



MENSTRUAL WASTE MANAGEMENT PRACTICES: A CASE STUDY OF A SMALL TOWN DEHRA IN KANGRA, HIMACHAL PRADESH

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Abstract: Menstrual hygiene management waste is a widespread issue not only in India but also in several other countries. In the last few decades, menstrual hygiene management has become a key topic in the country, and many non-biodegradable menstrual products have been introduced, like sanitary pads, tampons, etc. Although the usage of menstrual material is a personal choice of any woman, such non-biodegradable products are harmful to the environment in many ways. The present study discussed the major menstrual hygiene management products utilised by women and how they are disposing of these products in Dehra Gopipur town of District Kangra. The study was based on the descriptive research design. The data was collected from 124 women through an interview schedule. The study found that disposable sanitary pads were the most common (about 76%) menstrual products used by women. It also showed that women were disposing of menstrual materials inappropriately. The study concluded that the government promotes menstrual hygiene by providing biodegradable menstrual material to women, but it does not have a solution for appropriately disposing of them. The study suggested that the government should promote sustainable menstrual materials such as menstrual cups, reusable cotton pads, and menstrual underwear, which will reduce the cost of sanitary products while simultaneously minimising the waste generated from non-biodegradable menstrual materials.

Keywords: Menstruation, waste, women, town, Himachal Pradesh

INTRODUCTION

According to UN population estimates, India has overtaken China as the world's most populous country, the most significant shift in global demographics since records began (Ellis-Petersen, 2023). The latest estimates and projections of the global population from the United Nations indicate that China has ceded its long-held status as the world's most populous country. India's population has reached 1,425,775,850 people, matching and surpassing mainland China's population. (Hertog et al., 2023). With the increase in this population, menstrual hygiene management and the disposal of sanitary materials have become concerns in India. There are 336 million women in the reproductive age group in India (Malaviya, 2019). Approximately 121 million Indian women use sanitary napkins, resulting in 12.3 billion napkins and 113,000 tons of waste annually (The Economic Times, 2023). This menstrual hygiene waste in India is causing an environmental crisis due to its plastic content and lack of proper waste management.

Menstrual waste refers to menstrual blood and associated vaginal and uterine discharge, as well as the menstrual material used to soak or collect menstrual blood. (UNFPA, 2022). Materials and items used during menstruation to collect or observe menstrual blood include cloth, tampons, menstrual cups, and disposable sanitary pads called menstrual material or menstrual products.

According to Provision 3(46) of the Solid Waste Management Rules, 2016, menstrual waste falls under the category of sanitary waste. Sanitary waste is defined as waste comprising used diapers, sanitary towels or napkins, menstrual pads, tampons, condoms, incontinence sheets, and any other similar waste (Central et al., 2018). Rule 4(b) stipulates that after using menstrual products, they should be securely wrapped in pouches provided by the manufacturer or brand owner or in suitable wrapping materials and then placed in bins designated for non-biodegradable waste. But due to the lack of waste collection in rural areas and many small and medium towns in India, the used menstrual products are often discarded in open fields and water bodies (ponds, lakes, rivers, and streams), buried, or burned in the open (Mukherjee, 2019), which increases the huge environmental and health risks.

Menstrual hygiene management waste is a widespread issue not only in India but in several other countries as well. According to Blair et al. (2022), the UK generates around 28,114 metric tons of trash per year from menstruation goods, with disposable pads accounting for the largest bulk contribution and the greatest overall negative environmental effect. According to a survey, 67% of Canadian women feel bad about dumping away menstruation products in an environmentally harmful manner (Seo, 2023). According to research done in Blantyre, Malawi, 41% of women burn their sanitary pads, while about 55% of women dispose of them in pit latrines. Additionally, a study reveals that a small percentage of menstruation absorbents are disposed of in an eco-friendly manner (Roxburgh et al., 2021). According to a study done in Pakistan titled "Sanitation for Millions: Approach towards Menstrual Waste Management," women most frequently dispose of their menstrual waste in latrines, out in the open, through regular waste disposal systems, or by burning and burying it. Deeply ingrained taboos and sociocultural conventions around menstruation and menstrual blood significantly impact this behaviour.

The present study discussed the major menstrual hygiene management products utilised by women and how they are disposing of these products in Dehra Gopipur town of District Kangra, Himachal Pradesh. Dehra Gopipur is a small town located on the Dharmshala-Chandigarh highway, around 60 km away from Dharamshala city.

Table 1. Population of the Town

Name of the Town	Male	Female	Total
Dehra Gopipur	2456	2358	4816

Census-2011

Dehra Gopipur, a small town located on the banks of the Beas River, had a population of 4,816 according to the 2011 Census. However, this number has increased following the establishment of the Central University of Himachal Pradesh. The influx of students, faculty, and labourers who migrated to the town in search of new opportunities has contributed to this population growth. Consequently, the expanding population has placed significant pressure on the municipal council, particularly in managing various urban challenges, with solid waste management being one of the primary concerns.

