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Research Article

A Study to Assess Effectiveness of Structured Teaching Program on Knowledge Regarding Safe Use of Menstrual Cup among Adolescent Girls of Selected Schools at Nashik

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Abstract

Aim: A study was to assess the effectiveness of structured teaching program on knowledge regarding the safe use of menstrual cup among adolescent girls of selected schools at Nashik.

Materials and Methods: In this study, the researcher utilized a quantitative approach, a quantitative evaluatory approach. A pre-experimental design with one group pre-test and post-test was adopted. The setting for the present study is the selected schools of Nashik. The structured teaching program about the safe use of menstrual cups was the independent variable, and the knowledge about the safe use of menstrual cups was the dependent variable in this study. The sample size comprised 450 adolescent girls who met the inclusion criteria. The sample consisted of adolescent girls from selected schools in Nashik, Maharashtra. A simple random sampling technique has been utilized.

Results: The effectiveness of the structured teaching program on knowledge regarding the safe use of menstrual cup was findings that pre-test shows a mean of 10.39 and a standard deviation (SD) of 3.87, whereas the post-test shows a mean of 19.01 and SD was 3.26, respectively. The *t*-test value was 36.13 with df was 449 and $P < 0.00001$. The results show significant effectiveness ($P < 0.05$), that is, there will be significant effectiveness between pre-test and post-test knowledge score regarding the safe use of menstrual cup among adolescent girls.

Conclusion: The study came to the conclusion that structured teaching programs are efficient in raising the level of information about the safety of menstruation cups for adolescent females. Adolescent girls' levels of knowledge have improved as a result of the implementation of structured teaching program.

Keywords: Adolescent girls, knowledge, menstrual cups, menstruation, structured teaching program

Introduction

Menstruation is a term that relates to the flow of blood and other fluids passing through the canal of the vagina, coming from the uterus throughout a woman's monthly menstrual cycle.[1] The length of the menstrual cycle varies from woman to woman and from month to month, although it typically lasts 28 days. The average woman's menstrual cycle lasts from 21 to 35 days, although it can last up to 45 days in teenagers.[2] The empowerment and well-being of women and girls globally depend on good menstrual hygiene. It involves more than just having access to sanitary napkins and the right restrooms.[3] Menstrual products, also referred to as feminine personal care items, are made to adsorb or collect menstrual blood. There are numerous goods available, such as sanitary napkins, tampons, reusable cloth pads, and menstrual cups (MCs).

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MCs are bell-shaped non-absorbent item known as MCs are put into a vagina to gather menstrual fluid. It is placed there while forming a seal by the vaginal walls. It requires removal, cleaning, and reinsertion due to the fact that it contains 3 times as much blood as pads or tampons, every 6–12 h (if facilities permit). Following each monthly cycle, the cup must be heated for 5–10 min.[4] MCs are secure and reliable, according to a recent study that appeared in the Lancet Public Health. On July 16, a meta-analysis on the global use of MC was released. 3319 women and girls' data from 43 researches were examined. It was shown that MCs were at least as good as disposable tampons and pads at stopping leakage.[5] According to research on Iranian women, the majority of participants (83.9%) had heard of the cup through social media, and 98.6% said that other women should buy it. The menstrual cup's high degree of acceptance and safety demonstrated that it is an appropriate substitute for period management in Iranian females.[6]

Research suggests that teaching programs might increase students' knowledge and comfort level with menstrual hygiene products. Therefore, the researcher has decided to carry out this research to assess how well a structured education program has done in teaching teenage girls how to use a menstrual cup safely.

Objectives

The objectives of this study were as follows:

- To assess the existing knowledge regarding the safe use of menstrual cup among adolescent girls
- To evaluate the effectiveness of a structured teaching program on safe use of menstrual cup
- To find out an association between pre-test knowledge score with selected demographic variables.

