was taken from study participants. The sample size was calculated Using 4PQ/L2 with 5% absolute precision (p=36% from previous studies). Results: Mean age of study participants was 14.2yrs ±1.05. About 206(48.4%) knew about menstrual cycle before their menarche. Majority of study participants (78.3%) used sanitary pad as protective material. Regarding hygienic practices during menstruation 78.8% had daily bath. Based on these findings the authors concluded that awareness about menarche before its onset was still poor in rural areas of India[12].

Hema PS et al conducted a study to analyze the menstrual hygiene practices among adolescent girls in rural Puducherry. For this purpose, the authors undertook a community based descriptive cross-sectional study in rural field practicing area. A total 528 adolescent girls were included by complete enumeration. The authors found that majority (89.2%) of the adolescent girls were using sanitary pads, fresh and reusable cloths were used by 6.6% and 4.2%, respectively. 65.3% girls changed their soaked absorbent 2-5 times in a day. Majority (60.8%) of the girls disposed their used absorbent by burying or burning. 67.9% girls were washing genitalia during micturition. 54.4% used soap and water for hand cleaning purpose and 1.4% used ash & mud etc. The authors concluded that even though sanitary pad users were high, unhygienic practices were noticed, so more emphasize is needed to be given on awareness of menstrual hygiene practices among adolescent girls[13].

Ghimire S et al conducted a study in 2 schools. About 100 adolescent girls were selected by simple random sampling technique. Structured knowledge questionnaire was used to collect needed data on knowledge of adolescent girls. The data collected were tabulated and analyzed by using descriptive and inferential statistics. The authors found that maximum numbers 42 of the subjects were in the age group of 12 years, majority i.e. 81 of the subjects belonged to nuclear family, majority i.e. 39 of the subjects were in 7^{th} standard, maximum of 72 subjects belonged to Hindu religion, majority i.e.79 had family income below 5000, majority of the subjects 35 had their first menstruation at the age of 14, 35 subjects father were self-employed, 60 subjects had their mothers as government employee , majority of the respondents, 80 had previous knowledge on menstrual hygiene. Majority of the subjects 70% had average knowledge, 25% of them had poor knowledge and only 5% had good knowledge regarding menstrual hygiene. There was a significant association of knowledge adolescent girls with demographic variables such as age at first menstruation. Based on these findings the authors concluded that organizations at community level should be strengthened for effective dissemination of knowledge about menstrual hygiene[14].

Rajanbir K et alin their literature review found that adolescent girls mostly rely on reusable cloth pads which they wash and use again. The authors found that needs and requirements of the adolescent girls and women are ignored even though there are major developments in the area of water and sanitation. Interestingly the authors found that women manage menstruation differently when they are at home or outside; at homes, they dispose of menstrual products in domestic wastes and in public toilets and they flush them in the toilets without knowing the consequences of choking. So, there should be a need to educate and make them aware about the

environmental pollution and health hazards associated with them. Implementation of modern techniques like incineration can help to reduce the waste. The authors recommended that awareness should be created to emphasize the use of reusable sanitary products or the natural sanitary products made from materials like banana fiber, bamboo fiber, sea sponges, water hyacinth, and so on[15].

Rokade HG et al conducted a cross sectional study amongst 324 late adolescent girls, 200 from slum and 124 from non-slum. For this purpose, house to house survey was done by the investigators. The authors found that awareness of menstruation before menarche was seen in 56.48% girls. Friends [38.8%] and mothers [38.25%] were the main informant. The difference in mean age of menarche [12.85±1.13 in slum and 13.12±1.15 in non-slum] and regularity of cycles [126(63%) in slum and 102(82.26%) in non-slum] was statistically significant, 34% girls belonging to slum and 45.97% from non-slum areas were practicing menstrual hygiene and the difference was found to be statistically significant. Level of education was found to be one of the important factors affecting menstrual hygiene in adolescent girls. The authors concluded that menstrual hygiene is an important issue which needs to be addressed in adolescent girls particularly amongst adolescent girls coming from slum[16].

