EPRA International Journal of Economic Growth and Environmental Issues- Peer Reviewed Journal
ISSN: 2321-6247
Volume: 12 | Issue: 8 | August 2024 | Journal DOI: 10.36713/epra0713 | SJIF Impact Factor (2024): 8.619

MENSTRUAL CUP USAGE FOR SUSTAINABLE MENSTRUAL HYGIENE AMONG COLLEGE-GOING WOMEN IN SOUTH CHENNAI, TAMIL NADU

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Article DOI: https://doi.org/10.36713/epra18014
DOI No: 10.36713/epra18014

----------ABSTRACT----------

Menstrual health and hygiene play a pivotal role in the overall well-being of menstruating women. In the contemporary world where waste management is challenging, there is a growing concern for the disposal of sanitary napkins as well. The paper blends the theme of "Health and well-being" along with "Waste management and cleanliness" to arrive at one solution for the dual problem. The paper takes up a holistic approach to address challenges of menstrual health and waste management, thus promoting "Green menstruation". The core of the paper lies in carefully examining the issues faced by college-going women, in the South Chennai region, during sanitary napkins usage and tries to understand their perceptions on menstrual cups. In addition, environmental benefits revolving around the usage of menstrual cup are also explored. Quantitative method is used by the researchers to address the objectives of the paper. The findings obtained from the research method serves as a foundation for the suggestions and interventions proposed in the paper. Thus, the paper underscores sustainable and eco-friendly real-time solutions that improve the overall well-being of menstruating women while contributing to a cleaner environment.

KEYWORDS: *Menstruation, Menstrual Cups, Waste Management, Menstrual Health, Green Menstruation.*

INTRODUCTION

Menstrual Health is of paramount significance as it encompasses both their physical and mental health. Considering the total number of menstruating days, an average woman menstruates for approximately 7 years, which decodes to 2,555 days, as per UNICEF. Considering an average daily usage of 3 pads, this amounts to an unavoidable 7,665 sanitary pads over one woman's lifetime. These statistics become even more considerable in a country as populous as India and in a commercial city like Chennai, where waste generation is already a pressing concern. Menstrual Waste Management in particular serves as a pressing concern as Menstrual Health Alliance India has reportedly said that a single sanitary pad can take up to 500-800 years to decompose. In the contemporary world, sustainability has become a global priority with all the International and National Organisations emphasising the pressing need for sustainable solutions. This paper seeks to explore alternatives for sanitary napkins. The targeted group for the study is college-going women in South Chennai. The potential for attitudinal change is high in this age group which translates them being the ideal group to conduct the study. Additionally, this paper focuses on the menstrual health and well-being of college-going women in South Chennai which is a rapidly expanding region with a fast-growing population and as it holds a significant number of colleges compared to North Chennai. Addressing the issues surrounding menstrual health and waste is not only a matter of environmental responsibility but also an integral component of ensuring women's health and well-being. The paper aims to discover alternatives and advocate for menstrual health in the college-going population of South Chennai, which could possibly lead to a meaningful and lasting impact on this concern.

WHY SOUTH CHENNAI AS THE TARGET AREA?

As highlighted in the previous section, the South Chennai region is a rapidly expanding region due to population shifts and migration. This could lead to potential issues regarding waste management with respect to sanitary

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waste, especially menstrual waste. On the other hand, the number of colleges in South Chennai is relatively more in comparison with other parts of the city. Since the target group consists of college-going women, South Chennai would be an ideal choice for the researchers to implement effective interventions in college premises. It is to be noted that the "Thinkal project" was launched in South Chennai constituency in the month of September, 2023 which aims at distributing 1,500 menstrual cups to women from economically poor households. This pilot project was launched by Mrs Durga Stalin, wife of Honourable Chief Minister of Tamil Nadu Thiru M K Stalin, along with Member of Parliament Mrs Thamizhachi Thangapandian. The Thinkal Project is pioneering in Kerala and is implemented by HLL Management Academy under their academic and social development division. The HLL Management Academy is renowned for their contributions in making Kumbalangi village of Ernakulam district to be the first-ever Sanitary napkin-free village in India. Their onset in South Chennai along with partnership from Greater Chennai Corporation was an incentive for the researchers.

