

Menstrual Hygiene Practices Among Adolescent Girls and Women In India—A Systematic Review

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ABSTRACT Menstruation, a very natural biological process unique to every female, but still there is very little awareness regarding menstrual health and hygiene when girls first experience it. Social prohibitions, negative attitude of parents and teachers to discuss about menstruation related issues openly has limited the access of adolescent girls to right kind of information regarding menstruation specially in rural and tribal areas. Menstrual Hygiene Management (MHM) is of considerable importance as it has a health impact in terms of increased vulnerability to urinary and genital infections and female morbidity. MHM means the practice of being knowledgeable about menstruation, its cause, maintenance of good hygiene during menstruation, use of clean absorbents, the scope of changing absorbents privately and hygienically, including safe and hygienic disposal of absorbents. Lack of water and hygienic toilet facilities in schools compel the girls to experience menstruation as shameful and uncomfortable. Also, lack of puberty education and hygienic MHM items (absorbents), fear and shame of leaking of blood and body odour lead menstruating girls to absent themselves from school. Social taboos and cultural prohibitions prevent the girls from seeking health and restrict them on taking healthy diet and participating in social activities when menstruating.

Keywords: MHM, Menstruation, Hygiene, Adolescent girls

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INTRODUCTION

Menstruation is very natural biological process, unique to females. It's onset brings a profound change in a young woman's life. It has strong religious and socio-cultural connotations in several parts of developing world, including India. Menarche is the onset of first period that typically occurs around the age of twelve. A myriad of misconception and superstitions are associated with menstruation and these form the basis for poor menstrual hygiene among adolescent girls and women.^[1]

Menstrual hygiene means using clean materials to absorb menstrual blood, having accessibility to water and soap, ability to change absorbent in privacy and to dispose off used absorbent.^[2]

Though menstruation is a normal physiological process but still in Indian society it is chiefly considered as an unclean, dirty phenomenon. Insufficient knowledge regarding menstruation is the basis for the unnecessary restriction in

the daily normal activities of menstruating girls, creating various physiological issues and poor personal hygienic practices during menstruation, leading to many reproductive tract related problems.^[3]

Menstrual hygiene is predominantly influenced by socio-economic, educational and cultural status of the family as well as by the school curriculum.^[4]

Poor menstrual hygiene is related to increased vulnerability to Reproductive Tract Infections {RTI}. Knowledge regarding menstrual hygiene from adolescence reduces the risk of suffering millions of women.^[5]

Menstrual Hygiene Management (MHM) is a problem among adolescents and women in low and middle income groups in India. MHM means the practice of being knowledgeable about menstruation, its cause, maintenance of good hygiene

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during menstruation, use of clean absorbents to absorb menstrual blood, the scope of changing the absorbents privately, safely and hygienically as often as needed during menstrual cycle, including safe and hygienic disposal of the same. Management of menstrual hygiene is of great concern for the maintenance of a healthy, productive life with dignity. However, various social taboos, superstitions, limited knowledge about menstruation, lower accessibility to absorbent menstrual hygiene makes menstruation a distressing experience for adolescent girls and women. In India, many adolescents and women have no basic facilities such as safe and hygienic absorbents, running water, toilets needed to maintain the menstrual hygiene.^[6]

During menstruation, women are supposed to be silent due to existing social taboos and myths. RTI, a silent epidemic that devastates millions of women is closely interrelated to their poor menstrual hygiene.^[7]

According to Dasra,^[8] most women (88%) do not have the accessibility to sanitary pads and these has a direct negative impact on their health.

OBJECTIVE OF THE REVIEW

Girls and women in India use variety of safe and unsafe absorbents during menstruation, which may be disposable or non-disposable. Their choices of absorbents are mostly influenced by their knowledge, concepts about menstruation, their affordability, facility to them to disposed off as well as the socio-cultural structure of their family. Their choice of absorbent not only influences the health of girls and women, but also their disposal method or reuses have substantial impact on the environment.