Prajapati J et al conducted a study to assess the knowledge and the practices of menstrual hygiene among adolescent girls. For this purpose, the authors conducted a cross sectional, descriptive, community-based study. For this purpose, total 155 girls were enrolled. All adolescent girls fit to inclusion criteria & give consent were taken as study subject. Structured questionnaire was used for data collection. The study found that out of 88 respondents, 50% attained menarche at the age between 12-14 yrs. Maximum number of girls (65.9%) have blood flow for 2-5 days while 18.2% have excessive blood flow. Out of total 39.8% girls know about menstruation before menarche and majority of (48.9%) reported mother as a source of information regarding menstruation. Only 17% girls had correct knowledge regarding organ form where bleeding occurs while 33.1 % girls were knowing that menstruation is a physiological process. 21.6% girls believed that there is a toxin in menstrual blood. Sanitary pad was used by 26.1% girls. Those who were using cloth pieces out of them 33.8% facing problem of washing & drying either due to shortage of water, lack of privacy or drying. Around 30% girls were not using sanitary pad because of cost. The relation between mother's education & knowledge regarding menstruation before menarche was not significant ($X2= 2.41$, $P>0.05$). Based on these findings the authors concluded that menstrual hygiene was satisfactory among adolescent girls but lack of knowledge & awareness regarding menstruation was a problem in some adolescents. The authors recommended that mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation before age of menarche[17].

Ramchandra K et al conducted an epidemiologic cross-sectional study to explore the knowledge, practices and sources of information regarding menstruation and hygiene among adolescent girls in Bangalore, India. For this purpose, 550 school-going adolescent girls aged 13-16 years were included in this study. Data was collected using a pre-tested questionnaire and analyzed using SPSS version 15. The authors found that around 34% participants were aware about menstruation prior to menarche, and mothers were the main source of information among both groups. Overall, 69% of adolescent girls were using sanitary napkins as menstrual absorbent, while 6% were using both cloth and sanitary napkins. Almost half of the rural participants dried the absorbent inside their homes. The study concluded that there is a need to equip the adolescent girls with knowledge regarding safe, hygienic practices to enable them to lead a healthy reproductive life[18].

Kalita D et al conducted a community-based cross-sectional study involving 200 adolescent girls. The data was collected using predesigned

and pretested proforma. The study found that 92% of the respondents knew about menstruation before menarche. As high as 92% of the respondents believed that menstruation occurs due to natural or hormonal cause, whereas 1.5% considered it as a disease process. 81.5% girls used commercially available sanitary pads and 78.5% girls cleaned external genitalia with soap and water. All the participants avoid attending religious occasion, followed by kitchen work (57.5%), marriage party (31.5%), and 30.5% of them were sleeping separately. 46% of the respondent avoid sour food during menstruation the study concluded that false perceptions, ignorance, and unsafe practices are still prevailing in the community[19].

Sharma R et al conducted an experimental study of 50 adolescent girls of a secondary school with the help of a pre-designed and pre-tested questionnaire. Participants were randomly assigned into control (n=25) and experimental group (n=25). Adolescent girls from both groups were assessed for knowledge and practice regarding menstrual hygiene on day 1 and on 15th day. Participants of experimental group were administered educational program regarding menstrual hygiene on day 1 after assessment for knowledge and practice regarding menstrual hygiene. Data was analyzed statistically by simple proportions. The mean age of the adolescent girl was 13.88± 1.5 and age of menarche 12.74±0.98. Out of 50, 32 (64%) mothers of adolescent girls were educated at graduate level. The mean pre-test knowledge and practice in experimental group 8.04±1.54, 3.52±1.0 and control group 8.02±2.0, 3.24±1.0 respectively. The level of knowledge and practice regarding menstrual hygiene of subjects who participated in educational program was significantly better than that of the control group. The study concluded that educational television programs, trained school nurses/health personnel, motivated school teachers and knowledgeable parents can play a very important role in transmitting the vital message of correct menstrual hygiene to the adolescent girl of today[20].

Conclusion

There is still a large educational gap about healthy menstrual practices amongst adolescent girls in India. Correct evidence-based knowledge about physiology of menstruation and adoption of healthy menstrual practices needs to be imparted to adolescent girls. In this regard mothers, nurse, nurse educator, nurse researcher and nurse administrator can play a vital role in imparting this knowledge.