THE PROBLEM OF MENSTRUAL WASTE AND DISPOSAL

Menstrual waste consists of used and discarded menstrual absorbents, including cloth, disposable sanitary napkins, tampons, and other substances or materials that girls and women use to soak up or hold blood during menstruation. It is classified as solid waste and defined as sanitary waste under the Solid Waste Rules. Common practices of disposing menstrual waste include throwing them unwrapped into fields or rooftops, wrapping in a paper or plastic bag and throwing it outside, drying or wrapping in a plastic or paper bag and throwing it in a dustbin, throwing in latrines or toilets, and burning. It is estimated that millions of such products are thrown away every month, which can lead to environmental pollution and adverse health effects if not handled correctly. Disposable sanitary napkins contain chlorine and plastic. Incomplete burning of chlorine and plastic results in release of noxious gases like dioxins and furans which are highly toxic and cancerous. Over a billion non-compostable sanitary pads are thrown into sewerage systems, landfills, fields, and water bodies in India every month, posing huge environmental and health risks. Sanitary pads are often made from materials like super absorbent polymers, non-biodegradable plastics, and adhesives taking around 500 to 800 years to decompose. When significant amounts of non-compostable waste are discarded in fields and water bodies, it can lead to the prolonged degradation of water and soil quality. On the other hand, the menstrual absorbents soiled with blood provide an ideal breeding ground for disease-causing pathogens. If these are not properly disposed of and are allowed to enter the environment, there is a risk of creating a reservoir of harmful pathogens in the surroundings. It is said that a year's worth of a typical feminine hygiene product leaves a carbon footprint of 5.3 kg CO2 equivalent. Thus, using non-compostable/disposable sanitary napkins can cause major environmental issues. Apart from environmental effects, the workers who segregate the menstrual waste are also under the threat of major health effects while handling them.

Disposal of menstrual absorbent	Total pooled proportion*	Rural pooled proportion*	Urban pooled proportion*	Slum pooled proportion*	Concerns with disposal method
Throw with routine waste/dustbin	45	28	70	51	Menstrual waste enters the solid waste stream and is subject to the same treatment as other solid waste – placed in landfills to disintegrate over hundreds of years
Thrown away in the open (open spaces, rivers, lakes, wells, roadside etc.)	23	28	15	30	Menstrual waste can contaminate water sources, clog drains
Burning (open)	17	15	23	-	Burning of commercially available pads at low temperatures can create odours and expose nearby population
Burying	25	33	12	-	Burial is not done effectively, and without appropriate composting, waste will take hundreds of years to degrade
In toilets (flushing down the toilet, throwing in pit latrine)	9	10	7	-	Used pads mixed with faecal sludge, complicates disposal of that sludge (in the case of septic tanks) or interferes with the production of usable manure (in the case of leach pits)
*Pooled proportion is a percentage that has been derived from data in studies included in the above systematic review.					

Source: Ministry of Health and Family Welfare, Government India

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Effective disposal of menstrual waste is essential to manage the waste in a safe and hygienic manner. Various methods for menstrual waste disposal are incineration, source segregation, deep burial, composting, pit burning and sanitary landfills. Incineration of menstrual waste involves burning the waste at high temperatures, which can kill hazardous microorganisms and reduce the risk of transmission of infections. However, it requires specialized equipment to undergo proper treatment and disposal. Source segregation is another method for menstrual waste disposal, wherein the waste is wrapped securely in a separate bag or pouch and handed over to waste collectors. The source segregation technique is challenging due to lack of community participation and awareness.

