

## A study to find effectiveness of structured teaching programme on knowledge regarding menstrual blood banking among nursing students in a selected nursing college at Mangalore

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### Abstract

A study to find the effectiveness of structured teaching program on knowledge regarding menstrual blood banking among nursing student in a selected nursing college at Mangalore. The study surveyed 60 nursing students at New Mangala College of Nursing Mangalore, using a structured teaching program. The data was collected using a structured questionnaire and post-test. The results showed that 70% of students had no prior knowledge about menstrual blood banking, while 85% had average knowledge. The post-test knowledge score was higher than the pretest score, indicating that the structured teaching program effectively increased nursing students' knowledge on menstrual blood banking. The study found that the Structured Teaching Program significantly improved nursing students' knowledge about menstrual blood banking, despite their initial low structured scores.

**Keywords:** Effectiveness; Structured teaching program; Menstrual blood banking

### 1. Introduction

Adolescence is a unique phase of human development, with menarche being a significant milestone in growth and maturation."1." Menstruation is a natural physiological process for healthy adult women, but it is often surrounded by secrecy in many societies."2." Girls can start menstruation as early as nine years old and may feel shy to disclose it to their mothers. Maintaining hygiene during menstruation is challenging in nuclear families."3." the menstrual cycle is a monthly process in which female primates undergo physiological changes for sexual reproduction. It takes approximately 28 days and varies from person to person."4." Menarche, also known as menstrual bleeding, is normal between ages 8 and 16. Menopause is the cessation of menstrual cycles Menorrhoea is normal menstruation lasting a few days."5." Menstrual blood banking is a painless, hassle-free procedure for collecting and storing menstrual blood for cell therapy. A silicone cup is placed in the vagina for three hours, collecting nearly 30 milliliters of blood. The collected blood is processed, frozen, and stored in a laboratory."6." menstrual blood stem cells banking, initiated in India by actress Lisa Ray in 2011, is a concept that has been developed by American company Cryo Cell and Indian actress Life Cell International Limited. The process involves inserting a silicon cup in the vagina during heavy bleeding, collecting approximately 20 millilitres of blood, and processing it in a laboratory. These stem cells can be subculture up to 47 times, with the potential for future therapeutic applications due to their unique properties."7."

#### 1.1. Objectives of the study

To determine the level of knowledge regarding menstrual blood banking among nursing students in a selected nursing college at Mangalore.

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To find the effectiveness of structured teaching program on knowledge regarding menstrual blood banking among nursing students in a selected nursing college at Mangalore

## 1.2. Assumptions

The study assumes that;

- The nursing students will have some knowledge regarding menstrual blood banking.
- Structured teaching program may increase the knowledge of nursing students on menstrual blood banking.

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## 2. Research methodology

### 2.1. Research approach

The research approach is an overall plan or the blue print chosen to carry out the study. The selection of research is the basic procedures to conduct research enquiry. Evaluatory research approach was used in this study.

### 2.2. Research design

In this study the pre-experimental one group pre-test post-test design was used to evaluate the effectiveness of structured teaching programs on menstrual blood banking

### 2.3. Setting

The present study was conducted at New Mangala College of Nursing. The college is located at Vidyanagar, Neermarga Mangalore. The college runs MSc Nursing, BSc. Nursing, and GNM courses. The total strength of the students in the college is approximately 259.

### 2.4. Sample and sample size

In this study, sample consists of 60 female nursing students studying at New Mangala College of Nursing, Neermarga, and Mangalore.

### 2.5. Sample technique

In the present study 60 nursing students were selected by purposive sampling technique.

### 2.6. Procedure of data collection

Data collection was conducted from 21st to 27th OCT 2023, with 60 nursing students selected using purposive sampling. Confidentiality was assured. A structured knowledge questionnaire on menstrual blood banking was administered on the first day, followed by a teaching program. A post-test was conducted on the 7th day, taking 20-30 minutes. The data collection was terminated with gratitude for the students' participation.

