

Study on Knowledge and Attitude about Menstrual Cup and its usage among Medical Students: A Cross Sectional Study

Usha Rani S¹, Sidheek², Ashoka C³, Swetha R⁴

¹Associate Professor, ²Post Graduate, Department of Community Medicine, Sri Siddhartha Medical College, Tumkur, ³Associate Professor, Department of Pediatrics, Sri Siddhartha Medical College, Tumkur, ⁴Professor and Head, Department of Community Medicine, Sri Siddaganga Institute of Medical Sciences, Tumkur.

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Abstract

Introduction: Millions of women globally experience menstruation every month. It is a normal biological process. Inadequate menstrual management has long been a major health issue in low- and middle-income nations, but it has only recently become a major public health concern. Females may manage menstruation with non-absorbent, unhygienic, and uncomfortable materials due to a lack of awareness, an unfavorable sociocultural environment, logistical and financial barriers, and a lack of a proper support system. Hence this study was undertaken to assess the knowledge and attitude among medical students.

Methodology: This study was conducted among 200 undergraduate female medical students, who were willing to participate in the study. Informed consent was taken and the oral questionnaire which consisted of socio-demographic data and questions regarding knowledge, attitude and practice was distributed. Descriptive analysis was done by calculating the percentage.

Results: 91% of the students were aware of the menstrual cup. A total of 168(84%) students said menstrual cup to be a safe device. A total of 171 (85.5%) students knew that the menstrual cup could be used among virgins. whereas 29 (14.5%) students were of the opinion that it cannot be used by virgins. 84(42%) of students had no idea about its associated with TSS (Toxic shock syndrome). 73(36.5%) of students knew that it is not associated with TSS. 143(71.5%) said it can't be used during postpartum and 112(56%) knew that it is used during bathing and swimming. 134(67%) students knew that it can't be used as contraceptives and 88(44%) told it won't cause rupture of hymen. Finally in this study we came to know that none of them are using menstrual cup because majority of them said that they had fear of using 92(46%) and 51(25.5%) of them said they don't have adequate knowledge.

Conclusion: In this study all the students used sanitary pads, owing to its popularity and promotion. There was lack of awareness about the cup and there exists a huge gap between the knowledge and willingness of the students to accept the menstrual cup. So, we conclude that menstrual cup needs promotion in India because it is cost effective, eco-friendly and reusable. So, we boost the adoption rate of menstrual cups, youth should be targeted, who are more open to the idea of environment-friendly products.

Key words: Menstruation, Menstrual cups, sanitary pads

Corresponding Author: Usha Rani S, Associate professor, Community Medicine, Sri Siddhartha Medical College, Tumkur.

E-mail: drushaashok@gmail.com

Mobile: 9035381466

Introduction

Millions of women globally experience menstruation every month. It is a normal biological process. The start of menstruation indicates the start of the reproductive years in female life. It often marks the transition of a child to the full-grown adult woman in society. Though it is the most common biological process, in lower and middle-income countries, because of social issues and lack of guidance maximum of the girl's experience fear, confusion, shame, and discomfort while they try to be accustomed to their monthly period.¹

Inadequate menstrual management has long been a major health issue in low- and middle-income nations, but it has only recently become a major public health concern². Females may manage menstruation with non-absorbent, unhygienic, and uncomfortable materials due to a lack of awareness, an unfavourable sociocultural environment, logistical and financial barriers, and a lack of a proper support system.³ These are linked to an increased risk of reproductive tract infections. Another issue is a lack of wash facilities, which leads to disempowerment, limited possibilities, and bad health.⁴

One of the most important aspects of proper menstruation management is having access to a safe, comfortable, and long-lasting period hygiene product. Sanitary pads and garments are the most commonly used solutions among women⁵. They have a number of drawbacks, including allergy, itching, pain, fear of leakage, storage, disposal, and environmental concerns, as well as the financial burden of monthly purchases.⁶

The menstrual cup has been explored as a means of menstrual hygiene management in developing countries like India. It is manufactured using health-grade non-toxic non-allergic medical-grade silicone. Menstrual cups are more economical than disposable ones and can be sterilized easily at home. It has very few side effects compared to sanitary pads and help to overcome financial burden of monthly purchase as menstrual cups are reusable for 5-10 years.⁷

Menstrual cups have been available for a long time, but their use is still uncommon. It is being embraced by more and more women as a sensible and secure option. Many studies have shown that most

users become comfortable using the cup within 2 to 3 consecutive cycles, and since it is not an absorbent like tampons, the risk of infection such as TSS and other serious health issues is rare or non-existent.⁴

Methodology

This study is a cross sectional study and was conducted among 200 undergraduate female medical students belonging to 2nd, 3rd, and final MBBS, who were willing to participate in the study. Informed consent was taken and the oral questionnaire which consisted of socio demographic data and questions regarding knowledge, attitude and practice was distributed.

Pretested and pre validated oral questionnaire was used to collect data. The questionnaire included socio demographic details and details regarding usage of menstrual cups and awareness about the same. Barriers for the non-usage of it was also included. After the data was obtained, they were entered in M S excel and descriptive analysis was done by calculating the percentage.

