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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CORD BLOOD BANKING AMONG STAFF NURSES IN A SELECTED HOSPITAL AT KOLLAM

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INTRODUCTION

The medical community has long sought methods to replace cells irreparably damaged by disease or injury. In recent years, stem cell research has become an integral part of this quest. Stem cells differ from the rest of the body´s cells in two ways. First, they have the ability to proliferate (i.e. renew themselves over extended periods of time). Second, they are unspecialized, and have demonstrated that under some controlled conditions, they can be transformed into cells performing specialized functions via a process called differentiation. Embryonic stem cells – logically found within embryos – have demonstrated their ability to proliferate within a laboratory and remain undifferentiated, which adult stem cells have not been able to do.[1] As the clinical utility has become apparent, collection and banking of UCB have become more widespread all over the world. The expansion of UCB banking has led to the establishment of UCB quality standards by professional groups such as AABB (formerly known as American Association of Blood Banks) and the Foundation for Accreditation of Cellular Therapy (FACT)/NETCORD. These best-practice expectations pertain to collection, testing, processing and banking of UCB for transplantation11. There are at least 142 public [three in India – Relicord (Reliance Life Science), (Jeevan Cord and Stemcyte) and 25 private (seven in India) UCB banks worldwide.[2]

IN 1988 First successful cord blood transplant to regenerate blood and immune cells in Paris, France, on a six-year-old boy suffering from Fanconi's Anemia, a blood disorder. The New York Blood Center establishes the first public bank for umbilical cord blood through funding provided by the National Institutes of Health in 1992, also University of Arizona banks the first cord blood sample in the world specifically stored for family use was introduced. In 1993 First unrelated cord blood transplant at Duke University and in1995First family bank, Cord Blood Registry opens. In 1996 First U.S. Food and Drug Administration (FDA) Investigational New Drug (IND) for cord blood - NIH/National Heart Lung and Blood Institute (NHLB) Sponsored Cord Blood Transplantation Study(COBLT).[3]

In India, till 2011, 32 patients had been transplanted by using related or unrelated umbilical cord blood. Out of this, 19 patients received umbilical cord blood with acute leukemia, aplastic anemia, 13 patients with thalassemia. Of these 7 cases were used fully matched sibling umbilical cord blood and 7 patients were expired due to disease related mortality, mismatched sibling cord blood and low number of total nucleated cell.[4]

Statement of the Problem

A study to assess the effectiveness of structured teaching programme on knowledge regarding cord blood banking among staff nurses in a selected hospital at Kollam.

OBJECTIVES OF THE STUDY

1. To assess the pre test knowledge scores regarding cord blood banking among staff nurses.
2. To evaluate the effectiveness of structured teaching programme on knowledge regarding cord blood banking among staff nurses.
3. 3. To find out the association between the pre test knowledge scores among staff nurses regarding cord blood banking and selected socio demographic variables.

HYPOTHESES

H_1: There will be a significant improvement in the post test knowledge scores regarding cord blood banking among staff nurses.

H_2: There will be a significant association between the pre test knowledge scores regarding cord blood banking with selected socio demographic variables.

METHODOLOGY

Research approach

The approach used in this study is Quantitative approach

Research design

The research design selected for the present study is Pre-experimental – one group pretest post-test design.

Sample and sampling technique

In this study, the sample consists of 40 staff nurses who were working in paedeatric and maternity departments of Holy Cross Hospital, Kottiyam. Sampling technique used is Non-probability purposive sampling.

Tool and Technique

Tool 1: Structured knowledge questionnaire
Section A: Socio demographic proforma.
Section B: Structured knowledge questionnaire.

Technique: Structured teaching programme

Data collection process

- For conducting the main study prior permission was obtained from the hospital administrator.
- The purpose of the study was clearly explained and confidentiality of the data was assured to the sample.
- A self-developed structured teaching programme was given to the 40 staff nurses regarding stem cell therapy, difference between cord blood and cord tissue, types of cord blood banking, steps of cord blood banking, merits of cord blood and cord tissue, disadvantages of cord blood and the cost required for the cord blood banking for one hour.
- Posttest was done after seven days to reassess the knowledge of staff nurses regarding cord blood banking.

Data analysis

The data obtained from 40 sample and they were organized, tabulated, and analyzed based on the objective of the study using descriptive and inferential statistics. Descriptive analysis was done by using frequency and percentage. Qualitative data were analyzed by using paired 't' test, to find out whether there is any significant difference between the scores of the pretest and posttest signifying the effect of structured teaching programme regarding cord blood banking. Chi-square test was used to find out the association of pretest knowledge scores with selected demographic variables.

