






Preference of Millennial Women Towards Eco-Friendly Menstrual Cups- A Study from Bengaluru Urban District

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Abstract. Menstruation is most often taken as a taboo in India. Women are hesitant to share their thoughts or experiences about it. It is considered to be impure and women are restricted to participate in normal day-to-day activities. Many women lack knowledge about menstrual hygiene and menstrual hygiene products. Although the study revealed that urban women were able to recognize their menstrual pattern and maintain their personal hygiene with the help of Sanitary Pads, the fact remains that such disposable menstrual hygiene products can pose serious health problems to women and are proven to be hazardous for our environment. To counter these issues, a host of new eco-friendly, sustainable and cost-effective goods have recently entered the Indian markets; Menstrual Cup is one such product. This research focused on the attitude, perception, beliefs towards menstruation and menstrual cups among millennial women in Bengaluru. This descriptive study explains how much the myths and taboos have stereotyped the perception towards menstruation and menstrual cups.

Keywords: Menstrual products, millennial women, customer perception, sustainable products.

1 Introduction:

Women and adolescent girls are familiar with the phenomenon of menstruation also popularly known as periods. In India, menstruation has always been shrouded in taboos, and stereotypes that keep women out of many areas of social and cultural life. This research is based on the consumer perception regarding menstrual cup which draws more attention towards marketing as a subject, this study highly focuses on the perceptions and attitude towards menstrual cups and menstruation especially among millennial women. Even today, menstruating women and girls are restricted in their simple daily life activities like, restricted to enter the kitchen, offering prayers, touching holy books, etc., as they are considered to be impure while menstruating. Due to this stigma

surrounding menstruation, women often perform the “walk of shame” while holding their sanitary pads in black plastic bags in their hands. Menstruation has been called the best-kept secret among women due to the high incidence of misinformation infiltration. Such taboos and irrelevant practices have a huge impact on women’s emotional well-being, attitude, and lifestyle as well as their physical health. In 2020, a digital campaign called “Men 4 Menstruation” was launched to encourage men to fight against period poverty, to educate school girls about menstrual hygiene and reduce school dropouts. A similar campaign in Kerala was carried out where menstrual simulators were used on men to help them realize the pain and struggles women go through around periods [3]. Menstrual hygiene products are personal care products, which are used by women and girls while menstruating and other bodily functions related to vulva and vagina. However, it has been constantly encircled by endless notions, superstitions, myths and taboos. Over the years, women have evolved and have explored different avenues regarding diverse menstrual products that are either recyclable or disposable. Sanitary pads, tampons, organic tampons, panty liners are disposable products. Menstrual cups, cloth pads and reusable tampons last long and are reusable.

India has 12.3 billion disposable sanitary napkins to deal with every year, the bulk of which are not biodegradable/compostable, based on the number of sanitary napkins used per menstrual cycle plus the total for the year. Since the plastic used in disposable sanitary napkins is not biodegradable, it has become a growing issue in India, posing health and environmental risks. The unorganized methods of municipal solid waste management, as well as inadequate community collection, disposal, and transportation networks in cities and villages have a greater effect.

To effectively combat this extreme environmental threat, other systems in society such as, family and educational institutions must speak about alternative menstrual hygiene methods and waste management. This should not be the concern restricted only to the Ministry of Health.

2 Literature Review:

The main objective of the study was to identify the long-term usage of menstrual cups and the acceptability of menstrual cups among the student population in education institutions of the KwaZulu-Natal area of South Africa. The study was conducted for a time period of 12 months, where the female college students aged between 18-24 years were given menstrual cups and instructions on how to use them while menstruating. They were evaluated for 12 months to know their acceptability, experience and, continuity of menstrual cups. The study found that most of the students used sanitary napkins or toilet paper while menstruating before the research began. There were mixed reactions from the students on insertion and removal of the cup in first use. The study also found that a maximum of five insertions was needed to achieve comfort. The conclusion of the study was, majority of the students who used the cup, reported they would continue to use the cup and was well accepted by them. Students found menstrual cups to be cost-effective, affordable, eco-friendly and, a sustainable option for them to use while menstruating [5].