SANITARY NAPKINS VS MENSTRUAL CUP

Condition/ Situation	Sanitary pad	Menstrual Cup
Cost	• Need to be purchased frequently (every month). • Per cycle cost is around 100–150 INR (monthly)	• Need to be purchased once for about 5 years. • Initial cost is high (300–1000 INR) but economical in long run (can be used up to 5 years)
Availability	• Easily available in pharmacies and supermarkets. • Free distribution of sanitary pad by Government and NGOs	• Available only through online business platforms.
Side effects	• Possibility of side effects such as rashes, infection	• No major side effect
Disposal	• Each used pad needs to be disposed as a biological waste. • Less water is required for changing to a new pad.	• Disposal is not required. • Needs proper cleaning with adequate water for reuse.
Effect on Environment	• Non-biodegradable product, not environment friendly.	• More eco-friendly compared to sanitary pads.
Convenience	• More convenient when outside home.	• Clumsy to handle when outside home (workplace and public place).
Sterilization	• Not needed (one-time use).	• Requires proper sterilize and storage.
Perception	• No such negative perception (used externally). • No apprehension of any major problem.	• Losing virginity (among adolescent girls and unmarried women). • Initial apprehension about wrong placement, removal problem.
Comfort	• Discomfort with bulky feeling.	• Very comfortable when a fitting sized MC is properly placed.
Experience/ guidance	• Not required	• Very much required (identifying the proper size, proper placement, removal, sterilization and storage).

Source: Patel (2023)

RESEARCH OBJECTIVES

1. To identify the menstrual products used by college-going women.
2. To examine the challenges and issues faced by college-going women during the usage of sanitary pads.
3. To identify disposal methods of sanitary pads by college-going women.
4. To assess the current knowledge and awareness levels among college-going women regarding menstrual cups.
5. To identify the factors that hinder college-going women from adopting menstrual cups as an alternative to sanitary pads.

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RESEARCH METHODOLOGY

The researchers used descriptive research design and quantitative data collected from the respondents. To understand the study both Primary and Secondary sources of data have been used by the researcher. The study specialized designed for college-going women students from the age of 18 to 25 years. Totally 184 samples were drawn for the study by using the snowball sampling technique.

KEY FINDINGS AND DISCUSSIONS

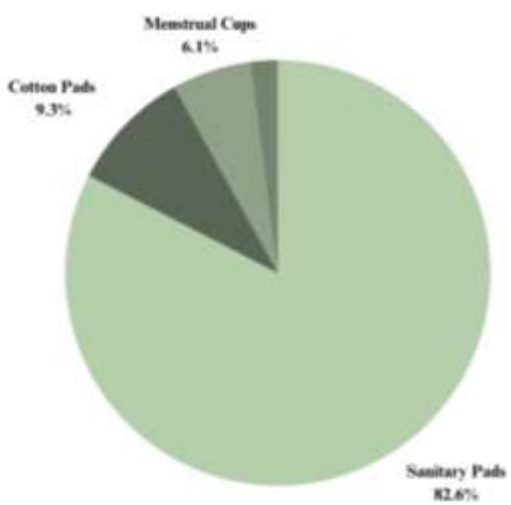
UNDERSTANDING THE RESPONDENTS

The majority (59.2%) of the respondents are college-going women pursuing Arts and Science course at different colleges in Chennai. The vast majority of the respondents fall into the age category of 21 years to 23 years. Most of the respondents have an urban origin with 52.2% of the respondents from the South Chennai area. The sampling was intended to get a majority of respondents from the South Chennai region as interventions are planned in the region for the initial phase. However, the respondents from North Chennai and Central Chennai are in equal proportions which can form the base for further implementation in those parts of Chennai after conducting proper survey and analysis.

MENSTRUAL PRODUCTS IN USE

Sanitary pads are the most commonly used menstrual product with a significant majority of the respondents (81.5%) using it. The second majority use cotton pads. It is important to note that only 6% of the respondents use menstrual cups even though the majority of them face relatively less comfort and are fed up with changing and disposing the sanitary napkins.

