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A Descriptive Study to Assess the Level of Knowledge and Attitude Regarding Menstrual Blood Banking among GNM Students at Selected Schools of Nursing, Assam

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Abstract: ***Menstrual blood is made up of tissue from the uterine lining, and is a rich source of stem cells, which can proliferate and develop into any type of cell. The aim of the present study was to assess the knowledge and attitude of knowledge regarding Menstrual Blood Banking among GNM students at selected schools of nursing, Assam. A cross - sectional simple descriptive research design was adopted and sampling was done through purposive sampling technique. The total sample was 200 GNM students of selected nursing schools, Assam. The collected data was organized and analyzed in descriptive and inferential statistics. The findings showed that 54% had inadequate knowledge, 41% had moderate knowledge, and 5% had adequate knowledge.12.5% had an unfavorable attitude, 15 had neutral attitude, and 72.5% had favorable attitude towards Menstrual Blood Banking.***

Keywords: Assess, Knowledge, Attitude, Menstrual Blood Banking, Mesenchymal stem cells, GNM Students

1. Introduction

Menstrual blood is still disposed of by women as an undesired and unhygienic waste. On the other hand, scientists discovered that menstrual blood is a rich source of stem cells, which can proliferate and develop into any type of cell[1]. Menstrual blood is not just blood it's also made up of tissue from the uterine lining. It also contains the remnants of the egg that travel down the fallopian tube into the uterus during ovulation[2].

Life Cell is the first company offering menstrual blood stem cell banking in India[3]. It is possible to easily produce 10 million to 100 million mesenchymal stem cells from a sample of 10 to 15 millilitres of menstrual fluid. Stem cells proliferate quickly and have the ability to develop into a wide variety of other stem cell types, including bone, cardiac, neural, and fat stem cells, to mention a few. Furthermore, studies indicate that these cells may be useful not just for the donor but also for other members of the donor's family who share genetics, such as a parent or child [4].

Researchers found in the 1970s that the cells in the umbilical cord have the same potential as hematopoietic cells generated from bone marrow. The first successful stem cell transplant occurred in 1988, curing a 5 - year - old kid of Fanconi's anaemia. That procedure marked the beginning of a successful period in which stem cells were used in a variety of medical sectors.[5].

Menstrual blood samples are easy, comfortable, and non - invasive to collect; on the day of the heaviest flow, a silicone cup is put into the vagina, much like a tampon. To collect about 20 ml of blood, the cup needs to be inserted into the vagina for at least three hours. Once in the collection kit, this is poured and returned to the menstrual blood bank laboratory to be processed, frozen, and kept for later use.[6].

a) Need For Study:

The success rate of menstrual blood stem cells is 100 times higher than that of stem cells extracted from human bone marrow, which has a success rate of 0.2 - 0.3%. A multitude of successful research investigations have demonstrated that using endometrial blood stem cells to cure several deadly diseases[7].

According to estimates from the Indian Council of Medical Research, there could be 50 million heart disease patients, 5 million Parkinson's disease patients, and 5 million Alzheimer's disease patients in India who could benefit from stem cell therapy.8

The researchers are interested in this topic since a lot of women think that menstruation is an unwelcome and unhygienic waste. They hope to dispel this myth and provide insight into the innovative uses of menstrual blood. The researchers' primary goal was to gauge nursing students' understanding of menstrual blood banking.

b) Problem Statement

A descriptive study to assess the level of knowledge and attitude regarding Menstrual Blood Banking among GNM students at selected Schools of Nursing, Assam.

c) Objective

- To assess the existing knowledge level and attitude regarding Menstrual Blood Banking among GNM Students.
- To find out the association between knowledge of GNM Students with their selected demographic variables.

d) Hypothesis

Null Hypothesis:
H_{01} - There is no significant association between the knowledge regarding Menstrual Blood Banking among GNM Students with their selected demographic variables.

Positive Hypothesis:
H_1 - There is a significant association between the knowledge regarding Menstrual Blood Banking among GNM Students with their selected demographic variables.

e) Variables

Research variables:
In the present study, research variables are demographic data such as Age, Gender, Religion, Residential Area, Previous Knowledge regarding Menstrual Blood Banking, and Source of Information.