The primary objective of this study was to find out the acceptability of menstrual cups by women who play the sport in Sao Paulo, Brazil. The study was conducted among 49 women who play handball aged between 18-35 years. The disposable menstrual cup called soft cup was used for the study and was distributed among the athletes for three consecutive menstrual cycles. The study found that the insertion and removal of menstrual cups were easy for most of the users. The satisfaction and comfort level increased in the subsequent cycles. The conclusion of the study was, majority of the athletes were found to be comfortable using the menstrual cups, the major issue was leakage which is common, acceptability of the cup was high among the women [7].

The main objective of the study was to analyze, the knowledge of youth regarding menstrual health and hygiene, to know their menstrual product preference and the factors which affect their menstrual product choice and the knowledge regarding menstrual health hygiene. The main aim of this study was to inform and educate the youth about menstruation health and hygiene and sexual reproductive health. Women were categorized into commodity-based cluster randomization. The study was conducted for a time period of three months i.e., between April- July 2019, among women aged between 16-24 years old. The result of the study was, people need to be educated regarding the menstrual health hygiene of women and, women should not let social factors like taboos, myths revolving around menstruation affect them [30].

This study explains the cost-benefit and cost-effectiveness of providing menstrual cups and sanitary napkins to school girls in rural Kenya. In this randomized feasibility study researchers came up with three categories were in, they were given sanitary pads, menstrual cups and were asked to continue with the same products which they used earlier. The results of the study were, the interventions to improve menstrual health management may have substantial cost-effective benefits on health and education. Researchers stated that sanitary pads and menstrual cups improved the menstrual health and hygiene of the school girls and it had a positive impact on their school attendance [20].

This exploratory study aimed capture the perception, attitudes, opinions regarding different menstrual products, medical experiences by women in Taiwan. The research methodology used by the researcher was online questionnaire and semi-structured interviews. The researcher conducted this study based on different factors which influence women regarding menstrual products like- online information, influence of communities and families, choice and preferences, effect of menstrual cups based on medical gaze. The result of this empirical study was, the internet and online communities have educated the women in Taiwan regarding the different products available like tampons and menstrual cups other than sanitary napkin. Internet has been a huge influence on women in Taiwan but, they still hesitate to use products like tampons and menstrual cups because of societal pressure and lack Menstrual hygiene knowledge. The researcher stated that this research was limited to online users and further research on people who do not use internet and those who come from traditional background is required [35].

The primary objective of this study was to enhance the menstrual education among women and men which reflects their needs and will verify their effectiveness. Researchers used a mixed-method design to determine the program's needs and assess young

adult's knowledge and perceptions regarding menstruation and conventional menstrual products. The results of the study suggested that more insights on menstrual education can enhance the knowledge and perception towards menstruation and its products among young men and women. Also, the results indicated young adults wanted menstrual education content easily accessible and designed for both genders. This implied that the menstrual education program could change perceptions when conducted systematically [20].

A descriptive, cross-sectional study was conducted on women who visit the Gynaecologic hospital and health care workers employed there. The primary objective of the study was to determine the level of knowledge, beliefs, perceptions, practices and challenges women face during their menstrual cycle. The results of the study suggested, general women lacked sufficient menstrual knowledge, were not aware about menstrual products like tampons and menstrual cups compared to health care workers. For both groups, the source of knowledge was mostly their family i.e., their mother or sisters. Various challenges faced while menstruating by both groups were, they were restricted to involve in regular household chores, they were not allowed to bathe, and abstained from eating certain foods. The most common menstrual product used by both groups were, sanitary napkins. The conclusion of the study was, female population of Karachi lacked sufficient menstrual knowledge and were involved in unhealthy menstrual practices. Menstrual hygiene management should be encouraged among the women of Karachi [1].

