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Knowledge and attitude of women towards the usage of menstrual cup

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Abstract

Aim: Menstrual cups are silicone made intravaginal devices used for collecting the menstrual flow. Despite being safe, effective and biodegradable, these cups are not used widely due to lack of awareness and high popularity of sanitary pads. Menstrual cups are less polluting and each cup can be easily used for 10 years or longer, hence proving to be an economical alternative as well. The objective of this study was to assess the knowledge and attitude of women towards the usage of menstrual cups.

Methods: a questionnaire in the form of google form was answered by 433 women, of the total 700 women.

Results: Among 433 women who answered the questionnaire, 380 (87.7%) were aware of the menstrual cup and 53 (12.2%) women were not. Very few women knew about the material used for the manufacture of menstrual cup, its emptying time and method of sterilization. Of the 433 study participants, only 43 (9.93%) had used a menstrual cup and a large number of 389 (89.83%) had never used one.

Conclusion: A large proportion of women were unaware of menstrual cups. To increase the awareness and usage of menstrual cups, information about the cups should be provided in puberty education materials. The need for these eco-friendly alternatives should be stressed upon. Further researches must be conducted on menstrual cups and its usage should be encouraged by healthcare professionals as well.

Clinical Significance: The use of menstrual cups must be promoted by educational institutions and healthcare professionals as they are safe, economical, effective and eco-friendly.

Keywords: Attitude, Awareness, Biodegradable, Cost-effective, Menstrual cup, menstrual hygiene

Introduction

Menstruation is a natural and important part of a woman's life. But there is a dire need for menstrual hygiene and waste management. Women require

effective, safe, cost friendly and eco-friendly products to lead a healthy life. Absence of effective menstrual products can lead to various problems like leakage, chafing and increased susceptibility to urogenital infections. Globally, an estimated 1·9 billion women—around 26% of the population—were of menstruating age in 2017. On an average a woman undergoes menstruation for 65 days in a year.[1(1)]

According to state of india's environment 2019 survey conducted by the Menstrual Hygiene Alliance of India(MHAI), there are 336 million menstruating women in India. Around 36% of these women use sanitary napkins which corresponds to 121 million women.[4(2)] The different alternatives used by women when dealing with menstrual blood vary in the rural and urban population. The rural women predominantly use reusable and washable cloth pads. They may be affordable and eco- friendly, but are not healthy for women. The products used in the urban areas are mainly non-biodegradable cellulose based sanitary napkins and the less common tampons. There are other rare alternatives used by women which are more environment friendly including bamboo fibre pads, banana fibre pads and water hyacinth pads.3 According to an online portal 'DownToEarth', on an average, 12.3 billion disposable sanitary napkins are used.

Proper disposable of sanitary waste is still a major concern in many countries. Most women in urban areas dispose sanitary napkins and other products into dustbins and flushing down the toilet. Rural women use reusable cloth pads leading to lower waste production. But eventually the sanitary waste becomes a component of solid waste which is buried, burnt or dumped into pit latrines. An insignificant population of women uses incinerators which are the best method of disposal, as of now. [3]

Sanitary waste disposal is a matter of supreme importance because the plastic used in sanitary napkins and polymers in tampons are non-biodegradable and take millions of years to decompose. These products when flushed swell up leading to clogging of sewer pipes and sewage backflow that causes various diseases. Sanitary products with blood lying on land act as breeding sites for microbes and cause health hazards. Incineration, though considered as the best method, can release toxic fumes.[3]

Menstrual cup is a lesser known alternative for menstruation. It is inserted into the vagina and works by collecting the menstrual blood instead of absorption. It is made up of flexible silicone, rubber, latex or elastomer. A menstrual cup can hold 10-38 ml of blood and has to be emptied based on the amount of menstrual flow, but usually every 6-12 hours. A single menstrual cup can be used for almost 10 years, hence reducing the menstrual waste generation and pollution due to it, significantly. Menstrual cup is a cost effective, eco-friendly and safe option.

The increasing use of sanitary napkins and tampons, not only pose health risks but also are a huge part of solid waste littering the land. The menstrual cup acts as advancement in the management of menstrual hygiene as it has very less chances of irritation and infections. It can easily be used for a long time and hence reduces the amount of menstrual waste generated to a great extent. The menstrual cup has a long history, but unfortunately not many women are using it. The reason may be lack of knowledge among them, as it has not been promoted in many countries including India. Another reason may be non-acceptance of the cup because of its method of inserting, which is uncommon or because certain societies are very conservative and touching the private parts is considered a taboo.

Hence, this study aims at assessing the knowledge and acceptability of women towards the menstrual cup as an alternative for management of menstrual flow.

Material and methods

A questionnaire was used to assess the knowledge of menstrual cup among women. The questionnaire was sent to 700 women in the form of a google form, out of which 433 women opted to answer the questionnaire. The questions were divided into three sections:

Section1: Knowledge about the cup

1. Are you aware of the menstrual cups?
2. Do you think it's safe?
3. What is the menstrual cup made of?
4. How frequently should the cup be emptied?
5. How is the menstrual cup sterilized?
6. Can it be used in postpartum period?
7. Can it be used while swimming and bathing?
8. Can it be used as a method of contraception?
9. Do you use a menstrual cup?

On the basis of the use or nonuse of menstrual cup, two sections of questions were made for the respective groups, to assess their attitude towards it.

