



Comparative study of Absorbent Preferences and Disposal Practices among different Age-groups

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Abstract

Besides all the advancements in every field, menstruation in India is still considered as taboo. In some societies, it is perceived as unclean, or embarrassing. Thus, it is considered to be amongst the most challenging development issues today. All around the world, and throughout history, women have been shamed, sequestered, and medicalised for bleeding regularly. Not only do these taboos and myths create the problem, but many girls are deprived of using sanitary napkins and/or basic sanitation system. To study this problem, a comparative study was designed in Mumbai, Maharashtra with a large sample among three different groups, to assess the practice of menstrual hygiene and usage of various absorbents. In-depth interviews were conducted among the women. Interview schedule had questions containing four sections, i.e. the awareness about menstruation, who told them how to use an absorbent, the type of absorbent used by them and disposal methods adopted. Statistical analysis of the data was done with the help of SPSS software. The results of the study were analysed and reported. Chi Square Test was used to find out the relation between age-group and preference of absorbents and age group and disposability of the absorbents. It was found that friends were the primary source of information about menstruation before menarche. They were the ones who gave practical knowledge about the use of absorbent to the respondents. Most of the women in all age groups preferred sanitary napkins as the absorbent. The disposal technique widely adopted by most women was by wrapping the soiled absorbent in newspaper and then throwing it in newspaper.

Key words: sanitary absorbent, menstruation, menstrual hygiene, sanitation.

Introduction



The issue of menstrual hygiene is one of the most important and growing issue but still it is insufficiently acknowledged (Vasanthi, R. and Dash, M. B., 2019). Lack of awareness and socio-cultural beliefs that render menstruation as a dirty phase in women's lives have long deprived women to basic proper menstrual hygiene (Sarma, B., 2018).

Soni, *et al* (2019) assessed the working women's perspective on selection, adoption, use and disposal practices for Management of Menstruation was assessed. It was found that women were actually aware of all the products available, of their pros and cons with the regard to environment friendliness but were not able to adopt sustainable practices due to varied reasons. Khatuja, *et al* (2019) conducted a study to assess the knowledge and attitude of adolescent girls regarding menstruation and menstrual hygiene. It was found that 71% girls used sterile sanitary napkins as absorbent and 68% satisfactorily changed pads (> 2 pads/day).

Most of the cities have developed techniques to manage their waste, but because of lack of menstrual waste management practices, most of the women dispose sanitary napkins or other used/soiled absorbents into solid waste or dustbins which eventually become a part of solid waste. In urban areas, some women dispose it by flushing down the toilet or throwing it in dustbins. The scene in rural areas is contrary. There are many options for disposing menstrual waste such as by burying, burning, and throwing it in garbage, pit latrines, etc (Kaur Rajanbir, Kaur Kanwaljit, Kaur Rajinder, 2018). The environmental impact of menstrual products have been studied and found that the plastics used in sanitary products are non-biodegradable, that often find their way out into the oceans affecting the marine life (Law Wan Yi and Filippovich, M. S., 2019).

Background of the study

Awareness and Practice of Menstrual Hygiene

According to Garg, R., Goyal, S. and Gupta, S.(2012), India has been moving towards providing better menstrual hygienic conditions for rural adolescent girls. In June 2010, the Government of India introduces a provision for subsidized sanitary napkins to adolescent girls. But various issues like awareness, availability of poor-quality napkins, water supply problem, disposal of sanitary napkins and family support needed simultaneous attention for



the promotion of menstrual hygiene. Aishwarya, N. and Tharani, S. (2019), suggested that menstrual cups could replace sanitary napkins, following a critical analysis of perception on menstrual hygiene, menstrual cup awareness and its usage among women in Bangalore City. Some women have actually started adopting eco-friendly methods like menstrual cups, because sanitary napkins disposal results in ample amount of waste.

