

# Effectiveness of Structured Teaching Programme on Knowledge regarding Umbilical Cord Blood Banking among the Staff Nurses Working in Selected Hospital, Bareilly, U. P.

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**Abstract:** "A quantitative quasi experimental study to evaluate the effectiveness of structured teaching programme on knowledge regarding umbilical cord blood banking among the staff nurses working in Rohilkhand Hospital & Mahendra Gayatri Hospital Bareilly, U. P. ' The study was conducted on 60 staff nurses (30 staff nurses were selected from Rohilkhand Hospital & 30 staff nurses were selected from Mahendra Gayatri Hospital) for experimental & control group and sample were selected through Non - probability purposive sampling technique. The study was explained to participants and consent was taken. The data was collected by self structured knowledge questionnaire. The structured teaching programme was given to experimental group. After STP the assessment of knowledge was done from both group. The result showed that the obtained t value for pre test comparison was  $t=1.8282$ ,  $p=0.0727$  and post test comparison score after giving S. T. P was  $t=31.085$ ,  $p=0.0001$ . There was no significant association between knowledge score with their selected demographic variables of experimental group such as age, gender, professional qualification, year of experience whereas the significant association shows between knowledge score and sources of previous knowledge regarding umbilical cord blood banking also there was no significant association between knowledge score with their selected demographic variables of control group such as age, gender, professional qualification, year of experience and Sources of previous knowledge umbilical cord blood banking. The study concluded that after the implementation of structured teaching programmed the knowledge score level was improved regarding umbilical cord blood banking. Hence, the structured teaching programme was effective.

**Keywords:** Evaluate, Effectiveness, Structured teaching programme, Knowledge, Umbilical cord blood banking, Staff nurses

## 1. Introduction

Cord blood is the blood that stick around in the umbilical cord and placenta after delivery<sup>1</sup>. Umbilical cord blood carry many haematopoietic stem cells more than eighty genetic diseases can be cured by it. Stem cells have the potentiality to fight chronic diseases such as diabetes, immune diseases, cancer, and blood disorders as well. Cord blood banks region unit place wherever people will reserve blood from the umbilical cord for future use and area unit provided with the most recent technologies regarding medical data - keeping and depot.<sup>2</sup>

Stem cells have the capability to fight with chronic diseases such as diabetes, immune diseases, cancer, and blood disorders as well. These cells are collected from hospitals and nursing homes and stored in cord blood banks for future use and may be stored for a mean of 20 - 25 years. Cord blood banks area unit public or personal and usually charge associate degree annual fee for storage and maintenance.<sup>2</sup>

The "Global Cord Blood Banking Industry Report 2020" report presents the number of cord blood units stored in inventory by the largest cord blood banks worldwide and the number of cord blood units (CBUs) announced by registries beyond the world for hematopoietic stem cell (HSC) transplantation. While it may be true that cord blood is presently used to treat more than 80 different diseases.<sup>3</sup>

Due to the lack of knowledge about its benefits and uses the umbilical cord was considered medical waste and disposed of following delivery along with placenta. In earlier on their clinical experiences researcher's detect that the nurses was inadequate knowledge and negative attitude about stem cell and cord blood banking. As nurses are vital health care providers, it is important to examine the knowledge and attitude towards this concept. It is therefore necessary to increase the nurse's knowledge and attitude towards the collection of umbilical cord blood and its use in the application of educational intervention.<sup>4</sup>

## 2. Literature

- 1) Review of literature related to umbilical cord blood banking.
- 2) Review of literature related to knowledge and attitude regarding umbilical cord blood banking.
- 3) Review of literature related to Structured Teaching Programmed / plan intervention on umbilical cord blood banking.

## 3. Methodology

The research design used in this study was quasi experimental research design. The study was conducted in Rohilkhand Hospital & Mahendra Gayatri Hospital Bareilly, U. P. 60 staff nurses were selected (30 staff nurses were

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selected from Rohilkhand Hospital & 30 staff nurses were selected from Mahendra Gayatri Hospital) for experimental & control group and sample were selected through Non-probability purposive sampling technique. The study was explained to participants and consent was taken. The data was collected by self structured knowledge questionnaire. The structured teaching programme was given to experimental group. After STP the assessment of knowledge was done from both group. The data were collected with the help of various tool consisting:

#### Section A: Demographic variables

age, gender, professional qualification, years of experience and source of previous knowledge regarding umbilical cord blood banking.