The objectives of the study is to conduct a secondary review of literature and present consolidated evidence about:

- The perception, attitude, beliefs surrounding the menstruation, menstrual hygiene and health among adolescent girls and women.
- Practice regarding menstrual hygiene and practice of absorbent and sanitary napkin among adolescent girls and women.
- The comparisons about the perceptions regarding different aspect of menstrual hygiene among the study population.
- The perceptions regarding menarche, social taboos and stigma during menstruation among the study population.
- Sources of information regarding menstruation.
- Disposal method used by the female population.

- The nature of environmental hazards caused by unsafe disposal of sanitary napkin.
- Negative health and social effects experienced as a result of faulty and poor menstruation practices developed by them in response to those negative effect.

KEY FINDINGS

The key findings have been derived from extensive analysis of over sixty papers that were shortlisted for the final review. These included (i) a paper based on a meta-analysis and systematic review that examined all papers published from 2000 to 2015 to assess the status of menstrual hygiene management among adolescent girls and women in India^[9] and (ii) a study describing the knowledge and understanding of menarche, menstrual health and hygiene among adolescent girls in low and middle income countries.^[10]

The secondary review has yielded important insights about the current status knowledge and taboos regarding menstruation, types of absorbents used and menstrual management practices. Barriers to use different type of absorbents have been also identified. Disposal system of absorbents and their impact on the environment have also been discussed.

METHOD

This literature survey aimed at identifying articles that evaluated the knowledge of girls and women regarding menarche, menstrual health and hygiene, their information sources, the health and social impact of menstruation and their response to those effects, the use of different absorbents and their safe or unsafe disposal and also the impact on the environment due unsafe disposal of absorbents. This study also included papers that studied the negative impact on the women health due to poor access to sanitary napkin, the perception regarding social taboos and stigmas during menstruation. Also papers that carried out the comparative studies about the perception regarding different aspects of menstrual hygiene among rural and urban adolescent girls and women.

Google scholar, PubMed and EBSCO's Global Health databases were also searched for articles in peer-reviewed journal published between 2005 and 2017. To identify relevant literature, we used the following search strategy: (menarche or menstruation or menstrual health or menstrual hygiene or menstrual management) and (adolescence or adolescent or youth or young) and (female or girls or women) and (knowledge or belief or practice or experience). Given the limited research available, descriptive overviews and interventions that used qualitative, quantitative or mixed methods of any sample size were also included. To complement our search, we reviewed the reference lists of the

included journal articles and papers and collected a small number of additional related studies that met those broad criteria.

RESULTS

Key findings addressing all the research questions are summarized below.

A) Knowledge, cultural beliefs and information sources about menstruation.

Knowledge and Awareness

- Most girls in India are often unaware of the menstruation until menarche starts. A girl's first experience of menstruation is of shame, fear, agony or sin. Most women and girls are unaware of what is normal or abnormal during menstruation. That is why they can recognise menstrual dysfunction as abnormal, rather they consider them as normal, regular and necessary part of the monthly period.
- Studies found that 200 million women in India lack awareness of menstrual hygiene and associated health care practices.^[11]
- Common menstrual problem such as delayed menarche, irregular period and excessive bleeding are sporadically reported. Under reporting leads to under-diagnosis of serious condition, which if not treated may have negative effects on reproductive health and productivity of women. In a study, conducted in the slums of Western Maharashtra, majority of women suffers from at least one of the common menstrual problem, but 74% did not seek any medical health.^[12]
- About 48% girls are aware of menstruation before menarche; awareness rate have been grown over the years, specially after 2010. There is a substantial knowledge gap among the girls regarding the origin of menstrual blood and the fact that it is linked with the ability to conceive. On an average, only about 23% girls knew that uterus is the source of bleeding and approximately 55% consider menstruation as normal.
- Social taboos and cultural norms are the major barriers for not having an open discussion about menstruation. Adolescent girls feel hesitated to discuss about their own needs during periods. They deal with simultaneous pangs of embarrassments and anxiety. Probably lack of adequate knowledge on the subject matter make it worse.^[13]

