

Management and Practices of Menstrual Hygiene among Adolescent Girls in India

Paper Submission: 15/10/2020, Date of Acceptance: 25/10/2020, Date of Publication: 26/10/2020



Manisha Rani

Research Scholar,
Dept. of Home Science,
Birla Campus,
H.N.B.G.U., Srinagar,
Uttarakhand, India



Jyoti Tiwari

Associate Professor,
Dept. of Home Science,
Birla Campus,
H.N.B.G.U., Srinagar,
Uttarakhand, India

Abstract

Menstrual hygiene is very important for the empowerment and well-being of women and girls. It includes access to sanitary pads and safe toilets and ensuring that girls and women live in an environment that values their ability to manage their menstruation with dignity. Menstrual health and hygiene is actually a sentinel issue if we are looking at the integrated nature of the Sustainable Development Goals (SDGs). There is no target for menstrual health within the SDGs and right now, it is generally viewed as a Goal 6 problem. Menstrual Hygiene Management (MHM) is usually associated with the health and fitness of girls or women for their empowerment. But lack of knowledge, cultural taboos and secrecy about menstruation compound this problem. Girls remain absent in the schools and in many cases they leave the schools due to poor disposal system and Water, Sanitation and Hygiene (WASH) facilities. Appropriate disposal of used menstrual material is still lacking in most of states. Poor menstrual hygiene practices pose a threat to the health of adolescent girls and hinder their growth. In many cities, the persons who manage the public toilets always complain of blockage of sewage system because of flushing of sanitary pads or rugs in the toilet because of poor MHM practices. Menstruation remains shrouded in silence and taboo for adolescent girls. So menstrual education is a vital aspect of adolescent's health education. Various nutritional and health education programs are running for young children, adolescent girls and pregnant women in India. But these programs do not often address menstrual hygiene and practices. There is an urgent need to improve the status of MHM among adolescent girls and need to find out the existing unhealthy practices of MHM among the girls and women and emphasis should be given to remove them.

Keywords: Adolescent Girls, Menarche, Menstrual Hygiene, Menstrual Hygiene Management (MHM).

Introduction

Menstruation is a normal biological function of a healthy female body. The menstrual cycle is the regular natural change that occurs in the female reproductive system (specifically the uterus and ovaries) that makes pregnancy possible. It is a part of physical development that first occurs in girls usually between the age of 11 and 14 years and is one of the indicators of the onset of puberty among them. Menarche is a medical term for a girl's first menstruation, commonly known as her first period in puberty age.

Menstrual hygiene management (MHM) is that, in which women and adolescent girls are using clean menstrual management materials to absorb or collect blood that can be changed in privacy as necessary for the duration of the menstruation period, using soap and water for washing the body as required and having access to facilities to dispose off used menstrual management materials, (UNICEF and WHO, 2014). According to global researches, it was found that the problems and myths related to menstruation acts as a big challenge in the way of SDGs. Specific barriers that girls face during their menstruation in schools, inadequate water, sanitation and hygiene (WASH) facilities, lack of access to affordable products, inappropriate disposal mechanisms and cultural restrictions and taboos. 70% of mothers with menstruating daughters considered menstruation as dirty and 71% adolescent girls remained unaware of menstruation till menarche. According to UNICEF report 2014, 79% girls

and women were not aware of menstrual hygiene practices in Tamil Nadu, 66% in Uttar Pradesh, 56% in Rajasthan and 51% in West Bengal.