Jang Hyun-Jung (2019), studied the attitude of menstruation and menstrual discomfort, to provide basic data in menstrual management education. 16.5% of a sample of women in their 20s had tried using tampons or menstrual cups as an alternative to sanitary napkins due to the discomfort caused by them. Basavaraju Vidya, Bukanakere Chetan Laxmikantha, Dsouza Madonna J., Mallenahalli, A., Kumar, Shivakumar (2019), conducted a cross-sectional study on a large sample of SS Institute of Medical Sciences, Karnataka. It was found that 51.2% girls were using sanitary napkins as an absorbent, while 45.6% were using used clothes. Thus, there was a need to educate the girls about menstruation, its importance and hygiene maintenance, in order to lead a healthy reproductive life. Garg, V., Singhal, A., Jain. N., Kothari, A. (2019), found from a cross sectional study amongst large sample of MBBS, medical students Jaipur that 92.77% were using sanitary napkins as absorbent material during menstruation.

Chhetri, A., Hesinam, D. and Rao, P. D. (2019) attempted to understand the awareness of school aged girls on menstrual hygiene and its practices in the district of Phagwara, Punjab. It was reported that only 33% of the respondents actually used sanitary napkins while remaining 67% of respondents have reported that they are using pieces of old clothes since they are unable to afford for pads in the market. Vasanthi, R. and Dash, M. (2019) conducted a descriptive study on a large sample of adolescent girls to assess the practice of menstrual hygiene and the usage of sanitary napkin during menstruation. The study revealed that the usage of sanitary napkins was maximum irrespective of economic status. Yadav Manisha, Gupta, D. and Rengasamy, R. S. (2019) in a study cited that only 12% women in India use sanitary napkins today, mainly because of lack of affordability, awareness and disposability. Thakur, H., Aronsson, A., Bansode, S., Lundborg, S. C., Dalvie, S. and Faxelid, E. (2014) used qualitative and quantitative methods to assess knowledge, practices, and restrictions faced by large sample of women regarding their menstrual hygiene in the slum areas of Mumbai. It was found that sanitary napkins were used by majority (74.5%) while remaining were still using cloth. Many girls were advised to use cloth, while some seemed to move on



to using commercial sanitary pads. An assessment menstruation related knowledge and practices of adolescent females visiting a public health care institute of Quetta city, Pakistan. It was found that 68.7% used commercially available sanitary napkins (Michael, J., Qaiser, I., Sajjad, H., Adnan, K., Naheed, H., Ishaq, R., Saleem, F., Hassali Mohamed A. and Bashaar, M., 2020).

Disposal

Navale, *et al* (2019) in stated that the problem of improper disposal of menstrual waste is a major road block to create a clean India. Heaps of napkins with disease-causing germs pose a danger. Incinerators uses safe scientific process of disposal of sanitary napkins to incinerate them to ash, in comparatively low temperatures. Also, the proposed system focuses on making the fumes coming out of chimney less hazardous to the environment by using wet scrubber for its filtration. Bhor, G. and Ponshe, S. (2018) discussed various disposal methods used such as wrapping and throwing in dustbins, flushing in toilets, burning, burying and/or throwing in river or roadside. The potential health impact on women and waste-pickers was also pointed out. The risks include cuts and wounds, animal bites, chemical burns, inhalation of toxic gases, falls and traffic accidents, etc. Also, as the usage of sanitary napkins is increasing, the amount of sanitary waste generated every year is also increasing.

Objectives

To know the absorbent preferences used and disposable practices adopted by women of various age groups.

Methodology

A survey design was used to compare and find about the knowledge and awareness of menstruation before menarche, absorbent preference and disposability practices adopted by women of three age groups of 15-25 years, 26-45 years and 46 and above. An oral consent was sought before the interview. An in-depth interviews were conducted. In all 90 women were interviewed, i.e. 30 women from each age group in the city of Mumbai through purposive sampling. Rapport building was essential to make the women comfortable in sharing their experiences. The interview conducted using an interview schedule. Four open-ended questions were asked to the women and their practices. The narrative responses



were recorded and discussed. A relation between the responses of women on each question was statistically analysed using chi-square test and the results recorded.

Results and Discussion

During the in-depth interviews, it was important to build a rapport, this being a sensitive subject. It was observed that women in the young age group of 15-25 years were more open to talk about managing menstruation. Four of the interviewees narrated their school stories; how they faced the problem of bleeding on school uniforms and how supporting other people were, when they just started menstruating. In the mid age group of 26-45 years, it was observed that some women were open but some felt awkward to share their period stories with the interviewer. A few of the key informants shared that their boyfriends, fiancé and husbands have bought sanitary napkins and/or tampons for them, which shows that country is developing to a more open mindset. The older age group women were also open about sharing their school experiences. One of the interviewees quoted that they used to cut the strips of old bedsheets and use it as an absorbent, while some used to miss their school during periods. Overall, most of the women were co-operative, showed enthusiasm and were happy to share their experiences during the interview. During sampling, there were very few who ignored while approached and few declined to participate in the interview.

