

A study to assess the effectiveness of structure teaching programme on umbilical cord blood banking in expecting couples (19-40 Yrs.) in SMI hospital Dehradun.

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Abstract: A study was undertaken to assess the effectiveness of structure teaching programme on umbilical cord blood banking among expecting couples (19-40 yrs.) in SMI hospital Dehradun. The objective of the study is to assess the level of knowledge of expecting couples regarding cord blood banking and to assess the effectiveness of structure teaching programme among expecting couples regarding cord blood banking. **Method-** One group pre-test post-test design was used for acquiring the information needed of the study. A purposive sampling technique was used for 40 expecting couples in Obs & Gynaecological OPD. Data were collected with structured questionnaire which consist 30 questions with four options. The conceptual framework is CIPP evaluation model. **Result and conclusion;** the conclusion was derived from the finding of the study. Pre-test knowledge score of expecting couples, shows higher percentage score 52.5% expecting couples were having inadequate knowledge level and 47.5% were having moderate knowledge regarding the cord blood banking out of 100 in pretest. Whereas in the post test the percentage increases and 32.5% expecting couples gained moderate level of knowledge and 62.5% of expecting couples gained adequate level of knowledge out of 100% in the post test, after the administration of structured teaching programme.

Key Words: Umbilical cord blood, Cord blood banking. Expecting couples.

1. INTRODUCTION :

“The science of today is the technology of tomorrow.”

- Edward Teller

Umbilical Cord Blood is a rich source of stem cells, the building blocks of our bodies, which can act as a “self-repair” kit. Umbilical Cord blood cells are genetically unique and are a 100% match for the same child. Umbilical Cord blood cells hold the power to cure over 80 diseases. It is used in transplantation for treating various life-threatening diseases. Cord blood is composed of all the elements found in whole blood - red blood cells, white blood cells, plasma, platelets. As Cord blood have an ability to grow and differentiate, they are being considered as the treatment option to replace the diseased cells, tissue repairs so as to improve the efficiency and working of a failing organ and organ system e.g., failing heart to function due to damage to the cardiac tissues and muscles. However, the interest in cord blood is mostly driven by the observation that cord blood also contains various types of stem and progenitor cells, mostly hematopoietic stem cell.

2. Need of the Study

Umbilical cord blood is an increasingly important and rich source of stem cells. These cells can be used for the treatment of many diseases, including cancers and immune and genetic disorders. Since the first human cord blood transplant, cord blood banks have been established worldwide for the collection and cryopreservation of cord blood. Laboratory results show that compared with human leukocyte antigen matched unrelated bone marrow transplant, cord blood have many advantages including prompt availability of the transplant and decrease of graft vs. host disease and better long-term immune recovery resulting in a similar long-term survival.

According to WHO since 2002, tens of thousands of patients from all over the world have safely used therapy to treat many degenerative diseases such as ALS, Alzheimer’s disease, cardiovascular disease, stroke, osteoarthritis, muscular degeneration, cerebral palsy etc. studies have proved that siblings have up to 75% chances of compatibility and the cord blood can also be proved to be a match for parents and grandparents up to 50%. There are now nearly 142 public banks and at least an additional 25 private banks actively involved around the world in collecting, processing, testing and cryopreserving. UCB for potential future use as therapeutics. The highest inventory of 60,000 UCB is with New York Blood Centre’s National Cord Blood Program. In US only, more than 5000 umbilical cord blood transplants performed since 2009.

In India approximately 42,434 births occur daily, which results in discarding 42,434 umbilical cords a day. So, the storage of stem cells derived from umbilical cord can prove to be best possible insurance against life threatening diseases.

3. Objectives of the study:

- To assess the knowledge regarding Umbilical cord blood banking in expecting couples.
- To assess the effectiveness of structured teaching programme on Umbilical cord blood banking in expecting couples.
- To find the association between post-test knowledge score with and related demographic variables.

4. Review of literature:

A review of literature of the present study is aimed at assessing the effectiveness of structure teaching programme on cord blood banking in expecting couples (19-40 years) in SMI hospital, Dehradun.