Section 2: For women who have used a menstrual cup

1. Were you comfortable using the cup?
2. Did you experience any pain while inserting the cup?
3. Did you experience any difficulty in passing urine?
4. Was there any leakage of menstrual blood?
5. Any other problems.

Section 3: For women who have not used a menstrual cup

1. Why haven't you used a menstrual cup?

a. Feel comfortable using sanitary pads
b. Not comfortable with insertion
c. Feel embarrassed about inserting it
d. Might get an infection
e. Scared that it might move further up
f. Did not know about it

2. Any other reasons for not using.

Statistical analysis: The data obtained using google forms were converted into a Microsoft excel sheet and percentages were calculated for the respective responses.

Results

Out of 700 people, to whom the forms were sent, 433 (61.8%) of them answered the questionnaire. Of the 433 people, 380 (87.7%) women were aware of the menstrual cup. The demographic data of the study population is given in table 1.[1]

Table 1 : Demographic data of the study population

Age	18-23 years	191	44.1%
	24-29 years	58	13.4%
	30-35 years	82	18.9%
	36-41 years	36	8.3%
	42-48 years	66	15.2%
Educational status	10th std and less	3	0.6%
	Pre-university	36	8.3%
	Graduate	211	48.7%
	Post graduate	169	39%
	Others	14	3.24%
Marital status	Married	206	47.6%
	Not married	227	52.4%
Location	Urban	406	93.8%
	Rural	27	6.3%

The women were asked about the history and number of previous vaginal deliveries. This is important because vaginal deliveries make the vagina slack and this plays a major role in deciding the size of the menstrual cup to be used. If the cup is not of the proper size, the chances of leakage increase. Majority of the women had not had a vaginal delivery in the past 353 (81.52%) and 31 of these women had used a menstrual cup. Of the 80 women who had a history of previous vaginal deliveries, 12 had used a menstrual cup, but had no complaints.[2]

Table 2: statistics of vaginal deliveries in women

History of previous vaginal delivery	Yes No	80 353	18.4% 81.52%
Number of previous vaginal deliveries	None 1 2 3 and above	353 47 29 4	81.52%% 10.9% 6.7% 0.9%

Of 700 women to whom the forms were sent, 433 (61.7%) women answered the questionnaire and 267 women didn't. Of the 433 women, 87.8% were aware of the menstrual cup. Only 209 (48.2%) women knew that the menstrual cup can be used in virgins. 174 (40.1%) women answered that the cup is made up of silicone and 146 (33.7%) women did not know the material used for manufacturing the menstrual cup. 168 (38.7%) women thought that the cup has to be emptied every 3-6 hours, whereas it can be conveniently emptied every 6-12 hours. Majority of the women did not know about the usage of the cup in post-partum period (less than 6 weeks) but 62 women (14.3%) were wrong and said that it can be used. The menstrual cup cannot be used as a method of contraception, which was known to 213 (49.1%) women.

Of the 433 study participants, only 43 (9.93%) had used a menstrual cup and a large number of 389 (89.83%) had never used one.

Discussion

Among 433 women who answered the questionnaire, 380 (87.7%) were aware of the menstrual cup and 53 (12.2%) women were not. When they were asked if it was safe for use, most of them 211(48.7%) answered that they did not know about its safety.

In a study done by Juma J et al, wherein safety of menstrual cups was evaluated in rural primary school girls in Western Kenya, it was found that menstrual cups to be non-hazardous and with no health harms.

A study done by Eijk A M et al[5], provides physical evidence that schoolgirls are able and willing to embrace use of an insertable menstrual solution to manage their monthly periods.

After each period, the cup requires cleaning.

Tierno P [9] explained the probable reasons for TSS and tampons:

1. Accumulation of blood in the chips of carboxymethylcellulose and polyester foam cubes.
2. Increase of vaginal pH during menstruation from 4.2 to 7.4.
3. Existence of both carbon dioxide and oxygen in the vagina during menstruation.

Vostral SL[8] concluded that the gelled carboxy methylcellulose , acted like agar in a petri dish , providing a medium on which the bacteria may grow .Menstrual cups are made up of silicone, which does not support microbiological growth. However, menstrual cups appear to provide a medium for bacterial growth, because of accumulation of blood.

The results on the possibility of development of TSST-1 in the presence of menstrual cup have shown contradicting results but clinical data in humans have shown no reason for concern [8,9,10](3)

Menstrual cups are a reusable alternative to conventional sanitary pads and tampons. These flexible cups provide a sustainable solution to menstrual management, with modest cost savings and no significant health risk.

Karnaky[12] evaluated 50 women using a bellshaped cup in 1962. A Canadian study in 1995 found menstrual cup was acceptable to 45% of 52 women after 2 to 12

cycles of use. A recent report in Nepal shows acceptability in 60% of adolescent school girls using cups by 6 months and continuing use for the length of the study.[14] A study from Zimbabwe reported that all 49 women surveyed would definitely try a menstrual cup, and 86% reported that it would make a difference in their lives by using it.[15]

Conclusion

Menstrual cups seem to be an effective and safe alternative to other menstrual products. Information on menstrual cups should be provided in puberty education materials. Policy makers and programmes can consider this product as an option in menstrual health programmes. Further research globally can provide more information on acceptability and is needed to monitor adverse events and assess best practice to shorten the familiarisation phase required for safe and effective use, and on cost-effectiveness and environmental effects.

Clinical Significance:

The use of menstrual cups must be promoted by educational institutions and healthcare professionals as they are safe, economical, effective and eco-friendly.

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