Dependent variable:
In the present study, the dependent variable is the knowledge and attitude of GNM students regarding Menstrual Blood Banking.

f) Assumptions
1) The GNM Students may not have knowledge regarding Menstrual Blood Banking.
2) The GNM Students may not have a favorable/positive attitude towards Menstrual Blood Banking.
3) The GNM Students may have a little knowledge regarding Menstrual Blood Banking.
4) The GNM Students may have a favorable/positive attitude towards Menstrual Blood Banking.

g) Delimitations
The present study is limited to:
- Students willing to take part in the study.
- GNM Students only.
- Students present at the time of data collection.

h) Projected Outcome
The present study gives insight to the researchers to assess the knowledge level and attitude of GNM Students regarding Menstrual Blood Banking and enables the researchers to identify and compare the relationship between the variables.

2. Methodology

Materials and method

Source of data:
GNM Students in selected nursing schools in Assam

Inclusion Criteria:
- Students between 17 to 25 years
- GNM Students in selected nursing schools in Assam.

Exclusion criteria:
- Those who were not able to comprehend English.
- Those who were not available at the time of data collection.

Research design: The research design adopted for the present study was a simple descriptive research design.

Research approach: The research approach for the present study was a cross - sectional approach.

Setting of the study: The present study was conducted in Haji Abdul Majid Memorial Nursing School, Hojai, and GNM School of Nursing, BPCH, Nagaon, Assam.

Population: In the present study, the population was all the GNM Students in selected Nursing Schools of Assam.
a) Target population: In the present study, the target population was the GNM Students in selected Nursing Schools of Assam.
b) Assessable population: In the present study, the assessible population includes GNM Students pursuing GNM course in Haji Abdul Majid Memorial Nursing School, Hojai, and GNM School of Nursing, BPCH, Nagaon, Assam.

Sample: The sample was the GNM Students who were meeting all the inclusion criteria in selected Nursing School of Hojai, Assam.

Sampling technique: The sampling technique used was a "purposive sampling technique".

Sample size: The sample size was 200 GNM Students.

Tool of research: The tool used was a structured knowledge questionnaire consisting of three sections:
a) Section A: demographic data questionnaire
b) Section B: structured knowledge questionnaire
c) Section C: modified Likert scale

3. Results

It was prepared to assess the level of knowledge regarding menstrual blood banking among nursing students. It consists of 20 items. Each correct answer scored as 1 and wrong answer as 0. Hence, minimum score was 0 and maximum score was 20.

Section I: Distribution of socio - demographic characteristics of respondents.
It revealed that out of 200 respondents, 84 (42%) were between 17 to less than 20 years, 87 (43.5%) were between 20 to less than 23 years, 25 (12.5%) were between 23 to less than 26 years, and 4 (2%) were above 26.193 (96.5%) were female students and only 7 (3.5%) were male students.120 (60%) belonged to Hindu, 72 (36%) were Muslim, 6 (3%) belonged to Christian, and 2 (1%) were others.37 (18.5%) resided in urban area, and the remaining 163 (81.5%) resided in rural area.67 (33.5%) had previous knowledge, and 133 (66.5%) did not have knowledge regarding Menstrual Blood Banking. Out of 67 respondents, 46 (69%) obtained knowledge from teacher/parents, 8 (12%) from friends/relatives, 1 (1%) from conferences/seminars, and 12 (18%) from others sources.

Section II: Frequency and percentage distribution of the respondents according to the knowledge scores.

Table 1: Distribution of knowledge score regarding Menstrual Blood Banking among GNM students.

Knowledge level	Frequency	Percentage
Inadequate knowledge (0 - 6)	108	54%
Moderate knowledge (7 - 13)	82	41%
Adequate knowledge (14 - 20)	10	5%
Total	200	100%

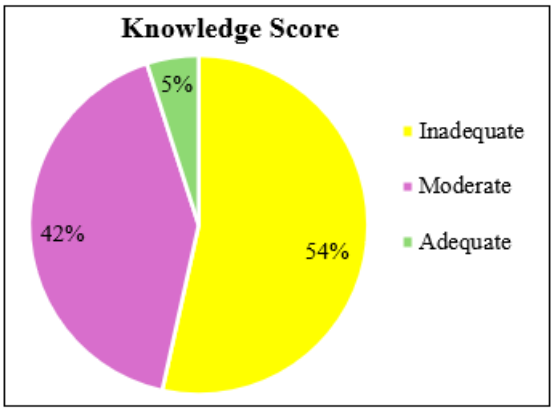

Figure 1: Pie Diagram showing the percentage distribution of the samples based on the knowledge scores