Menstruation is a rarely discussed topic in homes and schools in India and most of the girls not only in rural areas but also in urban areas in India remain unaware about menstrual cycle till their first menstruation. In their first period they don't know what happened, why they are bleeding and how to manage this unexpected physical condition which makes them very shocked, fearful, shameful, and mentally upset. Mothers, who guide their adolescent girls in puberty period, are typically ignorant of hygienic practices themselves; they themselves do not know the importance and biological reasons of these physiological changes. They are unaware of the importance of good nutrition, or recognize the sign of menstruation related illness such as anemia. Most of the girls and women in rural India rely on home-based or other readily available and often unsanitary materials such as old fabric, rags, sand, ash, and hay to manage menstruation. Without any hygienic and comfortable absorbent material, some even end up menstruating on their clothes. Moreover, commercially produced napkins are a major environmental hazard. If these non-bio degradable napkins were to become available to all, India would produce 580,000 tons of menstrual waste every year, most of which would end up in water bodies or be burned along with other domestic waste, reported by The Indian Textile Journal (2008).

Because of lack of menstrual health practices in India, most of the women dispose their used menstrual articles into domestic solid wastes of garbage bins that ultimately become a part of solid wastes. Adolescent girls do not receive proper menstrual education and awareness about menses in their families. In rural areas, mostly women wash and reuse their menstrual absorbent materials like reusable pads or cloths. Girls often miss their classes and schools during menstruation due to lack of sanitation and inadequate WASH facilities. Due to lack of accurate and pragmatic information about menstruation in males, girls and women are not able to share and discuss their problems openly in the society. Menstrual hygiene is just not a women's issue this is an educational issue of girls-child health to whole family health because menstrual cycle is the part of reproductive system. So, menstrual education is important for boys and men also not only for girls and women. It should be a compulsory part of education.

Aim of the study

Present article is an attempt to find out the problems faced by adolescent girls during menstruation and also to assess the knowledge and practices of menstrual hygiene among the adolescent girls in India.

Knowledge and Awareness about Menstruation or Menarche in India

After reviewing the Indian researches related to menstrual hygiene we found that there is very low percentage of the girls are believe that menstruation is a normal physiological process. Most of the

adolescent girls have not been informed about menstrual cycle before menarche and felt they are not mentally prepare. A study of Hyderabad, Telangana shows that only 58.5% adolescent girls were aware about menstruation before menarche and 85.9% of the girls were not aware of the cause of the bleeding. Only 8.3% knew about the source of menstrual blood is uterus and 67.6% knew that it's a natural phenomenon, (Channawar, K. et al.),⁽¹⁾ similarly, in a rural medical college hospital in Uttar Pradesh (Gupta, R. et al.).⁽²⁾ only 20% were aware about menstruation before menarche. 86% did not know the cause of menstruation. 64% had no knowledge regarding the origin of the blood flow. Another study of Dehradun, found that only 34.67% girls were aware about menstruation before reaching menarche. 52% girls were not aware of the reason behind occurrence of menstruation. 28.67% believed menstruation it to be a curse of God. Only 12% of the girls were aware of its natural reason, (Mandal, D.R.).⁽³⁾

Only 48.4% adolescent girls knew about menstrual cycle before their menarche in rural Visakhapatnam, (Madhvi, K.V.P. et al.).⁽⁴⁾ and a study of Shimla, Himachal Pradesh revealed that only 29% girls had adequate knowledge about menstrual hygiene, while 71% had inadequate knowledge about menstrual hygiene; there is a positive correlation between knowledge and practice of menstrual hygiene, (Mahajan, A. et al.).⁽⁵⁾ Only 30% girls were aware of menstruation before menarche in Bangalore (Karnataka) by Nagaraj, C. et al.⁽⁶⁾ Similarly, in another study found it 51.7% girls were not aware of menstruation before menarche, while 71.5% and 61.2% were not aware about the cause and source of menstrual bleeding respectively. The study also found that there is higher prevalence of dysmenorrhea (82.2%) and 25.2% reported excessive genital discharge, (Mathiyalagen, P. et al.).⁽⁷⁾ in the study of tribal (Gujjar) adolescent girls of Jammu and Kashmir adolescent they lacked conceptual clarity about the process of menstruation before menarche. Adolescent girls are follow several socio-cultural taboos related to menstruation such as 98% of the girls believed that there should be no regular bath during menstruation period. The level of personal hygiene and management of menstruation was found to be quite unsatisfactory, (Dhingra, et al.).⁽⁸⁾