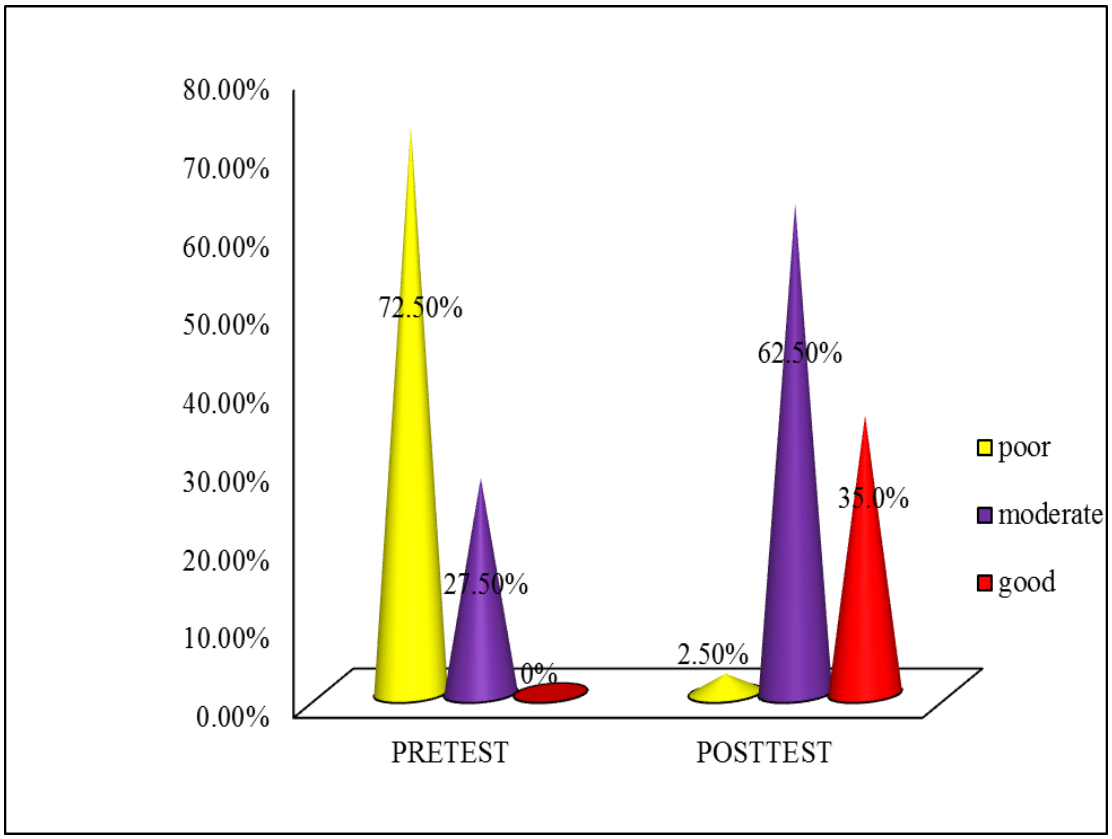

Figure 1: Percentage distribution of the sample according to their pretest and posttest knowledge scores.

Table 1: Effect of structured teaching programme on knowledge of staff nurses regarding cord blood banking.

Practice	Mean	SD	N	Mean difference	Paired t	P
Pretest	11.4	5.7	40	9.7	9.37**	0.000
Posttest	21.1	3.5	40			

** Significant at 0.01 level

Table 2: Association between pretest knowledge scores with selected demographic variables.

Demographic variable	chi-square	df	P-value	Inference
Age	13.73	4	0.00	S**
Gender	0	0	0	NS
Religion	0.02	4	0.884	NS
Marital status	0	2	0.972	NS
Educational qualification	0.19	4	0.664	NS
Years of Experience	0.23	4	0.629	NS
Experience in Current Working Hospital	0.01	4	0.911	NS
Area of Work	0.12	8	0.942	NS
Prior Exposure	0.19	2	0.665	NS
Source of Knowledge	1.66	4	0.721	NS

** Significant at 0.01 level

RESULT

The posttest knowledge score ranged from 15 with mean of 21.1 and standard deviation 3.5. The study results demonstrated a significant increase in posttest knowledge score with 't' value of (t = 9.37) at 0.01 level of significance. Findings of the present study showed that the chi-square value for age was 13.73 (P=0.00<0.05). As the P value was less than 0.05 level of significance. The findings of the research study shows that structured teaching programme was effective in improving the knowledge and practice of staff nurses regarding cord blood banking. A significant association was found between the mean pretest knowledge score with age.

DISCUSSION

Based on first objective, in pretest 72.5% of the staff nurses had poor knowledge and 27.5% had moderate knowledge regarding cord blood banking before structured teaching programme.

According to second objective, the findings of the study revealed that the mean posttest knowledge score 21.1 is higher than the mean pretest knowledge score 11.4, with a standard deviation of 3.5 for the post test and 5.7 for the pretest. The calculated't' value for the pretest and posttest knowledge score is 9.37 which is greater than the table value (2.70) at 0.01 level of significance and there is significant difference in the mean posttest knowledge score. Hence, the null hypothesis (H0) is rejected and research hypothesis (H1) is accepted which indicates that the structured teaching programme have improved the knowledge scores of staff nurses regarding cord blood banking.

In accordance with third objective, the association between mean pretest knowledge score with selected demographic variables were computed using Chi-square test. The selected demographic variables were age, gender, religion, marital status, educational qualification, years of experience, years of experience in current working hospital, area of work, prior exposure to in service education to cord blood banking and source of knowledge. The chi-square value for age was 13.73 (P=0.000<0.05). As the P value is less than 0.05 level of significance, null hypothesis was rejected and research hypothesis was accepted. So there was significant association between the mean pretest knowledge score with age.

CONCLUSION

This present study on structured teaching programme regarding cord blood banking was done to improve the knowledge level of staff nurses and to make them aware about the benefits of cord blood banking. Nurses can often influence the way patients look at post-treatment care, and motivate them to stay on course with daily medication and therapy. They are often the determining factor in patients deciding to continue with their treatment and report any anomalies as they occur. Nurses can also play a large role in counselling patients who wish to receive more information about cord blood banking and how to undergo the process, especially if they are admitted to a birthing facility where their gynecologist or obstetrician may not be present to oversee the cord blood collection. More significantly, they can help save precious time right after the birth by conducting the cord blood collection process by themselves in the absence of a doctor.[5]The study findings emphasized the effectiveness of structured teaching programme in improving the knowledge of staff nurses. The study was a new learning experience for the researcher.

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