### 2.7. Plan of data analysis

Data analysis is the systematic organization and synthesis of research data and testing of research hypothesis using that data. A master sheet was prepared by investigators to organize and compose the data. The data obtained will be analyzed by using both descriptive and inferential statistics on the basis of objective and hypothesis of the study.

- Demographic Performa was analyzed in terms of frequency and percentage.
- The knowledge score of nursing students before and after the educational program Was analyzed by using frequency, percentage, mean, median and standard deviation.
- The significant difference between the mean pre-test and post-test knowledge score was analyzed by using paired "t" test.

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## 3. Results

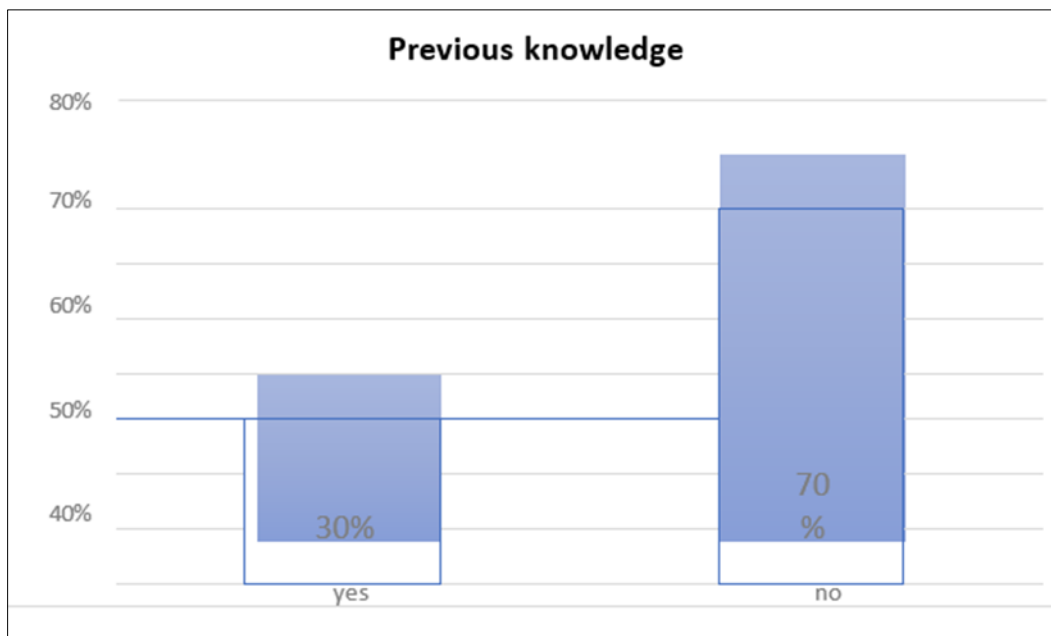
Analysis is the systematic process of organizing and synthesizing data to answer research questions and test hypotheses. In this study, data from sixty nursing students was analysed using descriptive and inferential statistics.

### 3.1. Organization of the findings

The results have been organized and presented in following headings:

- Section 1: description of baseline characteristics of nursing students.
- Section 2: analysis of pre-test knowledge of nursing students on knowledge regarding menstrual blood banking
- Section 3: effectiveness of structured teaching program on menstrual blood banking in terms of gain in knowledge score.

#### 3.1.1. Section 1: description of baseline characteristics of nursing students n= 60



**Figure 1** Percentage distribution of nursing students according to previous knowledge

Findings related to previous knowledge of nursing students revealed that majority 70% of students did not has previous knowledge regarding menstrual blood banking and 30% of nursing students had previous knowledge regarding menstrual blood banking.