Hypothesis

- H_0: There will be no significant difference between the post-test knowledge of adolescent girls regarding the safe use of menstrual cup at 0.05 level of significance
- H_1: There will be a significant difference between the post-test knowledge of adolescent girls regarding the safe use of menstrual cup at a 0.05 level of significance
- H2: There will be no significant association between the pre-test knowledge of adolescent girls with selected demographic variables at a 0.05 level of significance.

Materials and Methods

Research approach

In this study, the researcher utilized a quantitative approach, a quantitative evaluatory approach.

Research design

For this study, a pre-experimental design with one group pre-test and post-test was adopted.

Variables

Independent variable

The structured teaching program about the safe use of menstruation cups is the independent variable in this study.

Dependent variable

The dependent variable in this study is the knowledge of adolescent girls regarding the safe use of menstrual cups.

Population

Target population

Adolescent females made up the target population in this investigation.

Accessible population

Adolescent girls from a chosen Nashik school made up the study's accessible population.

Settings of the research study

The setting for the present study is the selected schools of Nashik.

Sampling technique

Simple random sampling was utilized due to the availability of the sample and fulfillment of inclusion criteria.

Sample size

The sample size comprised 450 adolescent girls who met the inclusion criteria.

Criteria for the sample collection

Inclusion criteria

The following criteria were included in the study:

- Adolescent girls who attained menarche
- Adolescent girls within the age group of 11–19 years
- Adolescent girls studying in the English medium school.

Exclusion criteria

The following criteria were excluded from the study:

- Adolescent girls who are not willing to participate in the study
- Adolescent girls who do not read and write English.

Results

Table 1 shows that the majority of samples 175(39%) belong to 14–16 years of age group. The most of 307 (68%) samples belong to the Hindu Religion. The majority of 176 (39%) samples belong to the 9–10 standard group. The majority of samples 323 (72%) have monthly income between 15,001 and 20,000 Rs. Most of the women 261 (58%) had menarche between the age group of 13 and 14. The majority of samples 402 (89%) had regular menstruation and 48 (11%) had irregular menstrual history. Samples 247 (55%) using other methods (i.e., clothes) for the menstrual sanitary method mostly. One hundred and sixty-two (36%) samples are spending 40–60 Rs. The majority of samples 263 (58%) were neither satisfied nor dissatisfied. Three hundred and three (67%) major samples are known from the mass media.

Table 2 the bulk of the sample, 335 (75%) respondents, had poor knowledge of the safe use of menstruation cups, followed by 110 (24%) who had average knowledge and 5 (1%) who had high knowledge.

Table 1: Frequency and percentage distribution of demographic variables ($n=450$)

Characteristics	Category	Respondents	
		Frequency	Percentage
Age Group (years)	11–13 years	105	23
	14–16 years	175	39
	17–19 years	170	38
Religion	Hindu	307	68
	Muslim	78	17
	Christian	25	6
	Other	40	9
Educational status	7–8 standard	103	23
	9–10 standard	176	39
	11–12 standard	171	38
Monthly income of family	<15,000 Rs.	19	4
	15,001–20,000 Rs.	323	72
	20,001–25,000 Rs.	81	18
	More than 25,001 Rs.	27	6
Age of menarche	10–12 years	151	34
	13-14 years	261	58
	15–16 years	38	8
Menstrual history	Regular	402	89
	Irregular	48	11
Menstrual sanitary method	Sanitary pads	193	43
	Menstrual cups	10	2
	Any other (cloth)	247	55
Income spends on buying sanitary products in month	40–60 Rs.	162	36
	61–80 Rs.	155	34
	More than 80 Rs.	133	30
Level of satisfaction with current method	Satisfied	84	1
	Neither satisfied nor dissatisfied	263	58
	Dissatisfied	103	23
Source of knowledge related to use of menstrual cups	Mass media	303	67
	Workshop/Seminar	05	1
	Friends/family member/relatives	142	32
	Any other	00	00

Table 2: Existing level of knowledge regarding the safe use of menstrual cup among adolescent girls ($n=450$)

S. No.	Existing level of knowledge	Frequency	Percentage	Mean	SD
1.	Good	5	1	21	1.58
2.	Average	110	24	15.54	1.73
3.	Poor	335	75	8.54	2.29

Table 3 the bulk of the sample, 299 respondents (66%) had good knowledge of safe menstrual cup use among adolescent girls, followed by 140 respondents (31%) with average knowledge and 11 respondents (3%), with poor knowledge.