Objectives of the Study

1. To identify the various menstrual management products women use in Dehra town.
2. To evaluate the frequency of menstrual management product usage among women in Dehra town.
3. To investigate the disposal practices adopted by women for menstrual waste.
4. To examine the role of the Dehra Municipal Council in the management and disposal of menstrual waste.

Methodology

The study employed a descriptive study design and focused on menstruating women of reproductive age in the small town of Dehra, District Kangra, Himachal Pradesh.

Sample size: Data was collected from 124 women through an interview schedule.

RESULTS

Table 2: Profile of the Respondents

	Variables	Frequency	Percentage
Age	15-20	10	08
	21-30	68	55
	31-40	35	28
	41-50	11	09
Residential setting	Regular residential area (non-slum area)	110	89
	Slum area	14	11
Marital status	Married	53	43
	Unmarried	71	57
Occupation	Student	79	64

Homemaker	32	26
Daily wager	13	10

The study was conducted among 124 respondents, ranging in age groups from 15 to 50. Eight percent of the women belonged to the 15–20 age group, fifty-five percent to the 21–30 age group, twenty-eight percent to the 31–40 age group, and nine percent to the 41–50 age group. Women were interviewed from both slum and non-slum areas. Eighty-nine percent of women were selected from non-slum areas, while eleven percent were interviewed from slum areas, ensuring the inclusion of both residential settings.

In the study, forty-three per cent of the respondents were married, while fifty-seven were unmarried. The occupational composition of women in the study included sixty-four per cent of students, twenty-six per cent of homemakers, and 10 per cent of daily wagers. The study ensured a diverse participant pool, providing an inclusive overview of various demographic segments.

Table 3: Menstrual hygiene management materials

Menstrual absorbent	No (%) participants
Disposable sanitary pad	113(76%)
Reusable sanitary pad	5(3%)
Cloth/towel	15(10%)
Period underwear	4(3%)
Tampon	4(3%)
Menstrual cup	8(5%)

Table 2 illustrates the types of menstrual hygiene management materials used by women to collect menstrual blood. The study found that seventy six percent of women use disposable sanitary pads, ten percent use cloth or towels, and five percent use menstrual cups. Additionally, three percent of respondents use other products like reusable sanitary pads, period underwear, and tampons. These findings highlight a predominant reliance on disposable sanitary pads, while a smaller proportion of women opt for sustainable or reusable alternatives, reflecting varying levels of access, awareness, and cultural acceptance of different menstrual products.

Findings from the current study indicate that disposable sanitary pads are the most commonly used menstrual hygiene products among women in Dehra town. Out of the 124 women surveyed, 113 reported using disposable sanitary pads, while only 11 women exclusively utilized reusable products such as menstrual cups or cloth pads. A total of 1,270 disposable sanitary pads were used by the 113 women during the study period, averaging 11 pads per woman per month. Over a year, this amounts to approximately 132 pads per woman. The widespread use of disposable sanitary pads raises significant environmental concerns due to the

increasing volume of waste generated. Disposable pads are primarily composed of non-biodegradable materials, contributing heavily to solid waste. Inadequate disposal practices exacerbate the problem, with many women reporting a lack of proper sanitary waste management systems. The improper disposal of pads, often in open areas or alongside regular household waste, poses risks not only to the environment but also to public health. The accumulation of such waste increases the burden on local waste management systems, which are often ill-equipped to handle the growing volume of menstrual waste.

Table 4. Disposal Practices Followed by Women

Variables	Frequency	Percentage
Placed in the dustbin with the regular garbage	69	56
Burned	18	15
Throw in the river	11	9
Buried	6	5
Thrown outside in an open area	5	4
Taken to community garbage collection	4	3
Did not dispose of any materials (including reusables)	11	9
Total	124	100

The above table displays the different disposal practices employed by the women to dispose of their used menstrual materials. Placed in the dustbin with the regular garbage was the most common way to dispose of their menstrual material. Fifty-six percent of women disposed of their used menstrual material by putting it in the dustbin with the regular garbage. Fifteen per cent of women were burning their used menstrual products; nine per cent were throwing their menstrual products in rivers, and four per cent of women were throwing them outside in an open area. Five per cent of women burned their menstrual products to dispose of them, and three per cent of women took to the community garbage collection. Only nine per cent of women exclusively used reusable menstrual products, eliminating the need for disposal.

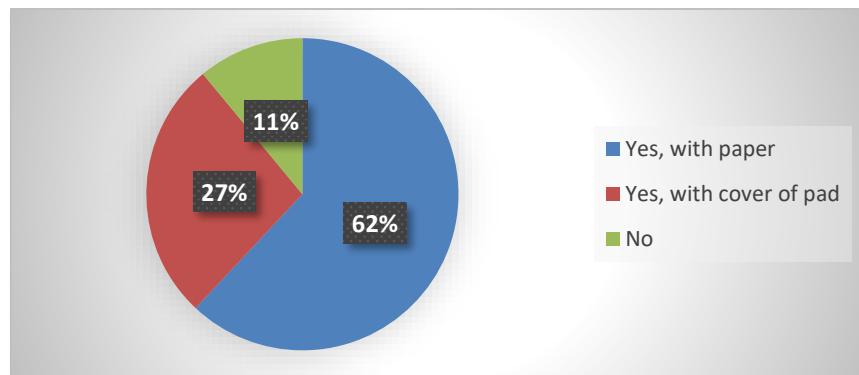
Table 5. Garbage Collection Services in the Town