Mean and standard deviation of the knowledge scores

Table 2: Mean and standard deviation of knowledge scores of the sample regarding Menstrual Blood Banking. **n=200**

Category	Mean	Standard deviation
Knowledge	11.2	2.99

Section III: Chi square values showing the association between the knowledge scores of the GNM Students with their selected demographic variables.

Table 3: Association between knowledge scores with demographic variables

Demographic variables	Response	Knowledge scores			Chi - square	df	Inference
		Inadequate (0 - 6)	Moderate (7 - 13)	Adequate (14 - 20)			
Age in years	17 - >20 years	62	13	9	13.31	6	S
	20 - >23 years	55	30	2			
	23 - >26 years	16	8	1			
	Above 26	2	2	0			
Gender	Male	5	1	1	9.67	2	S
	Female	121	50	23			
Religion	Hindu	92	22	6	2.57	6	NS
	Muslim	58	10	4			
	Christian	5	1	0			
	Others	1	1	0			
Residential Area	Rural	102	23	2	3.90	2	NS
	Urban	50	20	3			
Previous Knowledge	Yes	48	16	3	1.74	2	NS
	No	101	30	2			
Source of Information	Teachers/ Parents	15	10	2	22.64	6	S
	Friends/ Relatives	9	1	1			
	Conferences/ Seminars	5	1	0			
	Others	19	4	0			

Note: S - Significant; NS - Non significant; df - Degree of freedom

It was found that there is a significant association between knowledge score and age, gender, and source of information, and there is no significant association between knowledge scores and religion, residential area, and previous knowledge. Hence, H_1 was accepted and H_{01} was rejected.

Section IV: Frequency and percentage distribution of the respondents according to the attitude score regarding Menstrual Blood Banking.

Table 1: Distribution of attitude score regarding Menstrual Blood Banking among GNM students.

Attitude level	Frequency	Percentage
Disagree (0 - 6)	25	12.5%
Neutral (7 - 12)	30	15%
Agree (13 - 18)	145	72.5%
Total	**200**	**100%**

4. Summary

A study was conducted to assess the knowledge and attitude of GNM students regarding Menstrual Blood Banking in selected nursing schools of Assam. Data was collected from

200 students through a self - structured knowledge and attitude questionnaire. From the above provided data analysis, it was revealed that 108 students had inadequate knowledge, 82 had moderate knowledge, and 10 had adequate knowledge; also 25 students disagreed, 30 students were neutral, and 145 students agreed towards Menstrual Blood Banking.

5. Implications

The researcher had drawn the following implications from the study.

Nursing practice
- Collection and storage of menstrual blood.
- Significance of Menstrual Blood Banking.

Nursing education
- Seminars, workshops, conferences can be conducted to enhance the knowledge of student nurses regarding Menstrual Blood Banking.

Nursing research
- The research findings can be disseminated through seminars, conferences, and nursing journals.
- Nurse led interventional studies can be conducted.

6. Recommendations

1) A quasi - experimental study can be conducted to assess the effectiveness of educational program on knowledge regarding Menstrual Blood Banking among adolescent girls.
2) A similar study can be undertaken to assess the knowledge and attitude among mothers of adolescent girls.
3) A similar study can be replicated in quasi - experimental design to assess the effectiveness of video assisted teaching module on knowledge and practice regarding Menstrual Blood Banking among girls.
4) A similar study can be done to provide educational programme to enhance the knowledge of staff nurses regarding Menstrual Blood Banking.

7. Conclusion

The present study assessed the knowledge and attitude of GNM students regarding Menstrual Blood Banking and the research findings demonstrates that out of 200 respondents, 54% had inadequate knowledge, 41% had moderate knowledge, and 5% had adequate knowledge.12.5% disagreed, 15% were neutral, and 72.5% agreed that menstrual blood should be banked.

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