

Menstrual Waste – A Least Known Health Hazardous Waste

Dr. Lakshmi M. Paloti

Assistant Prof. Dept. of Home Science, Govt. First Grade Women's College, Bailhongal,
Karnataka

Abstract

Adolescence in girls has been recognised as a special period in their life cycle that requires specific and special attention. This period is marked with onset of menarche. In Indian society, the silence of menstruation does not allow an open discussion on the subject even today resulting in adolescent girls remaining ignorant of the scientific facts and hygienic health practices necessary for positive reproductive health. Good hygienic practices such as the use of sanitary pads and adequate washing of the genital area are essential during menstruation. Menstrual hygiene deals with the special health care needs and requirements of women during monthly menstruation or menstrual cycle. Since wrong methods of disposing sanitary napkins is becoming a source to several diseases, infections and spoiling the aesthetic scene of our environment. Improper disposal of menstrual waste is a major roadblock in achieving Swachh Bharat Missions goal to create a clean India. This necessitates better ways of disposal of sanitary waste from the point of health of a women at large and clean environment. There is an urgent need of proper treatments and disposing methods for menstrual waste products. Against this backdrop, the present paper examines, awareness and knowledge of females about health and hygiene practices to be followed during menstruation and disposing methods of menstrual waste and their consequences by throwing away these wastes directly in to the environment.

Keywords: Menstruation, menstrual waste, awareness, health and hygiene adolescence.

Introduction

Adolescence is a period of transition from childhood to adulthood. The term adolescence includes mental, emotional and social maturity as well as physical maturity. Adolescence is an important period for the immediate effects and long-term effects. One of the major changes during adolescence is physical change that affects the individual behavioural level and lead to re-evaluations and a shifting adjustment of values. As is true at all ages, there are individual differences in physical changes and apparent sexual differences could also be observed. Among the many sexual developments, menstruation is a serious concern for almost all girls during adolescent period.

According to UNICEF reports, there are 243 million adolescents comprising 20 per cent of the total population of India, which clearly shows that India is young. Although the menarche (beginning of menstruation) is one part of maturation process, it is often culturally defined as the indicator of girls' maturity and readiness for marriage and sexual activities. Menstruation is still regarded as something unclean and dirty in Indian society and it is strongly related with misconceptions and cultural restrictions. The lack of knowledge and awareness regarding menstruation is leading poor personal hygienic practices which in turn leading to many reproductive tract infections (RTIs). Menstrual hygiene depends upon the educational, socio-economic and cultural status of family. Good menstrual hygienic health practices are necessary for positive reproductive health. This necessitates Menstruation Hygiene Management (MHM) focuses on practical strategies for coping with monthly periods. This also refers to ways which are followed by women themselves to keep clean and healthy during menstruation and how they acquire, use and dispose of blood-absorbing materials.

Awareness about Menstrual Hygiene among Adolescents

In various parts of India, there are several cultural traditions, myths and misconceptions related to menstruation. There is very less awareness about menstrual hygiene among girls when they experience it first time (menarche). Social prohibitions and negative attitude of parents in discussing the related issues openly has blocked the access of

adolescent girls to right kind of information especially among migrant adolescent girls. Mother is the closest informant about menstruation and its hygiene to their adolescent daughters. The research study conducted by Uma Devi (2016) observed that more than half (57.69%) of girls, mother was found to be first source of information regarding menstruation and more than half of the respondent adolescent girls were having the least level of knowledge regarding menstruation.

The lack of knowledge and attitude which develop at this age, are usually followed by them throughout their life and passed on to their next generation. Perhaps this may be due to wrong assumption that talking about reproductive function of body has been considered as a taboo in Indian culture. That is why young females have poor knowledge and lack of awareness about physical and physiological changes associated with the onset and presence of adolescence. They hardly get any chance to learn about menstruation consequently will affect health of large number of women in reproductive age group. From the stage of menarche to menopause, knowledge and awareness about reproductive health and menstrual hygiene are important aspects in the lives of females. In a worst scenario, the menstrual un-hygiene may include urinary tract infections (UTIs), pelvic inflammatory diseases, bad odour, soiled garments, vaginal thrush, infections and ultimately shame leading to infringement on the girls' dignity. The findings of another research study carried out by Rakesh and Dund (2015) depicted that most of the adolescent girls (68.00 %) were unaware about menstrual hygiene, because nobody talks about menstruation and gap in educational system where reproductive health is not taught due to the considerations of menstrual hygiene is unsocial or non-important.