Results

In this study total 200 participants were included. Among them, 91% of the students were aware of the menstrual cup. A total of 168(84%) students said menstrual cup to be a safe device. A total of 171 (85.5%) students knew that the menstrual cup could be used among virgins. whereas 29 (14.5%) students were of the opinion that it cannot be used by virgins.

When asked about mechanism of action of menstrual cup majority of them, 170 (85%) knew that it acts by collecting menstrual blood. we wanted to know if students knew anything about the material used in cup manufacturing. We were surprised to know that 56(28%) of them had no idea about the material used in cup manufactured. About 105(52.5%) said cup were made of silicone, TPE, natural gum rubber and latex. About 39(19.5%) said that it is made of all the above material and 123 (61.5%) of them knew that the cup should be emptied within 6 -12 hours. Sterilization of the cup is the most important aspect in its usage because if not done properly could lead to the development of infection.30(15%) Of them told it could be done by washing under running water. 102(51%) said boiling is required. 4(2%) of them

voted for sterilization with microwave. Surprisingly 42(21%) of them had no idea about method of sterilization.

84(42%) of students had no idea about its associated with TSS (Toxic shock syndrome). 73(36.5%) of students knew that it is not associated with TSS.143(71.5%) said it can't be used during postpartum and 112(56%) knew that it is used during bathing and swimming.134(67%) students knew that

it can't be used as contraceptives and 88(44%) told it won't cause rupture of hymen. We asked about associated with infection, 81(40.5%) said it do not cause any infection. Finally in this study we know that none of them are using menstrual cup because majority of them said that they had fear of using 92(46%) and 51(25.5%) of them said they don't have adequate knowledge.

Table 1: Knowledge of students about menstrual cup and its usage

QUESTIONS	YES	NO	NO IDEA
Is menstrual cup a safe device	168(84%)	32(16%)	–
Can it be used by virgins?	171(85%)	29(14.5%)	–
Menstrual cup & association with TSS	43(21.5%)	73(36.5%)	84(42%)
Usage during postpartum period	57(28.5%)	143(71.5%)	–
Usage during swimming and bathing	112(56%)	47(23.5%)	41(20.5%)
Usage of cup as a contraceptive	17(8.5%)	134(67%)	49(24.5%)
Usage of cup leading to rupture of hymen	42(21%)	88(44%)	70(35%)
Usage of cup leading to vaginal infection	75(37.5%)	81(40.5%)	44(22%)
Will you use menstrual cup in future	27(13.5%)	173(86.5%)	–

Table 2: Knowledge of students about mechanism of action of cup

Mechanism of action of menstrual cup	Collection	Absorption
N=200	170(85%)	30(15%)

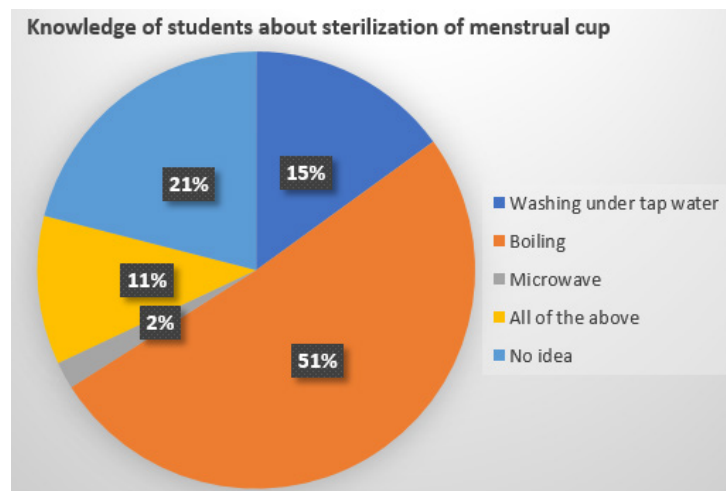


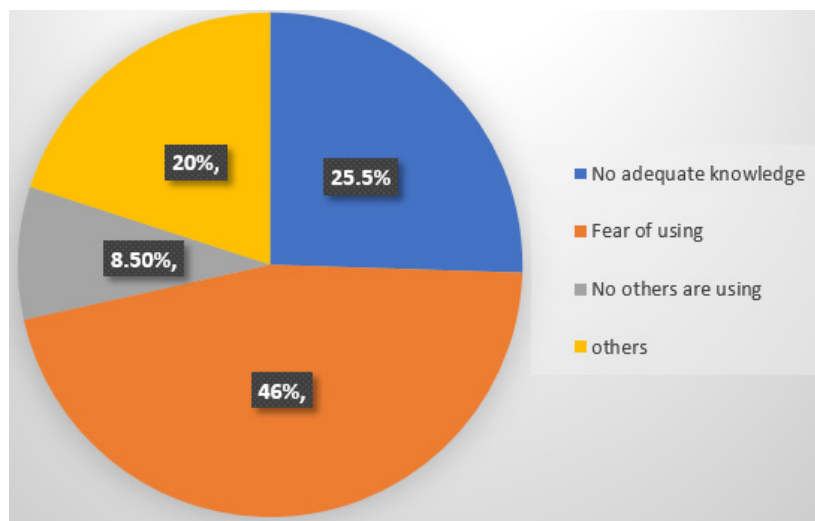
Fig 1 Knowledge of students about sterilization of menstrual cup