Mother is the Main Source of Information to Manage Periods in Adolescent Girls

The major source of menstrual information is the family but mother being close to girls, she is prime source of information regarding menstruation to most of adolescent girls. Review studies show the positive association in menstrual knowledge of the girls and parental education. Among 71.3% adolescent girls' mother was prime source of information in studies of Nagpur, conducted by Thakre et al.⁽⁹⁾ Similar studies done by Sridevi, M. et at., Damor and Kantharia, Jaikhani, Jogdand and Yerpude found that the main source of information regarding menstruation was the mother. In the rural area of Dindigul District (Tamil Nadu), only 16.3% adolescent girls had correct knowledge of uterus is the organ from where the bleeding occurs. Hence the literacy level of the

mothers is significantly associated with the Knowledge, Attitude and Practices (KAP) of menstrual hygiene among the adolescent girls, (Sridevi, M. et al.).⁽¹⁰⁾ in a study of Bhopal, Madhya Pradesh 77.7% girls obtained the information or knowledge regarding menstrual hygiene from their mothers. Although, it's not so good to know that this bigger percentage of girls had not been imparted accurate knowledge for menstrual hygiene, (Neelkhant, N. et al.).⁽¹¹⁾ similarly in the study of Bilaspur of Chhattisgarh state (Manwani, VK. et al.)⁽¹²⁾, majority of the girls 81.88% got information from their mother about menstruation. Study indicates that students had substantial doubts about menstruation and were influenced by societal myths and taboos in relation to menstrual practices. In different states of India, good menstrual hygiene seems among those whose mothers were educated.

Menstrual Practices of Adolescent Girl in Different States of India

Regarding practices, in the study of Dehradun (Uttarakhand), 59.33% girls reported that sanitary pads should ideally be used during the menstruation. 62.67% girls used old cloths, 9.33% used new cloths during menstruation. Only 2.67% girls used water and antiseptic for cleaning the external genitalia, while majority of girls used only water, (Mandal, D.R.). In another study of Uttarakhand, overall 38.4% (rural and urban) adolescent girls were using sanitary napkins as menstrual absorbent, while 30% were using a new cloth rag every time. There is a need to educate the girls about menstruation, its importance and hygiene maintenance (Joyal, R. et al. 2012).⁽¹³⁾ similarly in a Maharashtra study, only 33.5% girls have reported use of sanitary pads while 41.6% girls have use of old clothes during menses. (Washik, V.R. et al.).⁽¹⁴⁾ in the rural area of Kasavanampatti village of Dindigul District (Tamil Nadu) only 39.7% girls had used sanitary pad as absorbent during their menstrual period while the rest of 44.8% girls were using cloths and 15.5% had used both sanitary pad and cloths.

An another study of Madras, Tamil Nadu found that very few girls use sanitary napkins available in the market; possibly due to low socioeconomic status, less availability at rural areas and lack of awareness. Majority of the girls were using cloth (46.67%) and only 15.67% were using sanitary napkins, (Karibeeran, S.).⁽¹⁵⁾ More than half (62%) of the girls were ignorant about the use of sanitary pads and preferred cloths pieces during menstruation as menstrual absorbent. Only 13.2% girls used only sanitary pads, 62.6% used cloth pieces during menstruation and around 24.2% used both reusable cloth and sanitary pad of a rural secondary school of West Bengal, (Ray, S. et al.).⁽¹⁶⁾ The reasons cited by the participants for not using sanitary pad was high cost, shyness to buy, lack of knowledge of method of using them and disposal problems. In the study of North Karnataka region majority of girls used only water for cleaning external genitalia. Cleaning of external genitalia was unsatisfactory among 67.9% of girls. Study also revealed that around 46.06% of the girls preferred old cloth pieces rather than sanitary pads as menstrual absorbent. Only 25% girls used