Source of Information

- About 50% girls turn to their mother to learn about menstrual management. Though mothers are first point

of contact to learn about management, however 70% of mothers consider periods as 'dirty' and 'polluting'.^[14]

- Information provided by mothers is too little and late, usually after menarche rather than before. Often they convey their own misconceptions and beliefs regarding menstruation to their daughters, thereby continuing the cycle of misconceptions.^[14]
- A survey conducted at Great WASH Yatra organized by WSSPP and Wash United revealed that the knowledge regarding menstruation that was being conveyed by mothers to their daughters seemed to be non-existent or limited to the very basic advice on period management.^[15]
- Most mothers do not have any idea about the close relation between menstruation and good health. They often overlook the importance of good hygienic habits and healthy diets to prevent common menstrual problems such as anaemia, irregular period and hygiene related infections.^[15]
- The others sources of information about menstruation are friends (27%), female relatives (18%) and siblings (28%). Teachers (12%), books, radio and internet (15%) health workers (18%) have less influenced though they mostly impart accurate knowledge. According to a recent study conducted by UNICEF India, lack of knowledge about the physiology of menstruation extends beyond the family to teachers and health workers also. Teachers often find the topic of menstruation as embarrassing to discuss in classroom and even they are not scientifically oriented towards it. Girls therefore continue to follow unhygienic practices during period based on their family and cultural norms.^[16]

Types of Absorbents Used

- In India, women prefer external protection methods such as cloth and sanitary pads as compared with internal protection methods like tampons and menstrual cups. Adolescent girls and women living in villages mostly rely on home – grown of other easily available materials which are often unsanitary to manage menstruation. Some even end up menstruating on the clothes, they are wearing. Only 2 to 3% of women living in rural India use disposable sanitary napkins. 81% of rural women use unsterilized cloths.^[17]
- It is normal practice for a menstruating girl to wash and reuse pieces of cloth over the period cycle. There are cases where 2 to 3 women in the family with different cycle share the same piece of cloth. In fact, studies indicate that poor women actually tend to use the dirtiest piece of cloth available because to them menstruation is a dirty phenomenon.^[18]

- In the Sunderban Delta of West Bengal, women often use the same piece of cloth over a year. Even if it is almost like stone, they continue using it, because there is no access to another piece of cloth.^[19]
- Girls and women in rural India are not accustomed to wearing underwear, therefore resorting to makeshift method to hold the material in place. For instance, in some regions, girls fill old socks with sands and tie these around their waist to absorb menstrual blood. They sometimes also use materials like ashes, news papers, dried leaves to aid absorption. Use of tissue and cotton have also been identified, but only on a very small scale.^[17]
- This not only increases chances of menstruation related infections, but also severely restricts women from performing their daily task. 70% of women in India cannot afford a sanitary napkin.^[17]
- Owing to lack of sufficient demand, store owners in rural and semi urban parts of the country do not stock sanitary napkins. For instance, an assessment of Pali Block in the state of Chhattisgarh revealed that none of the shops across 65 villages stocked sanitary napkins or any other protection products.^[19]
- Cloth, if washed and dried properly, is a good alternative to sanitary napkin. However, lack of knowledge regarding the use of cloth and limited availability of cotton cloth act as deterrents to the use of cloth as a safe alternative. Locally produced napkins can be good substitute for commercial sanitary pads; but they are not so popular due to limited advertising and marketing.
- Only 3% women in urban areas use tampons as they have affordability and they are environmentally aware. Menstrual cup usage is much less but there are no studies mentioning girls using them.^[20]
- A 2011 news paper article spewed out that over 12% women are using sanitary napkin in India out of 355 million actually menstruating. The rest 88% use husk, ashes, sand, or cloth which are unhygienic. 70% among those reported to have reproductive tract infection.^[21]
- In Rajasthan, India, the menstrual cycle have been named as 'Kapda' which is regional tongue, translates to cloth and this comes from the practice of cloth as menstrual absorbent instead of sanitary napkins due to incapability to afford to buy the napkin.^[22]
- Many rural women do not use under garments and sanitary napkins cannot be used without under wears. Women refrain from buying napkins from shops with male shopkeepers out of shame. Women traditionally use unhygienic rags and cloths as alternatives to sanitary