Review of literature is divided under the three headings:

- Review related to knowledge regarding cord blood banking.
- Review related to storage of cord blood.
- Review related to the effectiveness of umbilical cord blood

5. Material and Methods:

One group pre-test post-test design was used. A total of 40 expecting couples’ sample were selected for this study. Purposive sampling method was used in this study. Description of demographic data It contains 9 items for obtaining information regarding age, religion, educational status, type of family, occupational status, family income, number of children, residential area and source of information. It is the second most effective method to gather data. A detailed questionnaires covering umbilical cord blood banking for expecting couples attending Obs & Gynaecology OPD. It is illustrated in the appendix part total 30 questions regarding umbilical cord blood banking was administered to expecting couples in Obs & Gynaecology OPD for collecting data. Data Collection were planned and to be analysed using descriptive statistics. The data was presented in the form of table and figures.

6. Analysis:

Table 1: Percentage wise distribution according to level of knowledge in pre-test

N=40

Knowledge level	Category	Respondents	
		Number	Percentage (%)
Inadequate knowledge	0-45%	21	52.5%
Moderate knowledge	46-75%	19	47.5%
Adequate knowledge	76-100%	0	0.0%
Total	30	40	100%

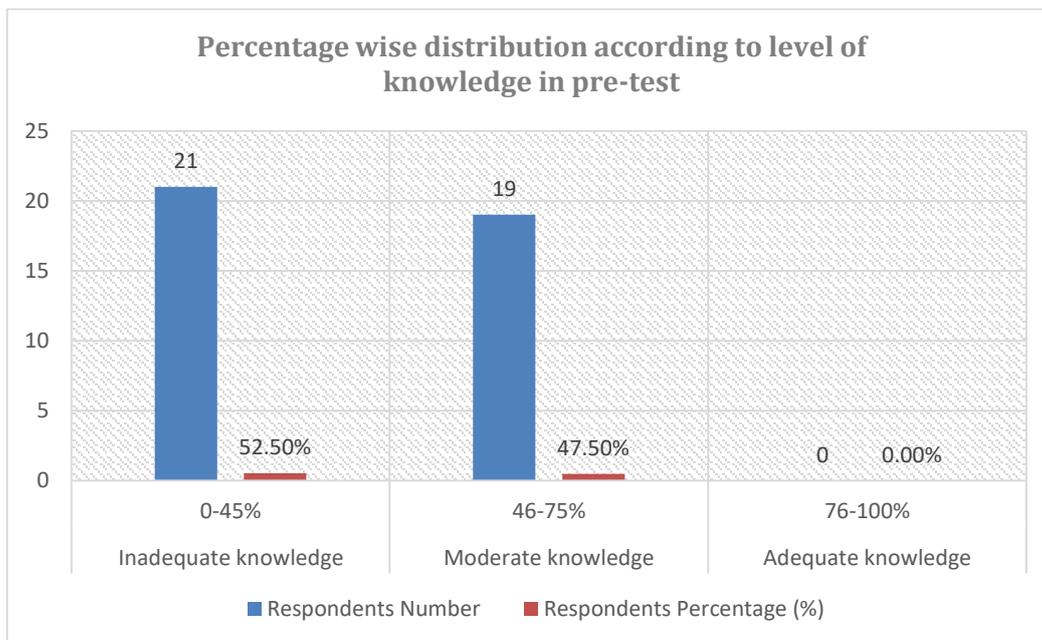


Figure.1.1 Bar diagram showing the percentage wise distribution according to level of knowledge in pre-test among expecting couples

Table 2: Percentage wise distribution according to level of knowledge in posttest
 N=40

Knowledge level	Category	Respondents	
		Number	Percentage (%)
Inadequate knowledge	0-45%	02	5%
Moderate knowledge	46-75%	13	32.5%
Adequate knowledge	76-100%	25	62.5%
Total	30	40	100%