#### 3.1.2. Section 2: Analysis of the pretest knowledge of nursing students regarding menstrual blood banking

**Table 1** Assessment of level of knowledge of nursing students regarding menstrual blood banking n-60

Level of knowledge	Range	Frequency	%
Poor	0-10	9	15%
Average	11-20	51	85%
Good	21-30	0	

Maximum score=30

Data in table I showed that majority (85%) of them had average knowledge, 15% had poor knowledge and none of them had good knowledge regarding menstrual blood banking.

### 3.1.3. Section 3: Effectiveness of structured teaching program on menstrual blood banking in terms of gain in knowledge score among nursing students

**Table 2** Comparison of pre-test and post-test knowledge score of nursing students regarding menstrual blood banking n-60

Grading	Range	Pre-test frequency		Post-test	
		Frequency	%	Frequency	%
Poor	0-10	9	15	7	3.33
Average	11-20	51	85	13	21.66
Good	21-30	0	0	44	73.33

Maximum score = 30

Data in the table 2 revealed that in pretest 85% of students had average knowledge. 15% had poor knowledge, none had good knowledge, whereas in the post- test 73.33% knowledge, 21.66% had average knowledge and 3.33% had poor knowledge which indicated that structured teaching program has improved the knowledge of nursing regarding menstrual blood banking.

**Table 3** Mean, mean difference, standard deviation, 't' Value of pretest and post-test knowledge score of students. n = 60

	Mean ± standard	Mean difference	't' Value
Pre-test	14.43 ± 3.37	6.27	t = 3.52
Post-test	20.7 ± 4.51		

Maximum score = 60

Data in the table 3 showed that the mean ± standard deviation (20.7±4.51) of post-test was higher than the mean ± standard deviation (14.43±3.37) of pre-test knowledge score. The computed 't' value (t=3.52) was higher than the table value (t<sub>59</sub> = 1.68) at 0.05 level of significance. Hence the research hypothesis was accepted. It was inferred that the post-test knowledge score of students on menstrual blood banking was higher than the pre-test knowledge score. This indicated that structured teaching program was effective in increasing the knowledge of nursing students.

## 4. Discussion

Major finding of the study:

### 4.1. Section 1: Description of baseline characteristics of students

The data on distribution of students, according to their previous knowledge regarding menstrual blood banking showed 70% of nursing students did not had previous knowledge regarding menstrual blood banking and 30% of nursing students had previous knowledge regarding menstrual blood banking.

### 4.2. Section II: Knowledge of nursing students regarding menstrual blood banking

Knowledge score of students regarding menstrual blood banking prior to the administration of structured teaching program showed that 85% had average knowledge and 15% had poor knowledge and none of them had good knowledge.

### 4.3. Section III: Effectiveness of structured teaching program regarding menstrual blood banking

The mean and SD (20.7±4.51) of post-test knowledge score is higher than the mean and SD (14.43+3.3) of pre-test knowledge score. The computed "t" value (t<sub>59</sub>=3.52) was higher than the table value (t<sub>59</sub> = 1.68) at 0.05 level of significance. Hence the research hypothesis was accepted. It was inferred that mean post-test knowledge score of students regarding menstrual blood banking was higher than the mean pre-test knowledge score. This indicated that structured teaching program if effective in improving knowledge of the nursing students.

## 5. Conclusion

Based on the findings of the study following conclusion were drawn. The baseline information showed that, 70% of the nursing students did not had previous knowledge regarding menstrual blood banking 85% of nursing students were having average knowledge regarding menstrual blood banking.

In pre-test majority (85%) of students had average knowledge, 15% had poor knowledge. Whereas in post-test 73.33% had good knowledge and 21.66% had average knowledge and 3.33% had poor knowledge which indicated that structured teaching program was effective.

The computed 't' value (t59-3.52) was higher than the table value (1.68) at 0.05 level of significance. Hence the research hypothesis was accepted.

The knowledge level of students regarding menstrual blood banking was improved. The respondents were satisfied and happy with the information they received. The study was a new learning experience for the researchers.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

There is no conflict of interest.

### *Statement of informed consent*

Informed consent was obtained from all individual participants during the the study.

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