Table 4 depicts that the effectiveness of a structured teaching program on knowledge regarding the safe use of menstrual cup was findings that pre-test shows a mean 10.39 and SD of 3.87, whereas post-test shows mean of 19.01 and SD was 3.26, respectively. The *t*-test value was 36.13 with df was 449 and $P < 0.00001$. The results show significant effectiveness ($P < 0.05$), that is, there will be significant effectiveness between pre-test and post-test knowledge score regarding the safe use of menstrual cup among adolescent girls.

Table 3: Post-test level of knowledge regarding the safe use of menstrual cup among adolescent girls ($n=450$)

S. No.	Post-test level of knowledge	Frequency	Percentage	Mean	SD
1.	Good	299	66	20.99	1.41
2.	Average	140	31	15.47	1.71
3.	Poor	11	3	10.36	1.12

Table 4: Evaluation of effectiveness of structured teaching program on knowledge regarding the safe use of menstrual cup among adolescent girls ($n=450$)

Test	Mean	SD	T Test	DF	*P*-value	Result
Pre-test	10.39	3.87	36.13	449	<0.00001	$P<0.05$
Post-test	19.01	3.26				S

Table 5 depicts that in the calculation of the Chi-square value, there has been a significant association between age of menarche (13.73) and menstrual sanitary method (32.40). Chi-square values were more than the table values and check at the level of 0.05; hence, it is interpreted as these demographic variables have a significant association with the level of knowledge score regarding the safe use of menstrual cup among adolescent girls and age in years (3.54), religion (5.78), educational status (3.60), monthly income (6.15), menstrual history (4.46), income spends on buying sanitary products (8.21), level of satisfaction (4.46), and source of knowledge related to use of MCs (1.31) that the Chi-square values less than the table values and check at the level of 0.05 did not demonstrate the association between the level of knowledge score regarding safe use of menstrual cup among adolescent girls. Therefore, the null hypothesis is rejected and the alternative hypothesis accepts, that is, there will be a significant association between the level of knowledge score and selected demographics variables.

Discussion

The purpose of this study is to ascertain the impact of STP on adolescent girls' understanding of the safe use of MCs in particular Nashik schools. In this study, the investigator first examines the effects of STP on adolescent girls' knowledge of menstrual cup safety using a structured knowledge questionnaire.

A research conducted on women's knowledge, attitudes, and practices around menstruation cups in an urban setting in the Indian state of Kerala. The results revealed that the average age of the people who took part in the study was 25.68 (SD: 6.64) years. The two main barriers to using a menstrual cup were ignorance (22.6%) and fear of insertion (56.2%). Out of the 350 study participants, 258 (73.7%) scored well on their knowledge, while 92 (26.3%) scored poorly. The participants noted that discomfort and leakage were the two main issues. Younger age, educational attainment, social standing, married status, and awareness of the menstrual cup were found to be statistically significantly correlated.[7]

Table 5: Association of pre-test knowledge score with selected demographic variables ($n=450$)