**Section B: Self structured Questionnaire** to assess the level of knowledge regarding umbilical cord blood banking

The closed ended multiple choice questions were prepared after extensive literature review. There were 30 questions related to umbilical cord blood banking. Each questions had four alternatives among which only one was correct response.

The content validity of tools was ensured by giving the tool to expert in the field of nursing. Reliability of tools was established by Karl Pearson test. The reliability of self structured knowledge questionnaire regarding umbilical cord blood banking was  $r = 0.86$ .

## 4. Result & Findings

**Table 1:** Comparison of pre & post test knowledge score of experimental and control group regarding umbilical cord blood baking among the staff nurses, N=60

Level of knowledge	Experimental group Mean $\pm$ SD	Control group Mean $\pm$ SD	Unpaired 't' test value	p - value
Pre test	9.233 $\pm$ 2.144	8.27 $\pm$ 1.946	1.828	0.073
Post test	24.90 $\pm$ 2.354	8.70 $\pm$ 1.622	31.038	<b>0.0001</b>

$df_{58} = 2.0017$ ,  $t' < 0.05$  probability of larger value

The data presented in table no.1 depicts the comparison of pre test & post test knowledge score of experimental and control group regarding umbilical cord blood baking among the staff nurses. The obtained pre test experimental and control groups mean and standard deviation was  $9.233 \pm 2.144$  and  $8.266 \pm 1.946$  respectively. Also obtained post test experimental and control groups mean and standard deviation was  $24.90 \pm 2.354$  and  $8.70 \pm 1.622$  respectively.

Independent t - test was performed to compare the pre test & post test knowledge of experimental and control group regarding umbilical cord blood banking among staff nurses and the obtained t value for pre test comparison was  $t=1.8282$ ,  $p=0.0727$  and post test comparison score after giving S. T. P was  $t=31.085$ ,  $p=0.0001$

The Unpaired 't' value obtained for all the knowledge aspect were found to be significant at  $p < 0.05$ . Hence the null hypothesis was rejected and the research hypothesis was accepted. Thus it can be interpreted that structured teaching

programme was effective in improving the knowledge of staff nurses regarding umbilical cord blood banking

## 5. Discussion

The main aim of the study was to evaluate the effectiveness of structured teaching programme on knowledge regarding umbilical cord blood banking among the staff nurses working in selected hospital Bareilly U. P.

The present study revealed that there was no significant association between knowledge score with their selected demographic variables of experimental group & control group. Whereas the significant association shows between knowledge score and sources of previous knowledge regarding umbilical cord blood banking of experimental group. The knowledge of experimental group was improved after giving Structured teaching programme.

Result of **Howaida Ragab Mohammed (2021)** showed similar findings that there was no significant association of knowledge score with their demographic variables.<sup>5</sup>

## References

- [1] What is cord blood and cord blood banking?/cryo cell international. Available at <https://www.cryo-cell.com/cord-blood-banking>
- [2] The Worldwide Cord Blood Banking Services Industry is Expected to Reach \$6+ Billion by 2026, December 16, 2021 04: 38 ET | Research and Markets available at <https://www.globenewswire.com/newsrelease/2021/12/16/2353323/28124/en/The-Worldwide-Cord-Blood-Banking-Services-Industry-is-Expected-to-Reach-6-Billion-by-2026.html>
- [3] Dublin. Global Cord Blood Banking Industry Report 2020: Trends, Expansion Technologies, Key Strategies, Regional Insights. Research and Markets. August 31, 2020. Available at: <https://www.globenewswire.com/en/news-release/2020/08/31/2086005/28124/en/Global-Cord-Blood-Banking-Industry-Report-2020-Trends-Expansion-Technologies-Key-Strategies-Regional-Insights.html>
- [4] Neha Patyal, Ramanpreet Kaur. A study to assess the knowledge and attitude of nurses regarding stem cell and umbilical cord blood banking. The Pharma Innovation Journal.2018; 7 (6): 154 - 159. Available at <https://www.thepharmajournal.com/archives/2018/vol7issue6/PartC/7-5-84-505.pdf>
- [5] Mohammed Ragab Howaida ed. at (2021) Effect of Applying Structured Teaching Programme on Knowledge and Attitude Regarding Umbilical Cord Blood Collection and Its Barriers among Maternity Nurses, journal of medicinal and chemical science, 2022 5 (1), 89 - 102. Available at [http://www.jmchemsci.com/article\\_139549.html](http://www.jmchemsci.com/article_139549.html)