Source of information and awareness

From the earlier studies conducted, it was found out that more than half of women were aware about periods and they got to know it from their friends and family (Basavaraju *et al*, 2019). In the present study, it was found that women of all age groups were aware about menstruation before menarche. The source of information varied among age groups. In the younger age group of 15-25 years, 36.7% women got to know about it from their friends, 23.3% from their friends and relatives. In the age group of 26-45 years, 33.3% women got to know about menstruation from their friends, 26.7% from their family and relatives, in the age group of 46 and above, 16.7% women got to know about menstruation from their friends, 30% from their family and relatives.

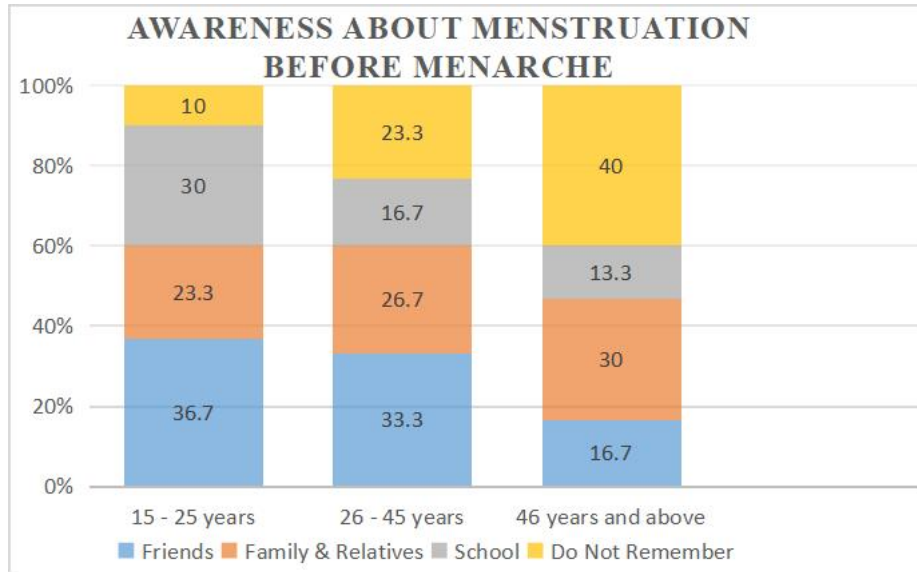


Fig. 1. Awareness about menstruation before menarche

It was found that most of the girls in their young age had got to know about menstruation from their friends. As reported by respondents, this was because they were more comfortable talking about this subject to their friends. But that did not mean that they did not share and ask their mothers or other women relatives. Earlier studies in Mumbai Thakur H. *et al* (2014) and Pupashe, S. *et al* (2015), showed similar results in which most of the girl respondents, got to know about menstruation from their friends and mother.

As high as 40% of women in the age group of 46 and above, 23.3% of the age group of 26-45 years and 10% of young women between 15-25 years could not recollect how they learnt about menstruation.

Schools acquired significant credit for disseminating awareness on menstruation. The results show 30% of younger women, 16.7% of middle age group and 13.3% of older age group were made aware of menstruation from their school and teachers. The school curriculum has been focusing more on such topics and it is a great step in advancement and making it taboo-free in India.

Awareness about Absorbents

The practical knowledge at menarche about how to use an absorbent among women in the three age groups was studied. Most (56.7%) of the women in the older age group, as compared to 13.3% from middle age group and 23.3% of the younger age group, had

acquired the practical knowledge about how to use an absorbent from their family and relatives. It was found that 3.3% of each age group of 15-25 years and of 26-46 years from other people (like housemaids, etc), 10% of the age group of 46 and above were informed by other sources (like neighbours, maids, etc).