In rural Jamkhed, Maharashtra, this study examines the sociocultural norms and attitudes of menstruation amongst two generations of women. A range of socio-cultural beliefs and customs were investigated in order to ascertain how they related to outside factors influencing the evolving menstrual story. Women's choices and preferences were influenced by sociocultural elements such as family structure, media exposure, material choice, disposal, and segregation practises. There is a significant difference in the use of sanitary napkins between the two age groups: older women reported using cloth pads, whereas younger women reported using sanitary napkins. This indicates that menstruation products are becoming more accessible and well-known in these communities as a result of advertising, educational initiatives, and the need for word-of-mouth communication among friends and family. The ongoing stigma surrounding menstruation as an impurity is reflected in the enforcement of social isolation and behavioural limitations during this time [25].

Low- and middle-income countries have actively encouraged the use of disposable or single-use pads in an effort to enhance women's menstrual hygiene, ignoring other sustainable menstrual product options. This creates waste and takes away women's freedom to make educated decisions. In contrast to sanitary napkins, this study looks at how women's attitudes towards menstruation products and practises change when they are exposed to sustainable alternatives. According to the study, preferences were greatly enhanced when exposed to non-pad settings. All situations saw an improvement in the knowledge of menstrual materials, but attitudes towards taboos and cultural standards related to menstruation and materials did not change. All situations saw an improvement in the knowledge of menstrual materials, but attitudes towards taboos and cultural standards related to menstruation and materials did not change. Overall, the findings

point to a significant obstacle to women's adoption of other sustainable options being the disposable pad culture. To support this behavioural shift, innovations, convenience, and awareness are needed to motivate women to manage their menstrual hygiene and to adopt a variety of sustainable options [9].

This study aims at assessing the adaptability and efficacy of menstrual cups among inexperienced users who have been using sanitary pads, cloth pads, rags as conventional menstrual sanitary protection. The study also explores the acceptability of menstrual cups among Indian women. Researchers provided menstrual cups to women with detailed explanation about its usage and examined them for three consecutive menstrual cycles. The results of the study were that the women widely accepted menstrual cups as it is cost-effective and sustainable in nature. Increase in product awareness and easy availability of the product will help in the usage of menstrual cups among women [15].

In developing countries menstruating women and girls are unable to access to adequate menstrual products to meet their needs. This leads to shortage of school attendance among school going girls, unhygienic menstrual health practices, and leads to sexually transmitted infections. The main objective of the study was to investigate whether menstrual cups, cash or the combination of the two can succeed in enhancing school attendance and reducing the prevalence of STIs among school girls in Kenya. The findings of the study were, menstrual cups are a reliable option for girls as they considered it to be comfortable and easy to use. Through this trial, girls were educated and have been made aware that their old menstrual practices were unhygienic and that there is a more comfortable option to use [10].

This qualitative study examines the menstrual hygiene management among the female students in the north-west province of South Africa and also aims at analysing the perception and acceptability of menstrual cups among the female students. This study focused on improving the menstrual health of the girls by educating about using sustainable options like menstrual cups while menstruating. Sustainable menstrual products not only improve the menstrual hygiene but also protects the environment from menstrual wastage. The final results of the study were, attendance of school girl improved after they started using menstrual cups as it reduced leakage, the cup did not reduce the stigma but it reduced the encountering of it [14].

This study aims to assess the acceptability of menstrual cups compared to other menstrual products like sanitary napkins and tampons. In low- income settings, many women lack the basic knowledge regarding menstrual health hygiene and management. In this study, the researchers aim to educate them about the menstrual health and hygiene and the different menstrual products available in the market. The researchers conducted a randomized trial by providing menstrual cups to women who menstruate. The final results of the study were, menstrual cups were widely accepted by the women for their comfort, quality, menstrual blood collection, appearance and preference. The conclusion of the study was, there is a pool of potential users even in low-income settings if we educate them about the fast-changing trends in the globe. They lack the basic knowledge and education which restrict them to use new products and adapt to different technologies [4].

