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“Effectiveness of Video-Assisted Teaching Programme on Knowledge Regarding the Use of Menstrual Cup Among Nursing Students in Selected Colleges at Ernakulam District”

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Abstract: Background: Menstrual hygiene is a key component of women’s health, yet many students lack adequate knowledge about eco-friendly alternatives such as the menstrual cup.

Objectives: The study aimed (1) to assess the effectiveness of a video-assisted teaching programme (VATP) on improving nursing students’ knowledge regarding menstrual cup usage by comparing pre-test and post-test scores, and (2) to determine the association between pre-test knowledge and selected demographic variables.

Methods: A pre-experimental one-group pre-test post-test design was conducted among 70 nursing students aged 19–21 years in selected nursing colleges of Ernakulam district. A structured questionnaire assessed knowledge levels before and after the intervention. The teaching programme involved a video-based session demonstrating menstrual cup usage. Data were analyzed using descriptive and inferential statistics.

Results: Pre-test findings showed that only 2.85% of participants had excellent knowledge and 54.28% had good knowledge. After the intervention, 44.28% achieved excellent knowledge and 37.14% had very good knowledge. Chi-square analysis revealed significant improvement in post-test scores ($p < 0.05$).

Conclusion: Video-assisted teaching significantly enhanced knowledge of nursing students regarding menstrual cups. Integrating VATP into nursing education may strengthen menstrual hygiene management awareness and promote eco-friendly practices.

Keywords: *Menstrual cup, menstrual hygiene, video-assisted teaching, nursing students, health education.*

1. Introduction

Menstrual hygiene is a cornerstone of reproductive health, dignity, and well-being for women of all ages [1]. Proper management of menstruation reduces the risk of infections, improves confidence, and supports women’s participation in education and work [2]. Despite ongoing awareness

campaigns and the availability of sanitary pads and tampons, menstrual cups remain underutilized, especially in developing countries such as India, due to limited awareness, misconceptions, and sociocultural barriers [3].

The menstrual cup is a reusable, eco-friendly, and cost-effective alternative to conventional menstrual products. It is



made of medical-grade silicone or rubber, designed to collect menstrual fluid rather than absorb it, and can be safely reused for up to 10 years [4]. Evidence suggests that menstrual cups not only reduce environmental waste but also provide long-term financial savings and convenience for users [5]. However, myths regarding discomfort, difficulty in insertion, and hygiene concerns hinder widespread adoption [6].

Nursing students represent a critical population in menstrual health education. As future healthcare providers and educators, their awareness and acceptance of menstrual cups can influence public attitudes and health-seeking behaviors [7]. It is therefore essential that they acquire accurate knowledge and skills to guide patients and communities effectively.

Traditional lecture-based teaching methods may fail to address misconceptions or promote practical understanding. Video-assisted teaching (VATP), by contrast, provides a dynamic, visual, and interactive approach that can simplify complex concepts and enhance retention [8]. Visual demonstrations allow learners to see how menstrual cups are used, removed, and cleaned, reducing fear and promoting positive attitudes [9].

This study was designed to assess the effectiveness of VATP in improving knowledge about menstrual cups among nursing students in Ernakulam district. The findings are expected to inform nursing education curricula, strengthen menstrual health advocacy, and support eco-friendly practices in menstrual hygiene management.

2. Methods

2.1 Research Design

A **pre-experimental one-group pre-test post-test design** was adopted. This design was appropriate to measure the effectiveness of the intervention (VATP) on knowledge outcomes.

2.2 Setting and Participants

The study was conducted among nursing students at the College of Nursing, Nirmala Medical Centre, Muvattupuzha, Ernakulam district. Participants included female students aged 19–21 years enrolled in the fourth and sixth semesters of the B.Sc. Nursing programme.

2.3 Sampling Technique and Sample Size

A **convenience sampling technique** was employed. Out of the eligible population, 70 students who met the inclusion criteria and consented to participate were included.

2.4 Inclusion and Exclusion Criteria

- **Inclusion:** Female students aged 19–21 years, currently enrolled in 4th or 6th semester, willing to participate.
- **Exclusion:** Students involved in the pilot study and those unwilling to participate.

2.5 Data Collection Tool

A **structured questionnaire** was developed based on literature review and expert consultation. It consisted of two sections:

- **Section A:** Demographic profile (age, year of study, religion, residence, previous knowledge).
- **Section B:** 30 multiple-choice questions on menstrual cup knowledge (definition, advantages, insertion, removal, hygiene, myths).

Content validity was ensured through review by five subject experts. A pilot study confirmed clarity and feasibility.

2.6 Intervention

The intervention was a **video-assisted teaching session** consisting of a 30-minute PowerPoint-based educational video. The video included:

- Anatomy of the female reproductive system
- Introduction to menstrual cup design and material
- Demonstration of insertion and removal techniques
- Cleaning and storage guidelines
- Common myths and misconceptions addressed

2.7 Data Collection Procedure

- Pre-test questionnaire administered to assess baseline knowledge.
- Video-assisted teaching session conducted in a classroom setting.
- Post-test questionnaire administered after one week to measure knowledge gain.