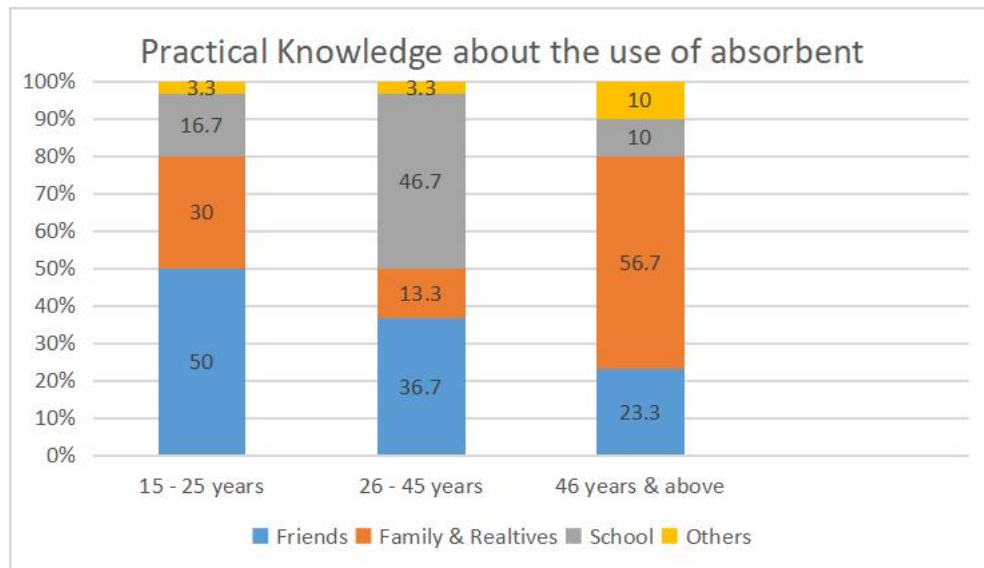


Fig. 2. Practical knowledge about the use of absorbent

The practical knowledge about the use of absorbent in 50% of the young age-group was given by friends. As the young generation feel more comfortable sharing such things with peers and then comes family, especially mothers. In the mid age group, 36.7% of the women acquired practical knowledge about the use of absorbents from school, curriculum or teachers and then friends played a major role. In the older age group, most of the women got to know about it from their family and relatives, which include aunts, grandmother or cousins. It showed that women in the elder age group, when young, were shy to ask or talk about it with anyone except family members. This may be due to conservative ideas which prevailed in the society decades back, compared to present times. Women are more open about it and issues like this are discussed on global platforms.

Choice of absorbent and preference

There are many absorbents available for use like commercial sanitary napkins, menstrual cups, tampons, banana fibre pads, etc. When asked about the preference of absorbent, it was found that in the age group of 15-25 years, 70% young women used sanitary napkins, the second preferred option was tampons used by 16.7% women as in Fig. 3.

Aishwarya, N. and Tharani, S. (2019) found similar results that women were ready to adopt eco-friendly methods like menstrual cups, while most girls continued to use sanitary napkins. It was also observed that more women had started using menstrual cup, keeping in mind the environmental pollution caused by sanitary napkin, and also the cost factor, as one good branded menstrual cup can be used for around 2-5 years. In 2019, Jang Hyun, J. found that 16.5% used tampons or menstrual cups as an alternative to sanitary napkin, due to discomfort caused by them. In this study, 10 % used menstrual cups and 3.3% used reusable cloth pads.

