



A Study to assess the knowledge and attitude on Usage of Menstrual cup among adolescent girls at selected Rural areas, Bangalore

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ARTICLE INFO

Article history:

Received 07 February 2026

Received in revised form

12 May 2026

Accepted 10 June 2026

Keywords: Menstrual cup,
Adolescent girls,
Knowledge, Attitude, Rural
area

ABSTRACT

Background: Menstruation is a normal physiological process, yet it remains shrouded in silence and stigma across many communities. Menstrual cups are a modern, reusable, and eco-friendly alternative to traditional menstrual products. Menstrual cup awareness among adolescents is increasing but still remains low, with many having misconceptions about difficulty and safety of using it. **Objectives :** To assess the level of awareness regarding usage of menstrual cup among adolescent girls, to evaluate the acceptability of usage of menstrual cup among adolescent girls, to find out the association between the level of awareness and acceptability with selected demographic variable among adolescent girls.

Methodology: A descriptive research design was adopted, and 50 adolescent girls were selected using a convenient sampling technique. A self-structured questionnaire was used to assess knowledge and attitude regarding menstrual cup usage. The significance of association was tested using the Chi-square test. **Results:** The study reveals that 56% of adolescent girls had poor knowledge about menstrual cup usage, 42% had average knowledge, and only 2% had good knowledge. Despite this, a Positive attitude toward menstrual cup usage was observed among 100% of participants. A significant association was observed between knowledge, attitude, and all selected demographic variables. **Conclusion; the awareness of menstrual cups among rural adolescent girls is low; their positive attitude indicates readiness to adopt this sustainable menstrual hygiene method. Targeted educational interventions are recommended to improve knowledge, dispel misconceptions, and encourage safe and eco-friendly menstrual practices.**

INTRODUCTION

Menstruation is a natural and essential biological process experienced by women occurring from puberty to menopause. Despite its universality, menstruation remains a topic shrouded in stigma, misinformation, and cultural taboos particularly in many developing countries, including India. Traditional sanitary pads, though extensively used, cause a lot of environmental pollution owing to their non-biodegradable material. The majority of disposable pads are made of plastic items and chemicals that take centuries to degrade, thus causing environmental destruction and waste disposal issues. In rural regions, where disposal facilities are often limited or unavailable, the problems associated with traditional menstrual waste disposal become even more severe. Improper disposal can lead to environmental pollution, health hazards, and social stigmas.¹ According to the article, a standard disposable sanitary pad is made up of four layers: a back sheet, absorbent core, transfer layer, and

permeable top layer, as well as release paper and adhesives. There are typically 48% fluff pulps, 36% polyethylene and polypropylene, 7% adhesives, 6% super-absorbent polymers (SAPs), and 3% release paper in a sanitary pad. Out of these, only the paper and fluff pulp components are biodegradable, and about half of the pad is not.²

According to Menstrual hygiene alliance India, assuming 36% of women or girls in India use sanitary pads regularly with average of 8 pads per month, 336 million menstruating women and girls will be using 1 billion sanitary napkins per month or 12.3 billion sanitary napkins. According to a recent study, a single woman who uses disposable sanitary pads made by a commercial company produces about 14.1 kg of non-biodegradable trash in her lifetime To tackle these issues, environmentally friendly menstrual hygiene devices such as menstrual cups offer a sustainable solution. Made from medical-grade rubber or silicone, these cups are

inserted into the vagina to collect menstrual blood. They are reusable, cost-effective, and eco-friendly, significantly reducing the amount of menstrual waste generated.³ Menstrual health is an essential component of adolescent development that has direct impacts on physical health, school enrollment, self-esteem, and social integration. Most rural adolescent girls still experience difficulties in managing menstruation because of poor menstrual knowledge and lack of access to sanitary products. With girls increasingly taking independent menstrual decisions, their decisions are shaped by peers, religious beliefs, and community culture.⁴ To determine current knowledge gaps and obstacles, it is crucial to evaluate teenage girls' attitudes and knowledge regarding the use of menstruation cups. Comprehending these variables will facilitate the development of suitable health education initiatives, encourage sustainable menstruation practices, and enable teenage girls to make knowledgeable decisions regarding their reproductive health.

In order to help community health nurses and educators create focused interventions for improved menstrual health management, this study is necessary to assess the degree of awareness and attitude regarding menstrual cup usage among teenage girls in particular rural areas of Bangalore.