Absorbents Used During Menstruation

Commercial pads are more commonly used in urban settings than cloth pads extensively preferred by females in rural areas. The reasons for using old cloth pieces are to absorb menstrual flow since they are cheaper and environmentally less polluting. Generally, they are made from layers of absorbent fabrics such as cotton or hemp and after use they are washed, dried and then reused. Cleaning and drying of these cloth menstrual pad is a problem if girls due to lack of water availability, privacy and drying place. In countries like Kenya and Nepal, tampons are also used as feminine hygiene product. A tampon is a mass of absorbent material used to stop a hole and are designed to be easily inserted into the vagina during menstrual flow. Traditional Hawaiian women used the furry part of a native fern called hapuu and grasses, mosses and other plants are still used by women in various parts of Asia during menstruation. Menstrual cup and menstrual sponges are other environment friendly alternatives for using tampons. Menstrual cups are silicone cups that are worn inside the vagina to collect the fluid. Reusable underwear can also be used as an alternative absorbent during menstruation. The use of insert able products in Indian adolescents is less because their concern about virginity and breaking of hymen.

Some women choose to rinse out their pads in cold water putting them in the wash with their other clothing. Others do not rinse, but put the soiled clothes straight into the wash bucket. After washing, it is essential that the pads are dried in hygienic area under direct sunlight. Sunlight acts as a disinfectant and prevents microbial growth, which may happen if pads are not completely dried. With changing cloth menstrual pads away from home, some women place the soiled pads into a waterproof bag to keep them from drying out and to prevent odour and then wash the pads when convenient. Preferred by the commercial cost, rural adolescents favour cloth pads only. This insists them to take special care for yeast or candidiasis infection if cloth pads are not sterilized. Thus, the substantial lacuna in the knowledge about good hygienic practices such as the use of sanitary pads necessitates menstrual hygiene management. Menstrual Hygiene Management (MHM) will directly contribute to the Millennium Development Goal (MDG-2) on universal education and MDG-3 on gender equality and women empowerment.

India is one of the lowest sanitary napkin usage figure compared to other Asian countries with 12%, Japan and Singapore (100.00%), China (64.00%) and Indonesia (88.00%).

Most Indian women use cloth pads and some still use traditional local methods such as wood ash or coarse wadding of plant fibres. Many of these methods are uncomfortable, insanitary and in some cases (such as use of coarse fibre or ash) actually dangerous to women. Both central and state governments are concentrating on the manufacture and distributing low-cost sanitary pads. At the same time safe and sanitary disposal of sanitary napkins, environmental problems and occupational health of those who handle waste.

Assuming an average of 12 napkins/women/month, we are faced with 432 million soiled pads of mixed cotton +wood pulp fibre/plastic to be safely disposed of every month without contaminating water bodies, blocking sewer lines, adding more non-biodegradable waste to landfills and equally importantly, without posing an occupational hazard to those who handle solid waste, often with their bare hands. Unfortunately, the taboos and restrictions that surround the issue of menstruation in India coupled with the cramped living conditions in low-income group. Housing where the bathing/washing facilities are often communal, make it almost impossible to adequately wash and sun-dry the strips, rendering them insanitary and a fertile field for the growth of microbes. If cloth strips are not properly washed and sun dried, they can cause high incidence of RTIs.

One of the shocking truths about rural Indian females is that a quite considerable amount of them do not wear undergarments. Sanitary napkins cannot be used without innerwear. Strange and sad as it may sound, most of the rural India still defecates in the open fields. Females find it comfortable if they are not wearing undergarments which again lead to various infections. Sanitary napkins have been classified as solid waste by the Central Pollution Control Board (CPCB). Diapers, soiled napkins, blood soaked cotton and condoms are all considered household wastes according to the Municipal Solid Waste (Management and Handling) Rules, 2000. These household wastes are first segregated into biodegradable and non-biodegradable waste and then after segregation they are disposed according to Municipal Solid Waste. On the other hand, dressings, cotton or other items contaminated with blood as well as other body fluids, beddings and are all categorized as bio-chemical waste according to Bio-Medical Waste Rules, 1998. The act states that such bio-chemical wastes need to be incinerated, micro waved or autoclaved in order to inhibit pathogens, so that the disease carrying pathogens are completely destroyed before it comes in contact with the environment.