This study was designed to determine, product awareness among women. The study aims to explore the acceptability of menstrual cups as an alternative to other menstrual

products and if women would prefer menstrual cups over other products. Taking Moon cup as their product, researchers conducted a randomized survey in a hospital. The final results of the study were, most of the women knew what a menstrual cup is and they were aware of a product called Moon cup. Few women were ready to switch to this sustainable menstrual product and refer it to their peers as well. But women with menorrhagia were dissatisfied with the cup as it was difficult for them to use. The conclusion of this pilot study was, a menstrual cup can be an alternative to conventional sanitary protection that women use. They prove to be a sustainable alternative that will protect our environment. Additionally, it can be used to assess menstrual blood loss among women [28].

3 Statement of the Problem:

Most women in India trust sanitary napkins over menstrual cups or other convenient menstrual products. Even in 2022, many women in India are still attempting to deal with the idea of accepting a budget and eco-friendly product like menstrual cup. The current study is a live example of the present scenario regarding menstruation in India. Menstrual cups are a sustainable option for women in contrast to other menstrual products like sanitary napkins, tampons and cloth pads. The trend of using menstrual cup is largely seen among college going girls and work professionals. It is necessary to know if the millennial women in Bengaluru are ready to switch to sustainable menstrual product and what are their thoughts and perceptions regarding the eco-friendly product because in general the perception towards menstrual cups are negative and is considered as a taboo.

3.1 Need and importance of the Study:

This study analyses and assesses the attitude, perceptions, beliefs and opinions about menstruation and eco-friendly menstrual cups among the millennial women in Bengaluru district. It also assesses their knowledge and awareness levels with regards to menstruation, sustainable eco-friendly sanitary products, and menstrual health management. This research has been an attempt to be able to create awareness among the millennial women living in Bengaluru district, regarding menstrual cups and other sustainable menstrual hygiene products available in the market. This study focuses on analyzing the relation between the perception towards menstrual cups and demographic and socio-economic status of the millennial women.

4 Research Methodology

4.1 Objectives of the Study

- To understand the myths, taboos and various other beliefs surrounding menstruation among the millennial women respondents in Bengaluru.
- To analyse the perception towards menstrual cups by millennial women respondents in Bengaluru.
- To study the openness of millennial women respondents to switch to another sustainable alternative like menstrual cup.
- To analyse the acceptance level of menstrual cups when compared to other sustainable menstrual products.

4.2 Type of data

Primary data: The primary data has been collected from millennial women respondents who are living in Bengaluru urban areas. The data has been collected through structured questionnaire which was circulated to the respondents online. **Secondary data:** The secondary data has been collected from online websites, articles and journals prepared by research scholars. **Data collection instruments:** Data collection instruments under this area of study include structured questionnaire and information from online websites, journals and articles prepared by the research scholars.

4.3 Population and Sampling Design

Population: The population comprised of 4518890 women in Bengaluru urban city.

Sample description: This research is based on the demographic and socio-economic factors of the millennial women respondents and their perception towards menstruation and menstrual cups. How the demographic and socio-economic factors such as occupation, area, qualification, age, income level, menstruation knowledge etc., play an important role with regards to the concept of menstruation and menstrual cups have been described.

Sample size and Sampling technique: the sample size in the study has been restricted to 50 millennial women respondents within the city of Bengaluru. It may be noted that millennials are people born between the years 1981 and 1996. The sampling technique followed in the study is convenience sampling.

4.4 Data processing and plan of analysis

The data has been tabulated, analysed and interpreted with the help of graphs and tables through software like MS Excel and IBM SPSS. Further statistical tools such as Chi-Square, Regression analysis and Percentage analysis have been used.

4.5 Limitations of the Study

The study was conducted with Bengaluru urban only and was conducted for a period of three months only. Also, this study was restricted to cis-gender women only. Further researches can explore about Trans men, Non-binary and people of all genders who have uterus and can menstruate.