NEED OF STUDY

Menstrual hygiene is an important aspect of adolescent health, yet it remains affected by stigma, misconceptions, and lack of awareness, especially in rural areas. Many adolescent girls continue to use traditional sanitary products without adequate knowledge of alternatives like menstrual cups.⁵ Menstrual cups are safe, cost-effective, and environmentally friendly compared to disposable pads. However, barriers such as lack of awareness, cultural taboos, fear, and misinformation limit their acceptance. The

present study shows that although most adolescent girls have a positive attitude toward menstrual cups, their knowledge about usage is poor, indicating a gap between awareness and acceptance. In rural areas, limited access to reliable information and dependence on peers or social media further contribute to misconceptions. Therefore, assessing knowledge and attitude toward menstrual cups is essential to identify gaps and develop effective educational interventions.

This study is significant for community health nurses, educators, and policymakers to design awareness programs that promote safe, hygienic, and sustainable menstrual practices, ultimately empowering adolescent girls to make informed health decisions.⁶

OBJECTIVES

1. To assess the level of knowledge regarding usage of menstrual cup among adolescent girls
2. To evaluate the attitude of usage of menstrual cup among adolescent girls
3. To find out the association between the level of knowledge and attitude with selected demographic variable among adolescent girls.

Hypothesis

H1: There will be a significant difference in the level of knowledge and attitude towards usage of menstrual cup among adolescent girls in the selected rural areas of Bangalore.

H2: There is a significant association between awareness of menstrual cup and selected socio-demographic variables of adolescent girls.

Assumptions:

Adolescent girls may have some knowledge on usage of menstrual cup

INSTRUMENT INTENDED TO BE USED:

A structured questionnaire was used as the tool for data collection. It consists of the following sections:

Section A: Demographic Variables (age, education, religion, type of family, family Income, source of menstrual information, have u attained menarche.).

Section B: Level of knowledge regarding menstrual cup (definition, benefits, insertion, cleaning, safety, etc.).

Section C: Level of attitude regarding usage of menstrual cup (willingness to use, comfort level, perceived barriers, and attitudes toward menstrual cup).

Section D: Association between the level of knowledge and attitude with selected demographic variable among adolescent girls.

Scoring Key

- **Awareness:** Each correct response scored '1' and wrong response scored '0'. Higher scores indicate better awareness.
- **Acceptability:** Responses were categorized as "Yes/No" to measure readiness and openness to use menstrual cup.
- The data was analyzed using descriptive and inferential statistics

Results and Interpretation

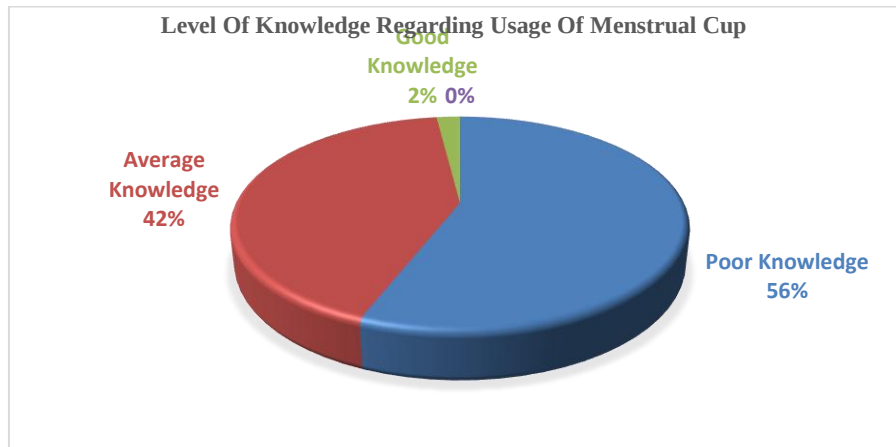
Section A: Demographic Variables of Adolescent girls from selected rural areas, Bangalore

Table 1: Frequency and percentage distribution of selected demographic variables of adolescent girls

SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
1	AGE IN YEARS		
	a) 12-14	11	22
	b)15-17	15	30
	c)18-20	24	48
2	CLASS		
	a)7-9	7	14
	b)10-12	33	66
	c) College	10	20
3	RELIGION		
	a) Hindu	44	88
	b) Muslim	5	10
	c) Christian	1	2
	d) Others	0	0
4	TYPE OF FAMILY		
	a)Nuclear	35	70
	b)Joint	15	30
	c)Extended	0	0
5	FAMILY INCOME		
	a)Less than 5000	9	18
	b)5000-10000	18	36
	c)More than 10000	23	46
6	ATTAINED MENARCHE		
	a)Yes	50	100
	b)No	0	0
7	SOURCE OF MENSTRUAL CUP		
	a)Mother	0	0
	b)Friends	17	34
	c)School	13	26
	d)Social media	20	40
	e)Health workers	0	0