napkins and these are inexpensive, they convince their daughters and daughter-in-laws to do the same. Since disposing of pads need to handled sensitively to avoid further unhygienic conditions, rural women stick to using cloths that are washable.^[23]

- Low awareness about menstruation and several socio economic barriers refrain 88% of women in India from using sanitary napkins and resort to unhygienic alternatives such as husk, cloth, sand, ashes which culminate in a increasing a rate of health issue related to reproduction.^[24]

Personal Hygiene During Menstruation

- Most women bath during menstruation with no difference between urban and rural settings. A sub group of rural studies found that daily baths were less common during menstruation as compared to before or after menstruation.^[25] 26, 27]
- Others studies indicated that bathing was restricted among girls during menstruation due to fear that it might cause problem in future pregnancies. Scarcity of bathing water, non-availability of bathing space, physical discomfort and lack of privacy also played important roles in restricting bathing during menstruation.^[28, 29]
- Practice of daily bathing was significantly higher among urban living girls than rural living girls. Four studies in India defined satisfactory cleaning of genitalia to mean washing, 2 to more times per day while menstruating; one-third to three quarters of girls satisfied the criterion.^[3, 4, 30, 31]
- Unsatisfactory cleaning was higher among rural girls than those living in urban areas. A study evaluating the impact of school education on adolescent girls, revealed significant increase in the percentage of girls using soap to clean genitalia, from 30% to 94.3%.^[32]
- In India, 63 million adolescent girls live in home without toilet facility.^[33] In the absence of toilet at home, girls and women in rural India bathe in ponds, but during menstruation they often avoid bathing due to the complications involved. They also have to wait until it is night to go into field o manage their periods, but this makes women vulnerable to potential physical and sexual abuse. Limited access to water in both rural and urban slums make it difficult to wash cloth used by women during menstruation. In some communities women and girls are not allowed to use any water source during period. In communities, in the state Gujrat, 91% girls have been reported to stay away from flowing water sources during menstruation.^[34]

School Absenteeism

- 64 studies reported on school absenteeism during menstruation, with one in four girls missing one or more school days during menstruation, with significant difference across regions. Physical discomfort or pain, low access to water, hygiene and disposal facilities in school toilet, fear of staining their cloths and restriction imposed by family members, communities or school teachers were reasons behind their absent. 30 million school children in India have no access to toilets.^[35]
- 25% of schools in India have no toilets.^[35] In schools that have common toilets, girls often feel inhibited to use toilets as they feel embarrassed to share same space with boys for the fear of being 'found out'. Moreover, in some schools toilets are tend to be reserved for boys and teachers only. 60% of schools have separate toilet for girls and most toilet lack the design and construction needed to maintain menstrual hygiene. An ideal facility would provide adequate privacy, space, light, and disposal systems to change, wash and discard sanitary materials.^[36] Even in schools toilets with dilapidated condition refrain female teachers and girls from using toilet during menstruation.
- Absence of private, safe, clean toilet with adequate supply of water for washing cloth or menstrual stain hinders period management in schools for girls. In a WASH self-assessment conducted by Plan India in 556 schools in three rural districts, it was revealed that adolescent girls often leave schools half-way through the day due to lack of proper facilities to manage their period.^[37]
- Menstruation is the second major reason, after the household work, for girls to miss schools.^[38] 23% of girls dropout of schools when they reach adolescence. Girls in puberty are typically absent for 20% of the school year.^[39]
- Concentrating on lessons for eight hours at a stretch becomes difficult when a menstruating girl suffers from extreme pain due to menstrual cramp or is fatigued due to anaemia for excessive bleeding. Also missing five days of school in a month impacts education outcome.^[40]