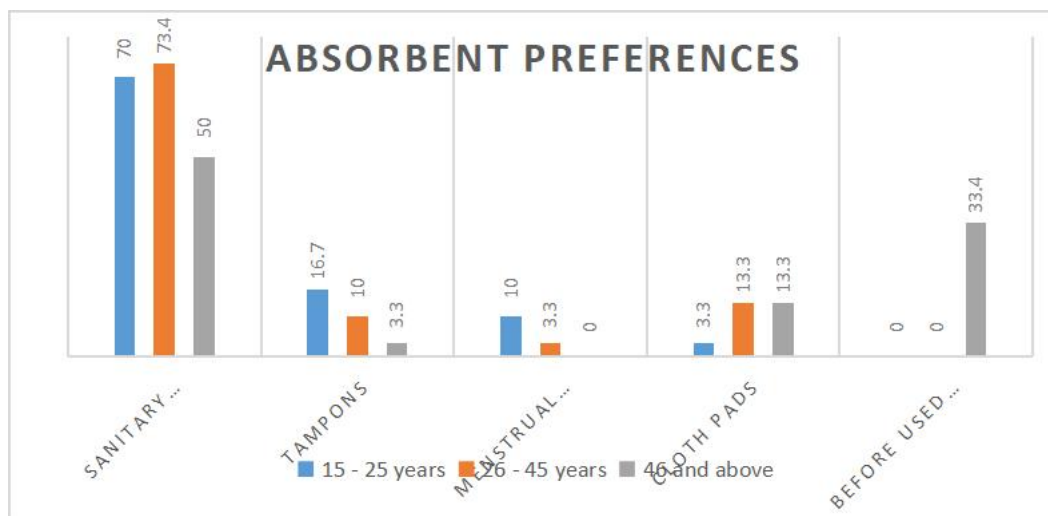


Fig. 3. Preference for Absorbents

In the age group of 26-45 years, 73.4% women used sanitary napkins, 10% uses tampons, 3.3% used silicone menstrual cups and 13.3% used reusable cloth pads. A majority used sanitary napkins, due to widespread knowledge and ease in use. As compared to the 46 and above age group, more women in this age group are using tampons, because of its ease in use and disposability. Some women said that they feel more movement in tampons, than sanitary napkins. It was observed that very few women had started using menstrual cups.

In the age group of 46 and above, it was found that 50% women used commercial sanitary napkins, as see in Fig.3. This may be due to ease and comfort in use and ready availability and hygienic option (if used appropriately). It was observed in the remaining half population, more women (33.4%) switched to sanitary napkins from cloth pads which may be due to increasing awareness and availability of pads. Khatuja, R.*et al* (2019), found i.e. 71% of the girls used sanitary napkins; while Garg, V., *et al* (2019), had found that 92.77% used



sanitary napkins as absorbent material during menstruation. The remaining used cloth pads, and marginal few had tried tampons. Chi Square test showed a significant association between the preference of women who used menstrual cloths before and later switched to sanitary napkins ($\chi^2=22.50$, $p=0.0$) and the age group. The reason may be due to increased awareness about hygiene. In earlier times, women were more conservative and many women had no access to sanitary napkins; so, they have to rely on cloth pads. Thus, in later decades, women became aware about the importance of hygiene. Multinational companies started to produce sanitary napkins, advertised and made available to women. Thus, as a result, over the decades, women shifted to sanitary napkins. These women encouraged the young generation to use sanitary napkins.

In the present times, sanitary napkins are widely used by women because they are available readily, convenient and are also pocket friendly. However, more women are switching to menstrual cups, keeping sustainability in mind, because sanitary napkins and tampons create a lot of pollution as they are non-biodegradable and non-compostable because of plastic content.

Disposal Techniques adopted

There are many disposal practices adopted such as wrapping it in the newspapers and then throwing it in dustbin, wrapping in polythene bags (use of polythene has been banned in Mumbai), flushing down the toilets, incinerators, throwing it into the water bodies, etc. When the respondents were asked about the disposal practices adopted, the age group of 15-25 years, most (66.7%) of them wrapped the soiled tampons and sanitary napkins in a piece of newspaper and then throw it in dustbin. As seen in Fig. 4, 13.3 % used reusable absorbents (so they wash it and use it again). Yet there were a few women (6.7%) who admitted to flushing it down the toilets. Tharani S. and Aishwariya N. (2019) reported that women earlier wrapped and threw their napkins in bin, but they were ready to adopt to more eco-friendly alternatives. It may be noteworthy that 13.3% make use of incinerators. Accessibility of incinerators to these women could be one of the contributing factors to their use.