sanitary napkins and 28% used both disposable pads and cloths. In this rural area 52.55% girls were used only one absorbent per day and majority of girls were not comfortable changing pads at school. (Vidya, V P. et al.).⁽¹⁷⁾ The use of pads was higher which was probably due to the fact that availability was high in these areas and also due to influence of television which has increased awareness regarding availability and use of sanitary napkins, There was a significant difference in proportion of menstrual problem in rural and urban girls in the study of Nagpur, (Tarhane, S.).⁽¹⁸⁾

In the study of Nagaraj, C. et al., only 26.3% of study subjects were using sanitary pads. Thakre et al. also observed low prevalence (30.8%) of usage of sanitary pads in their study conducted among adolescent girls in a rural area of Nagpur District. On the contrary, in a study done by Jogdand, K. et al. among adolescent girls in the urban area of Guntur (Andhra Pradesh), it was observed that sanitary pads were used by 53.3% girls and 34.63% girls have used of old clothes during menstruation.⁽¹⁹⁾ This difference may be because of better awareness and availability of sanitary pads in urban areas as compared to rural areas.

According to the study of Hyderabad (Telangana), number of the girls is satisfactory (91.2%) who used sanitary pads during menstruation, but their menstrual practices are not optimal, out of 263 girls who used sanitary napkins or cloths, 5.3% girls changed it once a day, 17.1% twice a day, 49.1% girls thrice a day, 28.5% girls changed it 4 times a day. 74.1% girls threw the pads in house dustbin and 25.8% girls flushed in toilet. 92% girls thought menstruation to be dirty. The proper menstrual hygiene and correct perception can protect the women from suffering. The girls should be educated about the facts of menstruation, physiological implication, about the significance of menstruation and development of secondary sex characteristics, and above all about proper hygienic practices and selection of disposable sanitary menstrual absorbent. This can be achieved through educational television programs, compulsory sex education in school curriculum and through school/nurses health personnel.

Myths and Restrictions Regarding Menstruation in Indian Society

Myths, taboos and restrictions related to menstruation have been found all over the country (India), which seems to be almost identical in various rural or urban areas. Although over the years, it has been observed that adolescent girls have adopted sanitary napkins, on the contrary, they still have to face different restrictions in the society related to menstruation. Despite all the developments in the field of education, even today about 70% of adolescent girls has been found who did not go or not allowed to visit religious places during menses. Recently, such a case has come out from Bhuj Institute of Kutch District, Gujarat. This educational institution has its own set rules on menstruation and all the adolescent girls are compelled to follow those rules. Moreover, if any of the hostel girls have been found guilty in the

prospect of breaking those said rules and guidelines were given punishments. Due to these rules, 68 girl students of Bhuj institute were found allegedly being forced by hostel authorities to remove their clothes in the process to check, they are menstruating or not, (reported by thehindu.com). According to Ray, S. et al. 80% adolescent girls restricting sour food and 75.5% not visiting temple. This has been the most common restrictions observed by the researcher.

Ray, s. et al. also found that most of the girls after drying the reusable cloth, most of them kept the cloths in the crevices of the wall, or in the ceiling panes and other dusty places which are not cleaned regularly and before their next use to hide it from the eyes of the male members of the house. The reason cited for drying the cloth inside the house as menstruation is considered as impure and meant to be hidden which reflects the taboos found in the society, (Vidya, V P. et al.). Regarding restrictions 16.66% girls feel restriction in celebrating festivals, 75.24% face restriction in entering kitchen and temples in Bilaspur of Chhattisgarh, and 77.77% girls were not allowed to attend religious occasions. 41.13% and 46% girls were restricted from doing routine household work and playing, respectively, (Devi, RU. et al.).⁽²⁰⁾ Similar study was done by Sridevi, M. et al., in Tamilnadu, 87.7% of respondents replied that they had restrictions to enter religious place/temple during menstruation. 44.8% had restrictions to carryout routine household work, 9.1% had certain types of food restrictions etc. also in a study of Andhra Pradesh 78.99% girls were not allowed to attend religious occasions. 22.97% and 20.63% girls respectively were restricted from doing routine household works and playing. Incorrect restrictions, myths and beliefs associated with menstruation can be removed with the help of teachers and parents if appropriate, adequate health education is given. In this way, there will be a successful implementation of educational programs by health personnel, school teachers and knowledgeable parents can play a vital role in transmitting the messages about menstrual hygiene to the adolescent girls.