Social Perception and Restriction

- Menstruating girls are often considered as impure and pollutant and hence they are reinforced by mothers not to go out and play or even attend school.^[41]
- The stringent cultural beliefs in Indian society do not allow a menstruating girl to enter the temple assuming she is too impure to set foot on the religious faith. Even she is not allowed to touch pickle in the fear that her impurity would rot the pickle. These ill practices are prevalent in both rural and urban India.^[42]

- A menstruating woman is stigmatized and targeted in almost all religious practices from Hinduism to Christianity, Islam and Judaism. Menstruating women are demeaned, socially isolated, restricted from entering religious places or even certain parts of house like the kitchen. Though the degree of beliefs vary from one household to another, but still large number of women have to go through a lot of restriction because of the natural biological process of their bodies. Even talking about one's period is highly avoided. Urban girls know those menstruation related information either through technical course books taught by awkward teachers in schools or from advertisements wherein the blood is disguised as a thin blue ink or blue stain.^[43]
- A study conducted in rural Odisha, showed that women considered menstruation as the most stressful behaviour followed by defecation and urination.^[44]
- Judgemental social perception about menstruation discouraged Indian women to talk about these issues and make them more vulnerable to harmful menstrual irregularities like dysmenorrhoea, menorrhagia, hypermenorrhoea etc.^[45]
- Female student from urban and rural India reported limitation on who they could talk to during period. Other social limitations include abstaining from physical or social activities such as sports or exercise, attending social functions, school, doing household work, cooking and moving in and out of the house etc.^[3]
- Girls while menstruating are restricted to enter kitchen or bedrooms to ensure menstrual blood does not contaminate foods or others.^[45]

Physical Impact

- Physical impact of menstruation that were reported in studies where premenstrual syndromes and painful periods. About 93.2% of rural living girls in India have been reported to experience premenstrual syndrome.^[46]
- Most health problems caused by poor menstrual management are preventable. However, due to frequent and wide spread occurrence, menstrual problems are often perceived as a regular part of the menstruation process. They often overlook symptom of major infections that if left untreated, might affect their reproductive health, pregnancy and even the health of their children. It has been found that 75% adolescent girls experience menstrual dysfunction which affect their normal activity.^[47]
- Incidence of reproductive tract infections (RTI) is 70% more common among those women who use unhygienic means to manage their menstruation.^[39]

- 27% of the World's cervical cancer deaths occur in India. Doctors say that poor menstrual hygiene is partly responsible for it.^[39]
- Common menstrual problems include anaemia, oligomenorrhoea (infrequent bleeding), menorrhagia (abnormally heavy and prolonged period), hypomenorrhoea (short or scanty period). Other menstrual hazards caused by poor menstrual hygiene are vaginal infection, RTI, cervical cancer, complications in pregnancy, loss of fetus, Toxic Shock Syndrome, HIV/AIDS. Poor menstrual hygiene is one of the major reasons for RTI and female morbidity. These infections are often transmitted to the offspring of a pregnant mother, endangering both mother and offspring. In a study conducted in the slums of Western Maharashtra, majority of menstruating women suffered from menstrual problems, while only 26% sought medical health.^[12]

Mental Impact

- The Psychological problems suffered by menstruating women are depression, shame, horror, agony, embarrassment, fear, frustration etc. According to, A.C Nielsen study, 75% women respondents revealed that they were not psychologically prepared for menstruation. They are often left with feeling of helplessness and depressed by the restrictions and discrimination as imposed by the society. A constant struggle to find adequate material, a private safe place to manage their periods and hide their conditions add to their misery.^[39]