2.8 Data Analysis

- **Descriptive statistics:** frequency, percentage, mean, and standard deviation for demographic variables and knowledge scores.



- **Inferential statistics:** Paired t-test for comparison of pre- and post-test scores; Chi-square test to examine association between pre-test knowledge and demographic variables.

Ethical approval was obtained from the Institutional Ethics Committee. Written informed consent was collected from participants.

3. Results

3.1 Demographic Characteristics

The majority of participants were between 19–20 years of age, with a distribution across fourth and sixth semesters. Most resided in hostels, and approximately half reported some prior knowledge of menstrual cups through peers or social media.

3.2 Knowledge Scores

Table 1 shows pre-test and post-test distribution.

Table 1: Distribution of Nursing Students' Knowledge Regarding Menstrual Cup (N = 70)

Grade of Knowledge	Score Range	Pre-test f (%)	Post-test f (%)
Poor	3–7	3 (4.28)	0 (0)
Average	7–11	17 (24.2)	3 (4.28)
Good	11–15	38 (54.28)	10 (14.28)
Very Good	15–19	10 (14.28)	26 (37.14)
Excellent	19–21	2 (2.85)	31 (44.28)

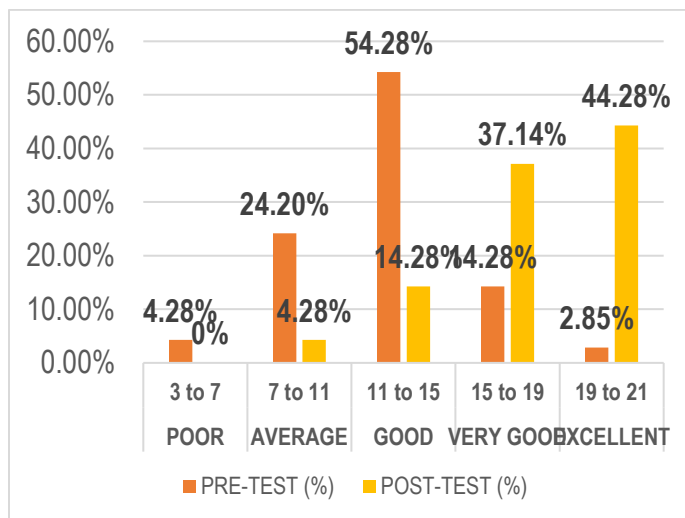


Figure 1 shows knowledge distribution: Pre-test scores clustered at “Good” (54.28%), while post-test scores peaked at “Excellent” (44.28%).

3.3 Statistical Analysis

The mean pre-test score was significantly lower than the post-test score ($p < 0.001$). This demonstrated the effectiveness of the video-assisted teaching programme.

4. Discussion

The findings reveal that VATP significantly improved knowledge of nursing students regarding menstrual cups. The improvement in post-test scores aligns with prior studies demonstrating the effectiveness of audiovisual teaching methods in nursing and health education [10][11].

The increase in “Excellent” knowledge scores from 2.85% to 44.28% underscores the potential of visual teaching tools to dispel misconceptions and enhance comprehension. Similar interventions have been reported to improve awareness of menstrual hygiene among adolescent girls and college students in India [12].

Menstrual cups are rarely discussed in mainstream curricula, leading to a persistent knowledge gap among healthcare students. By integrating innovative tools like VATP, educators can normalize menstrual cup usage, promote sustainable practices, and empower students as advocates for reproductive health [13].

The role of nursing students as future health educators is vital. Improved knowledge about menstrual cups may not only influence their personal practices but also enable them to guide patients and communities, supporting broader goals of environmental sustainability and women’s health [14][15].

5. Limitations

- The study was limited to a single nursing college in Ernakulam district, reducing generalizability.
- A convenience sample may have introduced selection bias.
- Knowledge was assessed in the short term; long-term retention and practice adoption were not evaluated.
- The study did not assess attitudes or actual use of menstrual cups, which are equally important.

6. Recommendations



- Integrate menstrual cup education into nursing and health sciences curricula.
- Replicate the study with larger and more diverse populations, including rural colleges.
- Assess long-term retention of knowledge and translation into personal practice.
- Conduct comparative studies between VATP and other teaching methods (lectures, group discussions).
- Expand menstrual hygiene awareness programmes to schoolgirls, women in rural areas, and working women.
- Promote menstrual cups as part of eco-friendly healthcare initiatives.

7. Summary and Conclusion

This study demonstrated that video-assisted teaching significantly improved knowledge regarding menstrual cups among nursing students. Pre-test findings revealed limited awareness, while post-test results showed substantial improvement, with 44.28% of students attaining "Excellent" knowledge.

As future healthcare professionals, nursing students must be equipped with accurate knowledge of menstrual hygiene products. Video-assisted teaching proved to be an engaging, effective, and replicable strategy to fill knowledge gaps. Integrating such approaches into nursing education will promote eco-friendly menstrual practices, reduce stigma, and empower women in their reproductive health.

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