Inadequate Sanitation Facilities and Problem Faced by Adolescent Girls in India

Inadequate water and sanitation facilities pose a common problem in schools; lack of privacy is also a major problem to school going girls during menstruation, compromising their ability to maintain proper hygiene and privacy. Where washrooms do exist, they are frequently unclean, too few in number and unsafe. Toilets are often without doors. Water, even when available is often located at a distance from the toilet. The study of Shimla (Himachal Pradesh), further found that 19%, 69%, 12% samples had poor, fair and good scores of practices regarding menstrual hygiene respectively. There is a positive correlation between knowledge and practice scores, (Mahajan, A.et al.). Similarly, 32.99% girls agreed that there is lack of privacy for changing pads in school. 29.94% convinced for no space of disposal of sanitary pads in school and only 33.5% girls have closed washrooms at home. (Bhopal, Madhya Pradesh).

Reported by the NGO Dasra titled *Spot On! (2014)*, 63 million adolescent girls in India live in homes without toilets. Two out of five schools do not have separate toilets for girls. Limited access to safe, functional toilets at home forces girls to manage their periods in ways that compromise their safety and health. With no toilets in school, they simply do not attend school during their period.

Missing Schools and Social Activities during Periods in India

Many studies examine the association of menstrual hygiene management knowledge, facilities and practice with absence from school during menstruation among school girls. A 2014 report by the NGO Dasra titled *Spot On!* Found that nearly 23 million girls drop out of school annually due to lack of proper menstrual hygiene management facilities, which include availability of sanitary napkins and logical awareness of menstruation. According to Ray, S.et al. menstrual problems were present in 38% of the girls who had being absent from school during their menstrual period. Since their attainment of menarche all the girls had to stay absent from school at some point of time during their menstruation. The main reasons for their absence were lack of proper disposal facility of sanitary napkins (75%) and lack of continuous water supply for washing (67.5%) in their school. Schools are not very helpful either as schools in rural areas refrained from discussing menstrual hygiene. A 2015 survey by the Ministry of Education found that in 63% schools in villages, teachers never discussed menstruation and how to deal with it in a hygienic manner.

Improving Menstrual Management among Adolescent Girls in India

Hindi feature film "Padman" 2018, on menstruation poverty is made in India. This movie is based on the true story of Arunachalam Muruganantham, a social entrepreneur from Tamil Nadu who invented a low cost machine to make sanitary napkins, after seeing his wife's use of a dirty cloth during her periods. This is a brave attempt to tackle a taboo subject and marked the changing conversation around MHM in India with more other country. In last few years, MHM has received a lot of programme or policy attention in India. In 2014, The Ministry of Health and Family Welfare launched the National Menstrual Hygiene Scheme (NMHS/MHS) under the 'Rashtiya Kishor swasthya Karyakram' to promote menstrual hygiene among adolescent girls age group of 10-19 year in rural areas by supplying as well as training self help group to make sanitary napkins. The main objective of the MHS to increase awareness among adolescent girls on menstrual hygiene, to increase access to and use of high quality sanitary napkins to adolescent girls in rural areas and to ensure safe disposal of sanitary napkins in an environmentally friendly manner. The scheme was initially implemented in 2011 in 107 selected districts in 17 States wherein a pack of six sanitary napkins called "Freedays" was provided to rural adolescent girls for low cost in Aanganwadi Centres by ASHA workers. In the last three or four years, different state such as Odisha, Andhra Pradesh, Chhattisgarh,