Conflict of interest: None

References

1. Garg S, Anand T. Menstruation related myths in India: strategies for combating it. *J Family Med Prim Care*. 2015;4(2):184–186. doi:10.4103/2249-4863.154627
2. Casey BJ, Duhoux S, Malter Cohen M. Adolescence: what do transmission, transition, and translation have to do with it?. *Neuron*. 2010;67(5):749–760.
3. Coast E, Lattof SR, Strong J. Puberty and menstruation knowledge among young adolescents in low- and middle-income countries: a scoping review. *Int J Public Health*. 2019;64(2):293–304.
4. Sooki Z, Shariati M, Chaman R, Khosravi A, Effatpanah M, Keramat A. The Role of Mother in Informing Girls About Puberty: A Meta-Analysis Study. *Nurs Midwifery Stud*. 2016;5(1):e30360. Published 2016 Feb 20.
5. Salam RA, Das JK, Lassi ZS, Bhutta ZA. Adolescent Health Interventions: Conclusions, Evidence Gaps, and Research Priorities. *J Adolesc Health*. 2016;59(4S):S88–S92.
6. Kumari S, Sheoran P, Siddiqui A. Menstrual hygiene: knowledge and practice among adolescent girls in

orphanage. Int J Community Med Public Health 2018;5:3987-90.
7. Tarhane S,Kasulkar A. Awareness of adolescent girls regarding menstruation and practices during menstrual cycle. Panacea Journal of Medical Science, January –April,2015:5(1);29-32.
8. Dasgupta, A. and M. Sarkar, Menstrual hygiene: How hygienic is the adolescent girl?2008.
9. Drakshayani Devi K, Venkata Ramaiah P. A study on menstrual hygiene among rural adolescent girls. Indian J Med Sci. 1994 Jun;48(6):139-43. PubMed PMID: 7927585.
10. Deshpande TN, Patil SS, Gharai SB, Patil S R, Durgawale P M. Menstrual hygiene among adolescent girls – A study from urban slum area. J Family Med Prim Care 2018;7:1439-45
11. Kapoor G, Kumar D. Menstrual hygiene: knowledge and practice among adolescent school girls in rural settings. Int J Reprod Contracept Obstet Gynecol 2017;6:959-62.
12. Phani Madhavi KV, Paruvu K. Menstrual hygiene and practices among adolescent girls in rural Visakhapatnam: a cross-sectional study. Int J Community Med Public Health 2019;6:432-6.
13. Hema Priya S, Partha N, Seetharaman N, Ramya MR., Nishanthini N, Lokeshmaran A. A study of menstrual hygiene and related personal hygiene practices among adolescent girls in rural Puducherry. Int J Community Med Public Health. 2017;4(7):2348-55.
14. Ghimire S. Knowledge regarding menstrual hygiene among adolescent girls. Int J Res Med Sci 2017;5:3426-30.
15. Kaur R, Kaur K, Kaur R. Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries. *J Environ Public Health*. 2018; 2018:1730964. Published 2018 Feb 20.
16. Rokade HG, Kumavat AP. Study of menstrual pattern and menstrual hygiene practices among adolescent girls. Natl J Community Med. 2016;7:398–403.
17. Prajapati J, Patel R. Menstrual hygiene among adolescent girls: A cross sectional study in urban community of Gandhinagar. JMR. 2015;1:122–5
18. Ramachandra K, Gilyaru S, Eregowda A, Yathiraja S. A study on knowledge and practices regarding menstrual hygiene among urban adolescent girls. Int J Contemp Pediatr 2016;3:142-5.
19. Kalita D, Pathak G. Study on hygiene practice among adolescent girls with special reference to menstrual hygiene in Barpeta, Assam. Int J Med Sci Public Health. 2019; 8(9): 759-764.
20. Sharma R, Negi S, Kunj D, Sharma V, . V. Menstrual hygiene among adolescent girls. Indian J Community Health [Internet]. 30Sep.2015 [cited 5Oct.2019];27(3):376-80.