Sociodemographic variables	Total no. of samples	Level of knowledge score			Df	*P*-value	χ^2-value	Result
		Good	Average	Poor				
		n	*n*	*n*				
Age in years					4	0.47	3.54	NS
11–13 years	105	1	31	73				
14–16 years	175	3	43	129				
17–19 years	170	1	36	133				
Religion					6	0.46	5.78	NS
Hindu	307	4	81	222				
Muslim	78	1	12	65				
Christians	25	00	8	17				
Others	40	00	9	31				
Educational status					4	0.46	6.15	NS
7–8 standard	103	0	29	74				
9–10 standard	176	3	45	128				
11–12 standard	171	2	36	133				
Monthly family income (In. Rs.)					6	0.40	6.15	NS
<15,000 Rs.	19	1	5	13				
15,001 Rs–20,000 Rs.	323	2	79	242				
20,001 Rs.–25,000 Rs.	81	1	18	62				
More than 25,001 Rs.	27	1	8	18				
Age of menarche					4	0.008	13.73	S
10–12 years	151	2	22	127				
13–14 years	261	2	79	180				
15–16 years	38	1	9	28				
Menstrual history					2	0.1074	4.46	NS
Regular	402	4	104	294				
Irregular	48	1	6	41				
Menstrual sanitary method					4	0.0000015	32.40	S
Sanitary pad	193	2	25	166				
Menstrual cups	10	1	2	7				
Any other	247	2	83	162				
Income spends on buying sanitary products in month					4	0.084	8.21	NS
40–60 Rs.	162	3	49	110				
61–80 Rs.	155	1	38	116				
More than 80 Rs.	133	1	23	109				
Level of satisfaction					4	0.35	4.46	NS
Satisfied	84	1	17	66				
Neither satisfied nor dissatisfied	263	3	60	200				
Dissatisfied	103	1	33	69				
Source of knowledge related to use of menstrual cups					4	0.85	1.31	NS
Mass media	303	3	70	230				
Workshop/seminar	05	0	1	4				
Friends/family member/relatives	142	2	39	101				
Any other	00	0	0	0				

In a study to gauge adolescent girls' attitudes and knowledge about menstruation cups that was conducted in a particular school in Thrissur, it was discovered that 2 (4%) samples had insufficient information, 43 (86%) had intermediate knowledge, and 5 (10%) had good knowledge. Adolescent girls' degree of menstrual cup knowledge did not significantly correlate with any of the demographic factors they chose. In addition, according to the survey, none of them had a negative attitude toward using a menstrual cup. While 6 (12%) had a fair attitude, 43 (86%) had a good attitude, and 1 (2%) had an exceptional attitude. The attitude toward menstruation cups significantly correlated with their chosen demographic characteristics, including the mother's educational background, location of residence, and age in years. The survey found that most adolescent girls had fair attitudes and an intermediate understanding of menstrual cups.[8]

According to a similar study on the adaptation and effective management of menstrual health and hygiene with menstrual cups, women liked the cups for their comfort, dryness, and reduced odor. About 90% of participants found removal easy, and 80% of participants found insertion simple. About 3–6% of the time, leaking was an issue. There were not many adverse effects, such as infections, dryness, or rashes. These findings show that there are no significant health hazards associated with this reusable vaginal device, and many women find it to be satisfactory without requiring fitting or further medical services.[9]

A qualitative pilot study that was conducted to examine the acceptability and viability of menstruation cups among rural Nepalese schoolgirls revealed that the majority of participants had favorable opinions of the menstrual cup. Being able to attend school without missing a single lesson due to

issues with managing menstruation hygiene was referred to as a big advantage. The menstrual cup was described by the participants as being simple and practical to use, with benefits for the economy and environment. According to the participants, cleaning the menstrual cup was not problematic. Participants complained of pain when inserting the menstrual cup, a constant urge to urinate, protrusion from the vagina, and leakage. Relatives worried that the monthly cup's size, shape, and texture would "get stuck" in the vagina and reduce fertility or virginity.[10]

An research conducted in Ahmadabad on how deliberate teaching affects adolescent females' knowledge and attitudes about using a menstrual cup. This study evaluated the knowledge and attitudes of adolescent females between the ages of 13 and 19 about the usage of menstruation cups before and after a scheduled teaching program. The respondents will benefit from knowing more about the subject at hand. The findings indicate that the knowledge score on menstrual cup usage increased from the pre-test to the post-test. They might receive a planned lesson plan. The planned teaching program will be used at the college library as a source of information. The sample from the affected areas with higher levels of education showed a significant correlation with an increase in knowledge of menstrual cup uses. Teenage females learn more about menstruation cups as a result.[11]