Maharashtra and Kerala have started distributing sanitary pads for free and for low cost in schools and rural areas. Similarly, Union government launched the SABLA scheme across more than 200 districts in the country to improving health conditions for adolescent girls with menstrual hygiene as an important component. Also in that time, under the program then ongoing 'Nirmal Bharat Abhiyan', focus on menstrual hygiene was added as a key component of the sanitation mission.

After reviewing the menstrual hygiene related studies in the last ten years, it is clear that there has been a significant improvement in the number of adolescent girls in India against the use of sanitary napkins. Most of the girls are those who used a piece of cloth as a menstrual absorbent in the first menses, but later they used sanitary napkins in menstrual practice. But according to the overall results of studies of different states of India, the Menstrual Management System has not been found satisfactory in adolescent girls. There is no special change that has been seen in adolescent girls in India regarding regular change of sanitary pads, not using the right disposable method, disrespecting menstruating girl due to social beliefs, taboos, avoiding going to sacred places, not talking openly on periods in their family and society, etc., Therefore, research is needed to menstrual education and to change the mental perception of people regarding menstruation in India.

Conclusion

Menstruation and menstrual practices still face many social, cultural and religious restrictions which are big barriers in the path of menstrual hygiene management. Girls and women have very less knowledge about menstrual hygiene and reproductive tract infection (RTI) which is caused due to ignorance of personal hygiene during menstruation time. In low income families, women do not have access to buy sanitary pads due to high cost and lack of knowledge. While reviewing the related literature, researcher found that there is a positive correlation between knowledge and practice scores. It revealed that good MHM was seen among adolescent girls of educated mothers. There is a significant positive association between good knowledge of menstruation and parental education and educational status of their mothers. Family played the key role in providing information to adolescent girls about menstruation, because if the mothers themselves were not having proper knowledge then the same information is transferred to their springs. It was also found in various studies that the use of sanitary pads and personal hygiene was better among urban girls as compared to poor girls from rural background. So menstrual hygiene should be a part of health education program in schools and not only for girls, it should be compulsory for boys too.

MHM practices were affected by cultural beliefs and taboos like girls avoided certain foods, drinks, physical activities or exercise during their periods. Some girls do not wash their hair or do not take bath. Most of the girls do not visit temples or sacred places and even not allowed in the kitchen and

to touch certain things like pickle etc. in kitchen. These types of myths are basically found in our Indian society which creates barriers for MHM. These traditional beliefs are myths and do not have any logic and scientific reason. The main reason behind these myths is that menstruating girls or women are considered impure, dirty, sick, and disable. Therefore, this is an urgent need to eradicate these false beliefs and this is only possible by inculcating scientific temper among the people especially girls. Statistically significant improvement ($P < 0.05$) in KAP regarding menstruation and hygiene practices was observed following health education. Health education significantly improved knowledge, attitude, and practices regarding menstruation, by Nagaraj, C. et al. it is evident from studies that health education significantly improved knowledge and practices.

A short documentary movie was made by American team in India named "PERIODS: END OF SENTENCE". This movie is all about a group of women in Hapur, India who were fighting against the deeply rooted stigma of menstruation. The movie won OSCAR Award in 2019,⁽²¹⁾ it is true that, our nation had developed economically, medically, scientifically, technically, but deep inside this movie shows the harsh reality of developing countries. This means that, the problem of MHM is still a barrier to achieve the developmental goals in India.