Surprisingly the study reveals that a vast majority (92.9%) of the respondents knew about the existence of the menstrual cup, an eco-friendly alternative, yet the number of sanitary pad users top the list. It also interesting to know that most of the respondents knew about the menstrual cup for more than a year but still have not adopted it despite the issues and challenges faced by them. The respondents were also asked if they were looking for alternatives to sanitary pads/cotton pads/ tampons. Majority (44.9%) of them are “not sure” and the second majority (34.8%) are looking for an alternative. This signifies that they might be open to the idea of alternative menstrual products on the basis of further awareness and education.





MEANS OF DISPOSAL

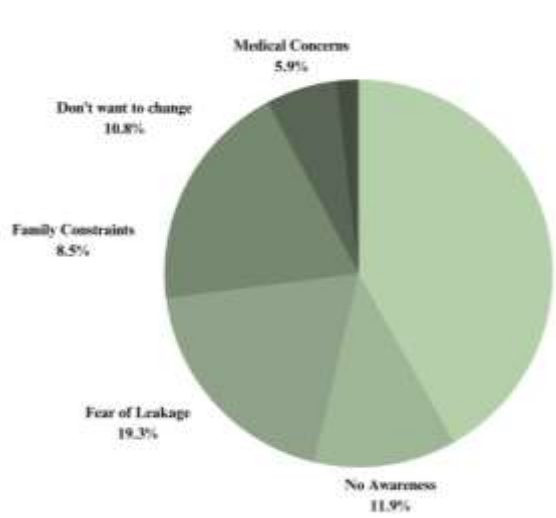
The most common response to the number of sanitary pads used is 10-15 per cycle. It is important to note that 66.1% of the respondents prefer to change their sanitary pads every 3 to 6 hours a day, which is a standard recommendation for ensuring hygiene. Apart from the hygiene fact, the number of menstrual wastes disposed during this time should also be taken into account. Hence, it becomes important to find an eco-friendly alternative. More than half the majority of the respondents (50.3%) dispose the used sanitary pads along with regular trash. This method involves wrapping the used pads in a regular trash bag and disposing with other household wastes. The other ways of disposal include burning, burying, flushing in the toilets, wrapping in newspaper and even washing.This hinders the waste segregation process and leads to improper disposal at larger levels. As mentioned

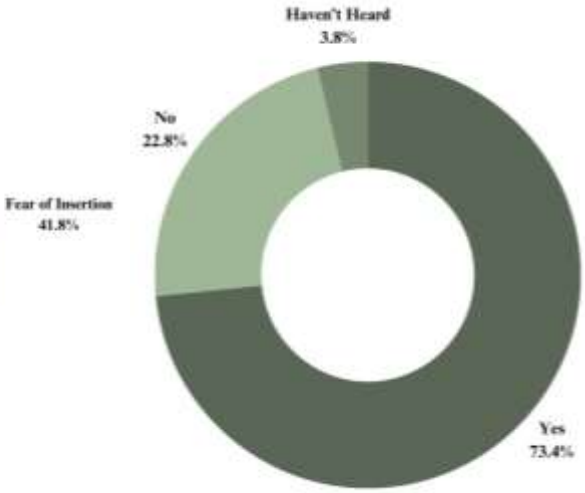
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earlier, this also leads to huge environmental and health impacts. This signifies the need to shift to "Green menstruation."