Disposal of Menstrual Absorbent and Their Implications

The problem of improper disposal of menstrual waste is a major roadblock to our achieving **Swachh Bharat Mission's** goal to create a clean India. Inappropriate disposal of menstrual waste is problematic for several reasons. The first reason stems from the fact that the material used in the manufacturing of most of the sanitary pads are derived from the petroleum industry and forestry. The absorbent core made from chlorine bleached wood/cotton pulp could be reduced to make slimmer products with the addition of polyacrylate gel which sucks up the blood/liquid quickly and holds it in a suspension under pressure. Over 90 per cent of a sanitary pad is made of crude oil plastic which is non-biodegradable. Such plastic laden feminine hygiene products are adding an equivalent of hundreds of billions plastic streams to our waste stream. Used sanitary napkins that have not been disposed of properly sometimes block the drainage system. Burning plastic sanitary napkins cause harmful toxins to be released into the atmosphere and is therefore not an environment friendly solution to the problem. Women from lower economic backgrounds who cannot afford to buy plastic sanitary napkins use cloth napkins, and often either do not dispose them or dispose them in ways that are not hygienic.

Secondly, problem of accumulated menstrual waste is the fact that menstrual blood on napkins stagnates for longer duration, thus allowing pathogens to thrive in it. Stagnant menstrual blood accumulates a lot of bacteria such as *Escherichia coli*, which multiplies in an exponential rate. The red blood cells in the menstrual blood nourish these bacteria and emit a foul odour when they die. Heaps of sanitary napkins with a large amount of disease causing bacteria on them pose a significant threat to the hygiene in the surrounding areas. According to the Centres for Disease Control and Prevention (CDC) USA, both hepatitis B and C can

thrive in blood soaked materials. The virus is extremely hardy and it can survive in a drop of blood or bodily fluid or even on a dry surface for weeks and still be capable of causing infection. Hepatitis C may survive on environmental surfaces at room temperature for up to four days. The viruses can enter the body through direct contact with broken skin. Hence, it must be assumed that any and all soiled feminine care products may contain blood borne pathogens. Hepatitis Foundation of International Organisation recommends that blood stained material such as tampons and menstrual pads can be placed into sealable plastic bags before disposing of them in waste receptacles.

Cleaners would be well advised to treat all blood and bodily fluids, including menstrual blood, as if they are infected and potentially harmful to the health. An investigation of waste pickers who worked at a site in Calcutta revealed that, 32 per cent of them were suffering from protozoal and helminthic infections as compared to 12 per cent in the control population of a nearby town. Waste pickers during the collection of soiled sanitary napkins and diapers can prone to higher chances of posing to health infections with hepatitis/ titanic/ HIV/ E.coli/ salmonella/ staphylococcus etc. According to WHO, of the 95 waste workers studied at an open dumpsite in Bombay reveals that 80% - had eye problems, 73%- had respiratory ailments. 51%- had gastrointestinal ailments and 40%- had skin infections or allergies respectively.

Used sanitary napkins are breeding ground for harmful bacteria or germs when it comes time to dispose of them, still, today there is no known manufactured chemical or natural-ingredient treatment that has proven to effectively reduce or inhibit the growth of bacteria in the napkins for a prolonged period of time. Hence, it is advised to the women that the blood absorbents should be changed frequently during menstruating days from health point of view. Similarly, women must be sure to wash their hands thoroughly after removing sanitary napkins using soap or hand wash. Soiled sanitary napkins when flushed or thrown in a water body, harmful chemicals like Dioxin and Furan along with contaminated blood mixes in the water body it can disrupt the water biodiversity harmony and can introduce harmful organisms in the food chain. Use of incinerators may release harmful gases. Use of incinerators to burn the soiled napkins may shift the pollution as burning of pads releases irritant gases and asphyxiants that will cause other air related health and environment problems. To tackle this problem incinerator need to reach the temperature of 800° C for safe incineration but it has been observed that it rarely happens.

The improper disposal of sanitary napkins is a problem that needs to be dealt with right from the grass root level. The process of menstruation is considered taboo and people refrain from talking about it openly. Young girls and certain older women are not aware of the hygiene problems caused by the improper disposal of sanitary pads. Efforts must be made to create awareness and find an alternative to plastic sanitary pads that is bio degradable and easy to dispose.

Better Ways of Disposal of Sanitary Waste

1. Use of incinerators in controlled environment

Incinerators need to be used as a certain temperature level (Around 800°C). Schools, institutions and even at community level these incinerators can be installed. Incinerators can be used in controlled environment so that the harmful gases released do not harm a larger area. However, this can only be a better alternative and not a sure shot solution to menstrual waste disposal. But, according to Bio-medical Waste Rules, 1998, chlorinated plastics should not be incinerated.