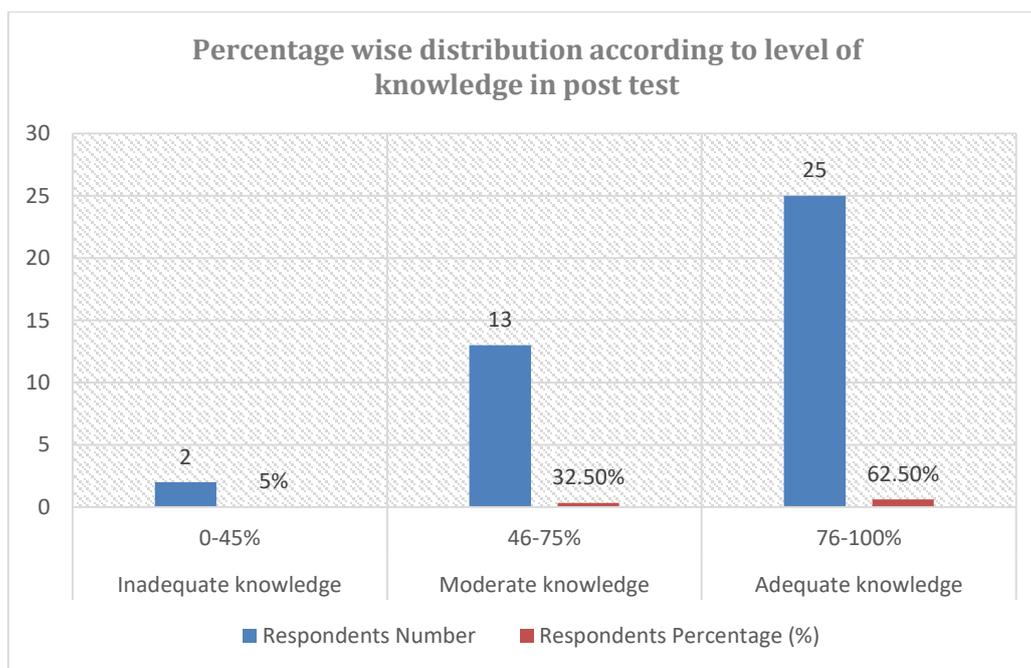


Figure.1.2 Bar diagram showing the percentage wise distribution according to level of knowledge in post-test among expecting couples

Table 3- OVERALL PRE- TEST AND POST TEST KNOWLEDGE SCORES

N =40

Aspects	Max score	Knowledge			T value
		Mean	Mean Percentage (%)	Standard Deviation	
Pre test	30	40.55	40.55%	3.22	86.9
Post test	30	99.5	99.5%	5.62	

Data show in table no.3 revealed that the mean post-test knowledge score value among expecting couples were significantly higher than the mean pre-test value. Therefore, it indicates that the STP was effective in increasing knowledge level among expecting couples. Hence the hypothesis H1 is accepted.

7. Findings of the study:

- In the pre-test, knowledge of expecting couples on general aspects of cord blood banking, majority 21 (52.5%) of subjects had inadequate knowledge, 19 (47.5%) of them had moderate knowledge whereas 0 (0.0 %) of subjects had adequate knowledge.

- In the post-test, knowledge of expecting couples on general aspects of cord blood banking, majority 25 (62.5%) of subjects had adequate knowledge, 13 (32.5%) of them had moderate knowledge whereas 2 (5%) of them had inadequate knowledge.

8. Conclusion :

The conclusion was derived from the finding of the study. The present study evaluating the effectiveness of structured teaching programme on umbilical cord blood banking to enhance the knowledge of expecting couples. The study concluded that there was significant improvement in subject score in the post-test after the teaching Thus, teaching was found effective in improving the knowledge level of expecting couples. In the present study it was also found that there was a significant association between the post-test score and selected demographic variables.

9. Recommendation:

- A study can be undertaken on large sample for making a more valid generalised.
- The same study can be conducted with an experimental research approach having a control group.
- A similar study can be done between the rural parents and urban parents.

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