The above table shows majority that is 24 (48%) adolescent girls belongs to the age group of 18-20 years, 15 (30%) belong to the age group of 15-17 and 11 (22%) belong to the age group of 12-14 years. Majority of the adolescent girls 33(66%) belongs to 10-12th class, 10(20%) girls belongs to the college and 7(14%) belongs to 7-9th class. 44(88%) respondents were Hindu, 5(10%) respondents were Muslims, 1(2%) respondent were Christians. 35(70%) belongs to nuclear family and 15 (30%) belongs to joint family. The large proportion of families 23(46%) reported a monthly income of more than 10000, 18(36%) had a monthly income of 5000 to 10000, and 9(18%) had a monthly income of less than 5000. All the adolescent girls 50(100%) attained the menarche. Majority of the adolescent girls had the previous knowledge through Social media 20(40%), 17 (34%) had previous knowledge through their friends and 13(26%) had previous knowledge from schools.

Section B: Frequency and Percentage of Level of knowledge regarding Usage of menstrual cup



Graph 1: Knowledge regarding usage of menstrual cups among adolescent girls.

The above Pie diagram that the majority of the adolescent girls 28 (56%) have poor knowledge regarding the usage of menstrual cup, 21(42%) have average knowledge regarding the usage of menstrual cup and 1 (2%) have good knowledge regarding the usage of menstrual cup

Section C: Frequency and Percentage of Level of attitude regarding usage of menstrual cup

Table 2: Frequency and Percentage of Level of attitude regarding usage of menstrual cup

ATTITUDE	FREQUENCY	PERCENTAGE
Positive	50	100
Negative	0	0

The above table shows that the all the adolescent girls 50(100%) shows positive attitude towards the usage of menstrual cup.

Section D: Association between the level of knowledge and attitude with selected demographic variable among adolescent girls.

Table 3: Association between the level of awareness and attitude with selected demographic variables among adolescent girls

Sl/No	Variable	Poor Knowledge	Average Knowledge	Good Knowledge	Chi Square	DF	Significance
1	Age				4.785	4	*
	41974	9	2	0			
	15-17	8	7	0			
	18-20	11	12	1			
2	Class/Grade				5.5195	4	*
	46272	5	2	0			
	46366	16	16	0			
	>12	7	3	1			
3	Religion				3.9718	4	**
	Hindu	26	17	1			
	Muslim	1	4	0			
	Christian	1	0	0			
4	Type of family				2.7779	4	**
	Nuclear family	19	16	0			
	Joint family	9	5	1			
5	Family income				8.5633	4	*
	<5k	8	1	0			

	5-10K	10	7	1			
	>10K	9	14	0			
6	Attained menarche				0	2	**
	Yes	28	21	1	0		
	No	0	0	0			
7	Source of information				5.8197	6	**
	Friends	10	4	2			
	School	6	6	0			
	Social media	12	10	0			

Note: ** Significant at 0.05 level of significance, * Not significant at 0.05 level of significance

DISCUSSION AND INTERPRETATIONS:

The present study assessed the knowledge and attitude regarding menstrual cup usage among adolescent girls in a selected rural area of Bangalore. The findings revealed that 56% of participants had poor knowledge, 42% had average knowledge, and only 2% had good knowledge. However, all participants (100%) showed a positive attitude toward menstrual cup usage. This indicates that while awareness remains limited, adolescents are open and willing to adopt menstrual cups when provided with appropriate education. The results are in line with previous studies by **Sangeetha et al. (2021)** and **Thomas & Rani (2020)**, who also reported inadequate awareness but positive attitudes toward menstrual cups among young women. The low knowledge levels in this study may be due to limited access to menstrual health education, lack of proper guidance, and prevailing myths in rural settings. The majority of information sources were social media and peers, with minimal input from health workers, suggesting the need for improved health education at the community level. Despite poor awareness, the overall positive attitude highlights an opportunity for intervention through structured awareness programs. Associations found between knowledge, attitude, and demographic variables such as age, education, income, and source of information suggest that targeted educational strategies could significantly improve awareness. Hence, community health nurses and educators should focus on promoting menstrual cup awareness through school health programs and community outreach, emphasizing its safety, cost-effectiveness, and environmental benefits. Strengthening menstrual education will help adolescent girls make informed, confident, and sustainable menstrual health choices.

CONCLUSION

The study concluded that the majority of rural adolescent girls had inadequate knowledge regarding the use of menstrual cups, although all participants exhibited a positive attitude toward their usage. This indicates that while awareness levels are low, there is a strong willingness among the girls to accept menstrual cups as a sustainable menstrual hygiene alternative. A significant association was found between knowledge, attitude, and selected demographic variables. Hence, implementing targeted educational programs and awareness campaigns is essential to enhance knowledge, correct misconceptions, and promote the safe and eco-friendly use of menstrual cups among adolescent girls in rural communities.

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