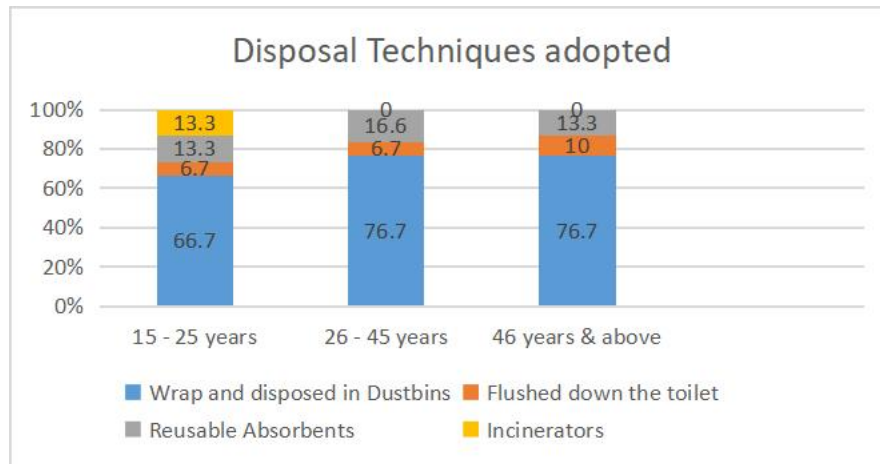


Fig. 4. Disposal Techniques adopted

More number of women in the age group of 26- 45 years, 76.7% wrapped their soiled absorbents in newspaper and then dispose it of in the dustbin, 6.7% flush it down the toilet, 16.6% use reusable absorbents. In 2019, Soni S., Srivastava M., and Sornapudi S. D., highlighted that working women actually were willing to switch to more eco-friendly way of disposing, but they cannot because of varied reasons. Currently, 74% women wrap their sanitary napkins and tampons in newspaper and then dispose it.

As seen in Fig. 4, in the age group of 46 and above, 76.7 % wrap it in newspaper and then dispose it in the dustbin, while 10% flush it down the toilet and 13.3% use reusable incinerators. A clear 10% more women in the age group of 26-45 years and 46 and above use sanitary napkins slightly more than the women in the early age group. However, there is significant association of age group and the use of sanitary napkins, indicating that this difference is significant ($\chi^2=6.382, p=0.094$).

It was found that most of the women of all age groups preferred wrapping their soiled sanitary napkins or tampons in newspaper and then disposing it by throwing it in the trash can or dustbin. Few women in the young age group are using incinerators, which shows that women are more concerned about environment problem, or maybe due to proximity to the incinerators in their locality.

Some women flush their soiled absorbents down the toilet. This results in backflow of water, and clogging the toilets/latrines. But they continued the practice. More women in the



older age group than young population who flush the absorbents down the toilets. Almost equal number of women in all the age group use reusable absorbents (menstrual cups, cloth pads), which is sustainable and causes less pollution.

Same percentage of women in all the age-groups showed that they preferred to use reusable absorbents such as menstrual cloth, and menstrual cup, which did not need frequent disposal. However, there is no significant association between age group and the use of reusable absorbents indicating that this difference is not significant ($\chi^2=.180$, $p=.914$).

It was observed that in this age-group, women in the early age group preferred to use incinerators as a method of disposal. However, there is a significant association between the two variables ($\chi^2=8.372$, $p=.015$). It was observed that some of young age-groups used incinerators which made the expected count less. The reason could be due to some women of the young age-group lived or worked in establishments such as private or public accommodations, such as hostels, government or private Offices, where the facility was available for disposing the absorbents. Other options such as wrapping it in newspaper and then disposing it, were significant as they widely used by women because of the ease of disposal.

Conclusion

Although menstruation in India is still considered a taboo, still women in these times are more open to discussing about menstruation than before. It was found that most of the women of all age groups use sanitary napkins, keeping in mind the hygiene. They wrap their sanitary napkins in newspaper and the dispose it in dustbin. While there are some women who are open to switching to menstrual cups, because of the environmental pollution caused by sanitary pads. Sanitary pads are known to get accumulated and burdening the environment. In order to manage disposal, incinerators have been installed at various public and private places. This is one of the measures that has contributed in causing less pollution; while the resultant release of toxic fumes in the environment is a concern. Thus, appropriate disposal methods of menstrual absorbents is important. Younger women are more vocal and freer to discuss with friends while the older women depended on their family and relatives regarding practical use of absorbents.



However, it should be noted that the absorbent should not be wrapped in a polythene bag, because it will hamper the decomposition process. The soiled napkin made polypropylene top sheet, stops the decomposition process. There is a possibility that it will be in the environment for many decades to come. It is therefore very important to dispose these napkins properly. There is scope for further studies and research on pollution caused by sanitary napkins and what can be done to overcome this problem, use of incinerators, etc.

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