5 Data Analysis and Interpretation

5.1 Demographic Analysis

It is confirmed that out of 50 respondents surveyed during the research, 100% of them hailed from Bengaluru Urban limits only. Among the respondents 78% of them were aged between 25-30, 12% of them between 35-40 and 10% of the respondents were aged between 30-35. Education wise, 32% respondents had completed their under-graduation, 42% post-graduation and 26% had completed other professional courses. It must be noted that 79% women were entrepreneurs running small businesses, 9% were employed and 12% were homemakers. In terms of their income levels; 43% of the respondents earned below Rs. 10000, 39% of the respondents earned between Rs. 10000-30000, 15% of the respondents earned between Rs. 30000-50000 and only 3% of the respondents earned above Rs. 50,000.

5.2 Descriptive Analysis with regard to thoughts about menstruation and sustainable menstrual products

From the data collected it was understood that 96% of the respondents were aware about eco – friendly menstrual cups and only 4% were caught unaware about it. It is observed that 44% of the respondents' thought menstruation is viewed negatively in the society whereas, 38% respondents thought it had mixed views and only 18% of them thought menstruation is viewed positively in the society. When it came to respondents' personal attitude towards menstruation, it was observed that 54% of them have a positive attitude towards menstruation, 38% of them felt both positive and negative attitude towards menstruation and only 8% of the women respondents have a totally negative attitude towards menstruation. It is interpreted that 64% of the respondents think that menstrual shame does exist in our society, 24% of the respondents were unsure and 12% of the respondents believe that menstrual shame does not exist in our society. When checked on the drivers of menstrual shame; 7% of the respondents believed religious views were the reason for menstrual shame, 8% of them believed lack of menstrual education was the reason whereas 54% of the respondents that taboos associated with menstruation are so strongly engraved in the society and that is the major driver of menstrual shame despite being in the 21st century.

When it came to menstrual products used by women respondents; a whopping 86% of the respondents use sanitary pads, 6% of the respondents use menstrual cups and 4% of the respondents use tampons. On analyzing the percentage of women respondents

that would make the switch to eco-friendly menstrual cups, 48% of them were unsure about making the switch, while 26% of the respondents were ready to switch and 26% of the respondents were not ready to switch to menstrual cups. Of the 26% millennial women respondents who were sure about using menstrual cups, were ready to do so based on the influence of the information available on the internet mainly, apart from that the other major influencers were colleagues, friends and family members. Again, of the 74% who are either unsure of making the switch or are clearly not ready about it, their thought process is driven by reasons such as limited knowledge with regard to menstrual cups, fear of discomfort and satisfied with usage of sanitary pads alone. 66% of the respondents knew that menstrual cups can last for a decade whereas, 34% of them did not know that menstrual cups are sustainable and can last for years.

More than 50% of the millennial urban Bengaluru respondents were unsure, if they would recommend menstrual cups to other women. They believe its one’s personal choice and should not be imposed on anyone. The analysis, further confirmed that 48% of the respondents would allow their daughters to use menstrual cups in the future. However, 52% women said that they will suggest their daughters to continue using sanitary napkins and no other menstrual hygiene products as they were unsure of its usage and comfort. Also, carrying a sanitary napkin around is far easier when compared to a menstrual cup.

5.3 Hypotheses Testing

Association between the perception towards menstrual cups by millennial women and the area of Bengaluru Urban city that they hail from.

H₀- there is no association between the perception towards menstrual cups by millennial women respondents and the area they hail from.

H₁: there is an association between the perception towards menstrual cups by millennial women respondents and the area they hail from.

Table 1. Association between the perception towards menstrual cups by millennial women and the area of Bengaluru Urban city that they hail from.

	Value	D f	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)	
				Sig.	95% Confidence Interval
					Lower Bound
Pearson Chi-Square	.670 ^a	2	.715	1.000 ^b	1.000

Likelihood Ratio	1.161	2	.560	.749 ^b	.741
Fisher's Exact Test	.453			1.000 ^b	1.000
Linear-by-Linear Association	.475 ^c	1	.491	.701 ^b	.692
N of Valid Cases	50				

Source: Primary data

In Table.1, based on the results of the Chi-Square Test, the significance value is 0.715 which is greater than 0.050 (p-value). As such, accepting the null hypothesis and rejecting the alternative hypothesis.