BARRIERS TO MENSTRUAL CUP AS AN ALTERNATIVE

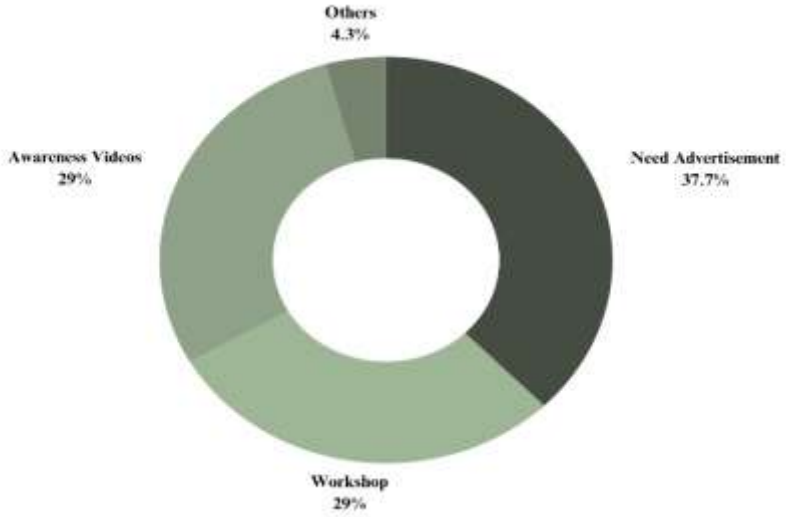
It is unfortunate that a vast majority (73.4%) of the respondents have not considered using menstrual cup as an alternative menstrual product. This can be due to varied reasons arising from socio-cultural and psychological aspects. Majority of the respondents express fear or discomfort associated with the insertion of the product. This is due to lack of familiarization about the product and the process of insertion. Fear of leakage is another common concern amongst the respondents and are doubtful about the cup's capacity with respect to their flow. Another major proportion of the respondents identify lack of awareness as a reason for not adopting to menstrual cups. Family constraints and cultural beliefs also play a huge role here. Hence it becomes important to not just create awareness and educate about menstrual cups but also break the myths and taboos associated with it.





WAY FORWARD

Since the majority of the respondents lack awareness concerning menstrual cup usage, sterilization, insertion and disposal, the first step will be to create awareness among them and familiarize them with the product. This will lead to a potential attitudinal shift among the college-going women. The willingness to adopt menstrual cups after proper guidance and training is seen among major proportions of the sample population. Good ratios of respondents have opted for Advertisements, awareness videos and workshops as means of promoting menstrual cup usage. Even though these methods are good for a start, sustainability becomes a matter of concern here. Hence the researchers have framed interventions that can address these needs which include the ways to maintain sustainability as well.



The following interventions are suggested based on the outcome of the research study. Conducting workshops on menstrual cup usage at colleges would provide students with comprehensive information about menstrual cups, including their benefits, proper usage, and maintenance. Peer training sessions could further reinforce the knowledge gained from the workshops and empower students to become advocates for menstrual health within their communities. Menstrual counselling can provide personalized support to individuals who may have questions or concerns about menstrual cup usage and creates a conducive environment to discuss menstrual hygiene and practices. Counselling sessions can address any misconceptions or anxieties, ensuring that individuals feel confident in their decision to switch to menstrual cups. Awareness campaigns highlighting the benefits of menstrual cups utilizing various platforms such as social media, posters, and interactive sessions can be conducted to reach a wider audience beyond college campuses. An experimental study to gather data on the effectiveness and acceptability of menstrual cups among college students can be conducted. This study involves distributing menstrual cups to participants and collecting feedback through surveys and interviews over periods of time. The findings would provide valuable insights into the feasibility of promoting menstrual cups and the difficulties associated with their usage. Conducting an impact assessment study to evaluate the outcomes of the interventions would aid in assessing changes in knowledge, attitudes, and behaviors regarding menstrual hygiene and menstrual cup usage among college students. By measuring the impact of the interventions, successful strategies and areas for improvement can be identified.

CONCLUSION

The study provides a roadmap for addressing menstrual hygiene challenges and highlights the need for the shift towards eco-friendly and sustainable menstrual practices among college-going women in Chennai. The key findings of the research provide insights into the current usage of menstrual products, methods of disposal, awareness regarding menstrual cups, and the barriers to the adoption of menstrual cups as an alternative to sanitary pads. These findings suggest the potential for increased adoption if the right steps are taken. The research highlighted the harmful disposal methods of sanitary pads emphasizing the importance of adopting eco-friendly menstrual products. The proposed interventions focus on raising awareness, providing practical training, offering emotional support, and generating evidence-based information. The aim is to empower college-going women with adequate knowledge and skills needed to make informed choices about their menstrual health ultimately contributing to a more sustainable and environmentally conscious approach to menstrual hygiene in Chennai.

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