Disposal Methods of Absorbents

- Most disposable pads end up as unsegregated household waste, are thrown into water bodies or roadsides or are burned with domestic wastes. Burning of them release toxins from the plastic, posing serious environmental threat.
- If every women of reproductive age in India started using disposable napkins, the waste generated would be about 580,000 tons each year. A single use of disposable pads takes about 500 to 800 years to decompose.^[48, 49]
- Most women dispose off their sanitary napkin or menstrual materials into domestic solid wastes or garbage. In urban areas, disposable sanitary napkins are disposed off by flushing in toilets and throwing in dustbins, whereas in rural areas, there are many options like burying, burning and throwing in garbage or in pit latrines.^[50]
- In rural areas, women mostly use reusable pads or cloths, so these generate lesser amount of menstrual waste as compared to urban women who rely mostly on commercial disposable napkins. In slum areas, women

dispose their menstrual waste in pit latrines as burning and burial were difficult due to limited private space.^[51]

- In schools, girls due to lack of sanitary facilities, they throw napkins in toilets or throw their used menstrual cloths without washing them. Some studies revealed that girls were absent from their schools during their periods due to lack of disposal system, broken locks/doors in toilets, lack of bucket, water supply etc.^[52, 53]
- In some schools incinerators or hygiene bins are used for disposing of menstrual articles but due to shyness or fearness of being seen by others, girls often avoid using them.^[54]
- The behaviour of women regarding disposal depends on whether they are at home or away from home. At home, they dispose the waste by wrapping and throwing in the garbage along with other domestic wastes. In public places, they flush napkins in the toilets or throw them in the dustbins, in case if dustbins are not placed in the toilet, they leave the soiled pads wrapped or unwrapped in the toilet corners. These makes the toilet dirty, breeding place for flies and mosquitoes and also unhygienic for other users of toilet and toilet cleaners. In many cities, people who manage public toilet often complain about the blockage of sewage system because of flushing of sanitary napkins or rags in the toilet.^[54]

Impact of Menstrual Waste Disposal on Environment

- Materials used for menstrual management such as tampons, cotton wool, toilet paper and other materials are often thrown into toilets; as a result sewage pipelines are clogged and cause the system backflow.^[55] The materials may be decomposed in pit latrines/landfills except the plastic inlay of the commercial sanitary pads.
- In rural areas pit latrine was covered with soil, once it is full and a new pit was dug, but in urban areas this was not possible due to space limitation.^[56] It was reported that some women wrap their used menstrual cloths or napkins in polythene bags before disposing in pit latrines which prevent them from decomposition. The adhesive wings and the perforated plastic layers in the commercial sanitary napkins are not easily biodegraded. Blockage of sewage system is a global problem and flushing of menstrual products in toilet is the contributing factor. Deodorised sanitary products used by women contain chemicals such as organochlorines which when buried in the soil disturb the soil microflora and also take a long time to decompose.^[57]
- People living alongside river banks throw menstrual waste into water. The soiled menstrual product were breeding

places for germs and pathogenic microbes that contaminate the water.^[68] Sanitary products soaked with blood of an infected woman may contain hepatitis and HIV virus that even may contaminate soil and live up to six months in soil.

- The clogged drainage system may be cleaned by bare hands of cleaners without proper protection and tools and this exposes them to harmful chemicals and pathogens. Incineration is better way to dispose of menstrual waste but burning of inorganic materials at low temperature may release toxic gases and dioxins which are harmful and carcinogenic to health and environment.

DISCUSSION

One important drawback of this study is that vague measures are often used to describe girls' and women's menstrual experience, but this hinders data aggregation and direct comparison. For example, studies used different terms such as premenstrual syndrome and dysmenorrhoea loosely. Further, studies had small sample sizes or low response rates due to discomfort to discuss about menstruation. Some studies relied heavily on self report. Despite of these limitations, the evidence presented allows the following discussion.