Interpretation: it is inferred that there is no association between the perception towards menstrual cups by millennial women and the area they hail from.

Association between the willingness to switch to menstrual cups and the respondent's age

H₀: there is no association between the willingness to switch to menstrual cups and the respondent's age.

H₁: there is an association between the willingness to switch to menstrual cups and the respondent's age.

Table 2. Association between the willingness to switch to menstrual cups and the respondent's age

	Value	Df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)	
				Sig.	95% Confidence Interval
					Lower Bound
Pearson Chi-Square	3.657 ^a	4	.454	.508 ^b	.498
Likelihood Ratio	3.312	4	.507	.712 ^b	.703
Fisher's Exact Test	3.417			.532 ^b	.522
Linear-by-Linear Association	.000 ^c	1	1.000	1.000 ^b	1.000
N of Valid Cases	50				

Source: Primary data

Table .2. As per the Chi-Square test conducted, the significance value is 0.454 which is greater than the p-value 0.05. Therefore, one accepts the null hypothesis and rejects the alternative hypothesis.

Interpretation: it is inferred that there is no association between the willingness to switch to menstrual cups and the respondent's age.

6 Suggestions and Conclusion:

- It is important for the environment, health and women welfare ministries of central and state governments of India to put pressure on sanitary hygiene product manufacturers to produce sustainable sanitary hygiene products for women.
- The focus of the government should be mostly on educating and spreading awareness on eco-friendly menstrual products among the school girls who are our future generation.
- Except government, it is each individual's responsibility too to change and educate the perception regarding menstruation among family, friends and peer groups.
- Brands producing menstrual cups, should come up with better marketing strategies to create awareness about the product.
- Schools should educate both girls and boys from a young age about menstruation and not discriminate them.
- People should learn to treat menstruation as a normal biological process and eradicate the myths about menstruation.
- Studies based on menstrual cups are very limited in India. Future research scholars should take up studies on menstrual cups which will benefit the society immensely.

Menstrual cup is a dominating menstrual hygiene product in the western world but women in India are yet to come in terms with it. After the emergence of sanitary pads, it helped women in maintaining menstrual hygiene but it is not affordable for the lower-middle-class and the poor. Even after the removal of GST on sanitary pads, it is still not the feasible option for women as is the case with menstrual cups. Sanitary pads have a huge impact on women's physical and emotional health. Disposable menstrual hygiene products like sanitary pads and tampons takes years to decompose and therefore it becomes important for women to consider this fact and switch to recyclable menstrual hygiene products, reusable cloth pads etc. The study explains that perception towards menstrual cups among millennial women was neither negative nor positive because women lack knowledge regarding the product and fear to use it. The study reveals that women did not know that menstrual cups can last longer and are cost effective. Even in the current times, menstruation shame exists in our society and this has an impact on women and influences their decisions regarding menstrual cups. The study reveals, disposable menstrual hygiene products like sanitary pads are widely used by women and they are hesitant to switch to sustainable menstrual hygiene product like menstrual cups.

One can conclude that this study suggests and encourages women to switch to sustainable menstrual products to save our environment and improve women's menstrual

health hygiene. Disposable menstrual hygiene products are not a safe option as they have a huge impact on women's health. Doctors and government should encourage women to switch to sustainable lifestyle. Due to societal norms, menstrual shame still exist, women are hesitant to discuss about menstruation with the other gender and menstrual shame influences their purchase decision. It is each individual's responsibility to take measures to eradicate menstrual shame and create a safe space for all those who menstruate and normalize talking about their struggles while menstruating because, India's patriarchal society always oppress women and think that they exaggerate about menstruation and the struggles which they go through while menstruating. Menstruation is no more a women's problem; it is every woman's pride.

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