2. Construction of special latrines with chutes

In a pilot experiment in a semi urban area of Maharashtra, special kind of toilets were constructed for disposing sanitary napkins. A simple shoulder level chute was introduced in the usual latrine design; these chutes were angled in a manner that soiled napkins directly fell

in a deep pit. In this pit a less expensive chemical agent was added five times in a month which ensured fast decomposition of soiled napkins.

3. Using reusable sanitary napkins

Reusable sanitary napkins have less chemical content and plastic content which make it a better vast product for disposal. This will reduce burden of disposal of menstrual waste but it will eliminate the issues of menstrual waste disposal. Also reusing sanitary napkins is highly unhygienic and unhealthy.

4. Manufacturing bio-degradable napkins

Commercial sanitary napkin manufacturing companies must try to come up with new ways for creating bio-degradable napkins with less chemicals and plastic content.

Using better disposal techniques

Such as use of special bins for disposing wrapped soiled napkins, avoiding direct handling of contaminated napkins and use of special disposal bags: These are biodegradable bags for sanitary napkin disposal. It will not only prevent environmental degradation but also generates employment

Better way of disposal at home/outside

Include, special bins to avoid direct handling, bio-degradable paper bags for disposal, wrapping and making with red dot when disposing it and reuse it without having to gout and disposing it as with the care of sanitary napkin.

Health Risks Associated With Poor Menstrual Management

It is assumed that the risk of infection (including sexually transmitted infection) is higher than normal during menstruation because the blood coming out of the body creates a pathway for bacteria to travel back into the uterus. Some of the unhygienic practices such as using unclean rags, if they are inserted into the vagina, can introduce or support the growth of unwanted bacteria that could lead to the infection. A research study conducted in Bangladesh had revealed that a slightly more than half of the respondents (60.00%) were using rags from the factory floor for menstrual cloths. These are highly chemically charged and often freshly dyed leading high risk of infections. Along with this, women had no safe place either to purchase cloth or pads or to change/dispose of them. As a result nearly tree fourth (73.00%) of women workers were becoming absentees for an average six days a month. When women are paid by piece, those six days away from work presents a huge economic damage to them. (WSSCC, 2013). Some of the health risks are:

	Practice	Health risk
1	Unclean sanitary pads/materials	Bacteria may cause local infection or travel up the vagina and enter the uterine cavity
2	Changing pads infrequently	Wet pads cause skin irritation, which can then become infected if the skin becomes broken
3	Insertion of unclean material into vagina	Bacteria potentially have easier access to the cervix and the uterine cavity
4	Using highly absorbent tampons during a time of light blood loss	Toxic shock syndrome
5	Use of tampons when not menstruating	Can lead to vaginal irritation and delay the seeking of medical advice for the cause of unusual vaginal discharge
6	Wiping from back to front following urination or defecation	Makes the introduction of bacteria from the bowel into vagina more likely
7	Unsafe disposal of used sanitary pads or blood	Risk of infecting others, especially Hepatitis B
8	Frequent touching (forcing liquid into the vagina)	Can facilitate the introduction of bacteria into the uterine cavity
9	Lack of hand washing after changing a sanitary pad	Can facilitate the spread of infections

Conclusion

It is imperative that we take the initiative to promote menstrual sanitation and proper disposal of menstrual waste forwarded by creating awareness, encouraging every women to use eco-friendly incinerators and promoting research to find a bio degradable alternative to plastic sanitary pads. These steps must be taken to solve the problems that improper disposal of sanitary napkins causes to the environment and to public health. In this regard, both state and central government have taken a welcome step towards concentrating on the manufacture and distributing low cost sanitary menstrual absorbents. The need of the hour is the research institutions must take a march on conducting research on manufacturing of eco-friendly and biodegradable sanitary pads.

References

1. Rakesh, N. and Dund, J.V., 2015, Knowledge and practice regarding menstrual hygiene among adolescent girls in schools of Patna, Gujarat. *Scholars Journal of Applied medicalSciences*, 3(7D):2704-2709.
2. Uma Devi, R., Sivagurunathan, C. and Mohankumar, P., 2016, Awareness about menstrual hygiene among adolescent girls in rural area of Kancheepuram district-Tamil Nadu. *International Journal of Pharma and Bio Science*, 7 (1): 267-269.
3. WSSCC 2013: Celebrating women hood: How better menstrual hygiene management is the path to better health, dignity and business. London; Water Supply and Sanitation Collaborative Council (WSSCC)