Variables	Value	Frequency	Percentage
Garbage collection services	Yes	97	78
	No	13	11
	Sometimes	14	11
Wrapping of sanitary pads	Yes, with paper	77	62
	Yes, the cover of the pad	33	27
	No	14	11

Based on the data presented, seventy-seven per cent of women reported that garbage collection services are provided in their areas by the local municipal council. In comparison, eleven per cent stated that these services are unavailable, and the other eleven per cent indicated that such services are only sometimes provided. This finding highlights the variability in waste management services, which can significantly impact the proper

disposal of menstrual waste. Inadequate or inconsistent waste collection can contribute to unhygienic conditions and environmental degradation, emphasising the need for robust and reliable waste management infrastructure, particularly in addressing menstrual waste disposal. Additionally, this gap suggests a need for targeted policies and community awareness programs to ensure safe and sustainable menstrual waste management practices in all regions.

Figure 1. Wrapping of sanitary pads



The data shows that 62% of women cover their used sanitary pads with paper, 27% use the pad's original packaging, and 11% do not cover them at all. According to the National Guidelines on Menstrual Hygiene Management in India (2015), it is recommended to cover menstrual waste, such as used pads, with paper or the original pad cover before disposal. These guidelines promote safe disposal practices and minimise health risks associated with improper waste management.

DISCUSSION

Waste management remains a significant challenge for India and other developing countries, with menstrual hygiene waste emerging as a critical concern, particularly in rural and semi-urban areas. The decision of which menstrual hygiene products to use is a matter of preference for each woman and may play a big role in helping to address the issue of menstrual waste. In the study area, seventy-nine per cent of the women were using disposable sanitary pads and tampons; this aligns with the findings of Babbar and Garikipati (2023), who observed seventy-seven per cent of the women were using disposable sanitary pads and tampons as menstrual products, which creates a huge burden on the solid waste management system of India, especially in rural and small towns. However, the present study also revealed that twenty-one per cent of women were also exploring the sustainable option of menstrual hygiene management products like reusable sanitary pads, cloth, menstrual cups, and period underwear, which shows that women are becoming aware of the harmful effects of disposable menstrual products and shifting towards the sustainable products. In contrast, Babbar and Garikipati (2023) found that only 0.3% of women used sustainable products like menstrual cups.

The disposal of used menstrual products presents a significant challenge for women. Ninety-one per cent of women were found to dispose of their used sanitary products through inappropriate methods, such as discarding them in rivers or open areas or by burying and burning them. These practices contribute to landfill accumulation, contaminate water and air, and pose health risks by leaching harmful substances into soil and water bodies, negatively impacting the environment. Similarly, many women dispose of used sanitary products in open fields, water bodies, or other public spaces, further exacerbating environmental pollution and

health hazards (Biju, 2013; Mukherjee, n.d.-b). Elledge et al. (2018) also identified burying as a method of disposing of used sanitary products, which aligns with the present study's findings.

Although the municipal council provided garbage collection services to residents, most women discarded their used menstrual products in regular waste, which mixed with general garbage and contributed to landfill accumulation.

Inadequate infrastructure for disposing of and managing menstrual waste contributes to environmental pollution, public health risks, and social stigma. The lack of awareness and access to sustainable menstrual products exacerbates the situation, accumulating non-biodegradable waste, which poses long-term environmental hazards. Addressing menstrual hygiene waste requires comprehensive strategies involving community education, policy intervention, and promoting eco-friendly menstrual products to mitigate its impact on human health and the environment.

SUGGESTIONS:

Waste management is a serious issue in India, and menstrual waste is increasing the burden of waste management. Based on the present study, the following suggestions are proposed to reduce the issue of menstrual waste management:

- Sustainable menstrual products such as menstrual cups and underwear should be promoted. These products are good for the environment because they are sustainable and reusable, reducing the costs of buying and waste both.
- An awareness session regarding using menstrual cups and cleaning should be conducted. It can help women to learn about the benefits of menstrual cups and helps women to maintain the hygiene
- Municipalities should collect and dispose of menstrual and sanitary materials separately using a system specifically designed for this purpose.

CONCLUSION

In conclusion, while the Indian government has made great attempts to promote menstrual hygiene by introducing different goods such as disposable sanitary pads, tampons, and menstrual cups, the lack of emphasis on proper disposal practices remains a significant challenge. Although several plans and initiatives are designed to address this problem, they have not been executed enough at the ground level. The improper disposal of menstrual waste, particularly disposable pads, poses serious environmental risks. Municipal councils have struggled to manage this growing waste effectively, highlighting the urgent need for more robust strategies and interventions to address menstrual waste management to protect both public health and the environment.

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