- Most women (about 48%) in India remain unaware about menstruation before they reach menarche and they experience menstruation for the first time as a phenomenon full of a feeling of pain, shame, fear or sin. They even don't know about the origin of blood or about the fact that menstruation is a normal physiological process that is very much related with the ability to conceive. Cultural and social barriers make them reluctant to discuss openly about their own needs during periods. These leave them unprepared when they reach menarche and causes fear and anxiety due to knowledge gap and misconception about their periods.
- Mothers, female relatives, friends, siblings are their main source of information and advice on menstruation and the information is not always timely or adequate. Only some have additional sources such as mass media, internet, books or health workers. Teachers find the topic of menstruation as embarrassing to discuss in classroom and girls continue to follow unhygienic practices during periods based on their family and cultural norms.
- In poor urban and rural communities, girls often use unsanitary means as absorbent made at home, such as old cloth, cotton, tissue, paper, rags, dried leaves, ashes etc. because they are less like to obtain and use sanitary pads. Only 2-3% women living in rural areas use

disposable sanitary napkins. Low awareness about periods and several socio-economic barriers refrain most Indian women from using sanitary napkins and resort to unhygienic alternatives to manage menstruation, leaving them more susceptible to health issues related to reproduction.

- Practice of bathing, cleaning of genitalia is more common among urban women as compared to rural women due to lack of water supply, private bathing space, privacy and physical comfort. In the absence of toilets at home, girls and women bath in ponds. But during menstruation, they avoid bathing in pond due to the possible complication involved. Sometimes, rural women are compelled to wait until it is dark to go to field for managing their period. In slums, lack of water makes it difficult to wash their menstrual cloths.
- Physical discomfort or pain, low access to water, hygiene, disposal in school toilets, fear of staining their cloths and restrictions by family members, communities or school teachers are main contributors for the absence of menstruating girls and this impacts their education outcomes.
- Menstruating girls are often considered as impure. Social and cultural taboos make inhibitions on them to enter into kitchen or bedroom, to go out or play sports or do physical exercise or physical activities like cooking or attending social function, household chores etc.
- Girls experience a variety of symptoms during menstruation-pain, headache and fatigue. Very few girls seek health care when they experience menstrual health problems. If anything, they only resort to home remedies. Poor menstrual hygiene and negligence about the symptoms make them more vulnerable to develop vaginal infection, reproductive tract infection, cervical cancer that may affect their reproductive health, pregnancy and even the health of their children.
- The social discrimination and restriction make menstruating women helpless and distressed. Their continuous struggle to hide their condition, find private place and adequate, safe absorbents leave them with shame, agony and embarrassment.
- In urban areas napkins are thrown into solid waste dustbins or flushed into toilets. In rural areas ,they are buried, burned or thrown into garbage or pit latrines.
- Sanitary napkins are thrown after wrapping them in plastic bags. The wings and perforated plastic layer in napkins cannot be bio-degraded. Sewage blockage, water pollution, soil contamination with the damage of soil microflora

are common global problems caused by improper and unscientific disposal sanitary napkins.

CONCLUSION

It is very alarming that a natural biological process that needs to be celebrated as a sign of healthy transition into adulthood is holding back millions of women and girls from attaining their full potential. Persistent difference in woman's health, education and economic participation may be deterrent to India's growth. Investing in menstrual health and hygiene and commitment is needed to fulfill the rights of girls related to menstrual knowledge, health. Multilevel efforts are required to achieve this. At individual level, girls and boys need to be educated about puberty. At family level, girls need support during their periods. At community level, provision for sanitary product, water facilities, functional toilet and privacy are required. Health workers need to be more responsive to girls' questions and concerns and also be caring enough to manage their menstrual health problems.

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