References

1. Channawar, K. and Prasad, V.S.V. (2016). *Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls. Panacea Journal of Medical Sciences.* 6(1): 31-33.
2. Gupta, R., Saha, A., Kansal, R. and Verma, A. (2020). *Study of knowledge and practices of menstrual hygiene among reproductive age group females in a rural medical college hospital in U.P. International Journal of Clinical Obstetrics and Gynaecology.* 4(1): 209-212.
3. Mandal, D.R. (2014). *Menstrual Hygiene: Knowledge, Practise and Restrictions amongst Girls of Dehradun, Uttarakhand, India. G.J.I.S.S.* 3(4): 156-162.
4. Madhavi, K.V.P. and Paruvu, K. (2019). *Menstrual hygiene and Practices among adolescent girls in rural Visakhapatnam: a cross-sectional study. Int J Community Med public health.* 6(1): 432-436.
5. Mahajan, A. and Kaushal, K. (2017). *A descriptive study to assess the knowledge and practice regarding menstrual hygiene among adolescent girls of Government School of Shimla, Himachal Pradesh. CHRISMED Journal of Health and Research.* 4(2): 99-103.
6. Nagaraj, C. and Konapur, KS. (2016). *Effect of Health Education on Awareness and Practices Related to Menstruation among Rural Adolescent School Girls in Bengaluru, Karnataka. Int J Prevent Public Health Sci.* 2(1): 18-21.
7. Mathiyalagen, P., Permasamy, B., Vasudevan, K., Basu, M., Cherian, J. and Sundar, B. (2017). *A descriptive cross-sectional study on menstrual hygiene and perceived reproductive morbidity*