Table 3: knowledge of students about the material used in manufacturing of the cup

Material used in manufacturing cup	Silicone and TPE	Natural gum rubber	Latex	All of the above	No idea
N= 200	70(35%)	4(2%)	31(15.5%)	39(19.5%)	56(28%)

Table 4: Knowledge of students about emptying of cup

Emptying time of cup	1-2 hrs	6-12 hrs	12-24hrs	no idea
N=200	10(5%)	123(61.5%)	26(13%)	41(20.5%)

**Figure 2: Reason for not using menstrual cup**

Discussion

In the present study out of 200 students 91% of students are aware of menstrual cup and 86.5% students know about menstrual cup. 168(84%) said that menstrual cup to be a safe device. A total 171 (85.5%) students were for usage of menstrual cup among virgins. Whereas 29(14.5%) students were of the opinion that it cannot be used by virgins (Table 1). In a study done by Manorama Eti, Shreya M.S wherein safety of menstrual cup was evaluated among medical student's girls, also found that cups are safe with no health issues and it can be used in virgins.⁸

Coming to menstrual cup and toxic shock syndrome (TSS), 84(42%) of students had no idea about its association. 73(36.5%) of students knew that it is not associated with TSS (Table 1). In an article published in the year 2019 by Anna Maria van Eijk et al, says that five case confirmed TSS was found in association with usage of cup. A total 143(71%) student said it can't use during postpartum period. its usage is usually not recommended until 6week postpartum because it can introduce infection as the tissue as not fully healed especially in case of normal delivery.⁹

Among the study participants, 70(35%) of the participants knew that menstrual cup is made up of

silicon and TPE, 2% said natural gum rubber, 15.5% said latex, 19.5% said it is made of all the material mentioned above and 56(28%) had no idea about the material used in cup manufactured (Table 3). In a previous study Meghana S and Gomathy E says that 36.7% of the participants knew that the menstrual cup is made up of silicone and 21.7% said it is made up of all the material mentioned above. We understand that 368(99%) students know the mechanism of action menstrual cup and it act by collecting the blood flow while 30(15%) had said that its mechanism is absorption.¹

Sterilization of cup is the most important aspect in its usage because if not done properly could lead to development of infection. 15% of them told it could be done by washing under running water, 51% told it could be for boiling and 21% had no idea about the method of sterilization (Fig 2). Besides that, only 123 (61.5%) of them know that the emptying time of the menstrual cup is 6 - 12 hrs. Rest 77(38.5%) had no idea regarding this aspect (Table 4).

In the present study 56% says that it can be used during swimming and bathing. when asked about usage of cup leading to rupture of hymen 44% students told it won't cause rupture of hymen and 21% had misconception that it led to rupture of hymen. In another study conducted by Eti, Shreya M.S says that

Regarding usage of cup during swimming, majority of them 304 (81.7%) knew it could be used, and had an advantage over sanitary pads. 20 (5.3%) students were having a wrong notion about cup usage as a contraceptive device. They thought it could be used as a contraceptive device.⁸

we asked about why they are not using menstrual cup, majority 46% of them said they had fear of using and 25.5% of them says that they don't have adequate knowledge (Table 5). Finally, among 200 students who completed the questionnaire, none of them used menstrual cup.

It demonstrates that students are unaware of the advantages of using a menstrual cup versus sanitary pads. Menstrual cups are not widely used in India, and this is due to a variety of factors. As a result, students lack a thorough understanding of the material used in cup manufacturing, its sterilising procedure, its association with TSS, and its use during the postpartum period.⁸

Women in developing countries, such as India, want effective, safe, and economical menstrual products that are also eco-friendly. Menstrual cups are one such option! Adoption of the cup required familiarisation over several menstrual cycles, and peer support boosted acceptance in underdeveloped nations. Menstrual cups are safe and widely used around the world. They must be pushed in India since they have the potential to be an environmentally friendly and cost-effective solution to menstruation management.⁸

Conclusion

In this study all the students used sanitary pads, owing to its popularity and promotion. There was lack of awareness about the cup and there exists a huge gap between the knowledge and willingness of the students to accept the menstrual cup. So, we conclude that menstrual cup needs promotion in India because it is cost effective, eco- friendly and reusable. So, we boost the adoption rate of menstrual cups, youth should be targeted, who are more open to the idea of environment-friendly products.

Moreover, this study targets the importance of the awareness campaign about the use of the menstrual cup as they can help to build good menstrual hygiene among reproductive women.

Conflict of interest: none. **Source of funding:** none. **Ethical clearance:** was taken. Siddhartha medical college Tumkur Institutional Committee. Approval date: 12/12/2022 and number: SSMC/ Med/ IEC 102/ Dec 2022. Written informed consent was taken from all medical Students who were willing to participate in the study.

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