The outcomes of a post-test study on the efficiency of computer-assisted instruction on menstruation cups among chosen college students demonstrated that it increased students' understanding of the topic. The pre-test's mean score was 5.9 with a S.D. of 3.8, compared to the post-test's 18 with 1.5. Statistically significant, the *t*-test result is –1.00 at *P* = 005. All of the students had learned about menstruation cups after receiving computer-assisted instruction, with 16.7% having a moderate understanding and 83.3% having adequate knowledge. The study's results were determined to be statistically significant ($P = 0.001$), and they advocate for the importance of education for enhancing college students' knowledge of menstrual cup usage. The adjustments made by pupils may trickle down to their families and be widely spread throughout the community.[12]

Conclusion

The study concluded the effectiveness of structured teaching programs in improving the menstrual cup safety awareness of adolescent females. The use of a structured teaching program has boosted the comprehension of adolescent girls.

Conflicts of interest declaration

Nil.

Funding

Nil.

Reference

1. About Menstruatio; 2022. Available from: https://www.nichd.nih.gov/health/topics/menstruation/conditioninfo [Last accessed on 2022 Jun 06].
2. McDowell MA, Brody DJ, Hughes JP. Has age at menarche changed? Results from the national health and nutrition examination survey (NHANES) 1999-2004. J Adolesc Health 2007;40:227-31.
3. Menstrual Hygiene; 2022. Available from: https://www.wvi.org/clean-water-sanitation-and-hygiene-wash/menstrual-hygiene [Last accessed on 2022 Jun 06].
4. 2022. Available from: https://www.unicef.org/media/91346/file/unicef-guide-menstrual-hygiene-materials-2019.pdf [Last accessed on 2022 Jun 06].
5. Van Eijk AM, Zulaika G, Lenchner M, Mason L, Sivakami M, Nyothach E, *et al*. Menstrual cup use, leakage, acceptability, safety, and availability: A systematic review and meta-analysis. Lancet Public Health 2019;4:e376-93.
6. Gharacheh M, Ranjbar F, Hajinasab N, Haghani S. Acceptability and safety of the menstrual cups among Iranian women: A cross-sectional study. BMC Womens Health 2021;21:105.
7. Devan GM, Mohanan G, Ajitha GK, Kavitha H, Majeed I, Nair AN. Knowledge, attitude and practices regarding menstrual cup among females in an urban setting of South Kerala. J Family Reprod Health 2022;16:243.
8. Siji CS, Jincy MP, Aiswarya R, Anagha PA, Anjaly A, Anju VS, *et al*. A quantitative study to assess the level of knowledge and attitude on menstrual cup among adolescent girls in selected school, Thrissur. Res J Sci Technol 2022;14:139-44.
9. Kakani CR, Bhatt JK. Study of adaptability and efficacy of menstrual cup in managing menstrual health and hygiene. Int J Reprod Contracept Obstet Gynecol 2017;6:3045-53.
10. Pokhrel D, Bhattarai S, Emgård M, Von Schickfus M, Forsberg BC, Biermann O. Acceptability and feasibility of using vaginal menstrual cups among schoolgirls in rural Nepal: A qualitative pilot study. Reprod Health 2021;18:20.
11. Singh H, Debnath R, Group B. A study to assess the effectiveness of planned teaching program on the knowledge and attitude regarding the uses of menstrual cup among the adolescent girls in selected areas, Ahmedabad. Int J Adv Res 2022;10:1150-4.
12. Bel GL, Bright R. Study on effectiveness of computer assisted instruction over the usage of menstrual cup among select college students. Int J Adv Nurs Manage 2022;10:263-5.

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