- among adolescent girls in a union territory, India. *J family Med Prim care*. 6(2): 360-365.
8. Dhingra, R., Kumar, A. and Kour, M. (2017). Knowledge and Practices Related to Menstruation among Tribal (Gujjar) Adolescent Girls. *Studies on Ethno-Medicine*. 3(1): 43-48.
 9. Thakre, S.B., Thakre, S.S., Ugande, S. and Thakre, A.D. (2012). Urban-rural differences in menstrual problems and practices of girl students in Nagpur, India. *Indian J. Paediatrics*. 49(9): 733-736.
 10. Sridevi, M. and Malarvizhi, M. (2018). Knowledge, attitude and practice study on menstrual hygiene among the unmarried adolescent girls (10-19) in Kasavanampatti village in Dindigul district, Tamilnadu. *Int. Online Multidisciplinary Journal*. 8(1). www.lbp.world
 11. Neelkhant, N., Singh, D. and Bhatia, P. (2017). A study to assess the knowledge regarding practices of menstrual hygiene and RTI among high and higher secondary school girls: an educational interventional study. *Int J Community Med Public Health*. 4(12): 4520-4526.
 12. Manwani, V.K., Keshkar, M. and Jitpure, S. (2019). Study of Knowledge Regarding Menstrual Hygiene and Attitude & Practices Regarding Use & Disposal of Sanitary Pads among Adolescent Girls in Field Practice Area of CIMS, Bilaspur (C.G.). *International Journal of Scientific Research*. 8(12): 72-74.
 13. Juyal, R., Kandpal, S.D., Semwal, J., and Negi, K. (2012). Practices of menstrual hygiene among adolescent girls in a district of Uttarakhand. *Indian J of community Health*. 24(2): 314.
 14. Wasnik, V.R., Dhumale, D. and Jawarkar, A.K. (2015). A study of the menstrual Pattern and problems among rural school going adolescent girls of Amravati district of Maharashtra, India. *IJRMS*. 3(5): 1252-1256.
 15. Karibeeran, S. (2014). Health and hygienic practices of adolescent girls. <https://www.researchgate.net/publication/307175405>
 16. Ray, S., Dasgupta, A. (2012). Determinants of menstrual hygiene among adolescent girls: A multivariate analysis. *National Journal of Community Medicine*. 3(2): 294-301.
 17. Vidya, V. P., and Rekha, U. (2016). Menstrual hygienic practices among adolescent girls of rural North Karnataka region, India. *Int J Community Med Public Health*. 3(7): 1872-1876.
 18. Tarhane, S. and Kasulkar, A. (2015). Awareness of adolescent girls regarding menstruation and practices during menstrual cycle. *Panacea Journal of Medical Science*. 5(1):29-32.
 19. Jogdand, K. and Yerpude, P. (2011). A community based study on menstrual hygiene among adolescent girls. *Indian Journal of Maternal and Child Health*, 2011. 13(3): 1-6.
 20. Devi, RU., Sivagurunathan, C. and Kumar, PM. (2016). Awareness about menstrual hygiene among adolescent girls in rural area of Kancheepuram district –Tamilnadu. *Int J Pharm Bio Sci* 7(1): (B) 267-269.
 21. Pandey, D. (2019). Period. End of Sentence Review: The OSCAR winning documentary is aspirational in Principle, Impactful in General. NEWS18.com
 22. *The Indian Textile Journal*. (2008). Manufacturing & market potential of sanitary napkins. <http://www.indiantextilejournal.com/articles/FAdeails.asp?id=1567>
 23. A board-certified physician. 12 March, (2019). 7 common myths about your period: medically reviewed. Very well health.
 24. Kaur, R., Kaur, K. and Kaur, R. (2018). Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries. *Hindawi Journal of Environmental and Public Health*. 1730964: 9.
 25. Sommer, M., Chandaratha, S., Cavill, S., Mohan, T. and Howard, P.P. (2016). Management menstruation in the workplace: an overlooked issue in low-and middle low and middle-income countries. *International Journal for equity in health*. 15(1): 83.
 26. Trinies, V., Careso, B.A., Sogore, A., Toubkiss, J. and Freeman, M.C. (2015). Uncovering the challenges to menstrual hygiene management in school in Mali. *Waterlines Journal*. 34(1): 31-40.
 27. Vaughn, J.G. (2013). A Review of Menstruation Hygiene Management among Schoolgirls in Sub-Saharan Africa.
 28. Simes, M.R. and Berg, D.H. (2001). Surreptitious learning: menarche and menstrual product advertisements. *Health care Women Int*. 22(5): 455-69.
 29. <https://menstrualhygieneday.org/menstrual-hygiene-webinar-series-2018>
 30. info@menstrualhygieneday.org
 31. <https://menstrualhygieneday.org/project/infographic-mhm-andsdgs/>
 32. <https://doi.org/10.17615/5dpf-1g60>
 33. www.unicef.org/wash/schools
 34. www.unicef.org/wash
 35. <https://menstrualhygieneday.org/>
 36. <https://www.dasra.org/resource/improving-menstrual-health-and-hygiene>
 37. <https://swachhindia.ndtv.com/23-million-women-drop-out-of-school-every-year-when-they-start-menstruating-in-india-17838/#:~:text=A%202014%20report%20by%20the,up%20with%20some%20startling%20numbers>
 38. https://www.nhp.gov.in/rashtriya-kishor-swasthaya-karyakram-rksk_pg
 39. <https://thewire.in/women/why-do-government-efforts-to-ensure-menstrualhygiene-focus-on-sanitarynapkins>
 40. <https://nhm.gov.in/index1.php?lang=1&level=3&ublinkid=1021&lid=391>
 41. <https://www.thehindu.com/news/national/other-states/in-gujarat-hostel-girls-asked-to-remove-their-underwear-to-check-if-they-were-menstruating/article30821711.ece>
 42. [https://en.m.wikipedia.org/wiki/Pad_Man_\(film\)#:~:text=The%20majority%20of%20the%20film,Narmada%20River%20in%20Madhya%20Pradesh](https://en.m.wikipedia.org/wiki/Pad_Man_(film)#:~:text=The%20majority%20of%20the%20film,Narmada%20River%20in%20Madhya%20Pradesh)