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A study to assess the effectiveness of self instructional module to increase awareness of umbilical cord blood stem cell banking among eligible couples in selected urban community of Indore city in the year 2014-15

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Abstract

Background: During the 1970's researchers discovered that umbilical cord blood could supply the same kind of hematopoietic stem cells as bone marrow donor. And so, umbilical cord blood banking began by collecting and storing umbilical cord blood.

Objective: The present study aimed to assess the effectiveness of self-instructional module on knowledge regarding cord blood banking among eligible couples in Jabalpur.

Methodology: Pre-experimental, one group pre-test post-test design was adopted for this study. 50 eligible couples in Jabalpur were selected for this study. A pretest was conducted by using structured knowledge questionnaire and on the same day the Self-instructional module regarding cord blood banking was administered to them. After 7 days, post test was conducted with the same questionnaire for the same group of staff Nurses to assess the effectiveness of SIM.

Results: The mean score in the post test is 31.78 and the mean score in the pretest is 14.54. The calculated value of t is 72.35 which is highly significant. The result undoubtedly confirms that the SIM significantly was effective in improving the knowledge on CBB among the eligible couples.

Keywords: Assess, effectiveness, self-instructional module, umbilical cord, blood cord, blood banking, stem cells, eligible couple

Introduction

"A study to evaluate the effectiveness of Self Instructional Module in terms of knowledge regarding umbilical cord blood stem cell banking among eligible couples in the selected urban community of Indore in the year 2015." was undertaken by Mrs. Rajshree Malviya, towards partial fulfillment of the requirement for the award of the degree of Master of Science in Nursing, at Government College of Nursing, Devi Ahilya Vishwavidalaya, Indore, Madhya Pradesh during the year of 2014-2015.

The objectives of the study were:

- To assess the pre-existing knowledge regarding Umbilical cord blood stem cell banking among eligible couples.
- To determine the effectiveness of Self Instructional Module regarding Umbilical cord blood stem cell banking.
- To find out the association between pre-test knowledge and selected demographic variables.

Methods

The study utilized an evaluative research approach with pre-experimental one group pre-test and post-test research design. The population comprised of eligible couples in the selected urban community of Indore. A sample size of 40 eligible couples was selected using purposive sampling.

The independent variables was the Self Instructional Module and the dependent variable was the knowledge score of eligible couples.

A structured knowledge questionnaire was developed by the investigator for data collection. A Self Instructional Module was developed regarding umbilical cord blood stem cell

banking, both of which validated by the experts. Reliability of the tool was found by using Karl's Pearson (Correlation Coefficient) formula and it was found to be significant i.e. $r=0.78$.

Permission for conducting the study was taken from the concerned authority. After conduction the pilot study, a final study was carried out on 40 eligible couples in selected urban community of Indore. The Self Instructional Module was given on the same day after pre- test and post-test was taken after seven days.

Results

The findings of the study indicated that eligible couples have inadequate knowledge regarding umbilical cord blood stem cell banking. The total mean score secured by the eligible couples is 6.55 on the scale of 1-20.

The mean post- test knowledge score (17.65) which is higher than the mean pre-test knowledge score (7.4), the dispersion of pre-test scores ($SD \pm 1.56$) is more than that of their post-test score ($SD \pm 1.03$) and paired 't' test computed ($t=39.44, p<0.001$) showed a significant difference suggesting that the Self Instructional Module was effective in increasing the knowledge regarding umbilical cord blood stem cell banking among eligible couples. There was no association between pre-test knowledge score and selected demographic variables like between age, type of contraceptive used, family income, educational status. There is a significant relationship between level of knowledge and number of children of eligible couples regarding umbilical cord blood stem cell banking. The chi-square value is 9.58 which shows significant association ($p<0.001$). Hence, there is association between number of children and level of knowledge.

The findings of the study have implications for nursing practice, nursing education, nursing administration and nursing research:

Implications

Self-Instructional Module is considered an effective education strategy to improve the awareness and knowledge of the eligible couples. All the eligible couples can be provided with a copy of Self Instructional Module that may help them for independent learning to improve their knowledge regarding umbilical cord blood stem cell banking and integrate it into their practice.

Nurse educator should train the nursing student to acquire the knowledge and skills in assessing the learning needs of the patients and also of eligible couples and to plan out teaching program based on the same in the hospital and in the community setting.

Nurse administrator can organize various in-service education programme for staff nurses and should take initiative plan for creating policies or in providing education to the eligible couples during their hospital stay and at the time of discharge and also in community setting.

Research can be conducted to assess the knowledge and attitude of health care providers regarding cord blood collection and stem cell banking.

So it can be concluded that the eligible couples have inadequate knowledge regarding umbilical cord blood stem cell banking. A Self Instructional Module is an effective teaching strategy to increase their knowledge regarding umbilical cord blood stem cell banking.

Objectives of the study

To assess the pre-existing knowledge regarding Umbilical cord blood stem cell banking among eligible couples.

To determine the effectiveness of Self Instructional Module regarding Umbilical cord blood stem cell banking.

To find out the association between pre-test knowledge and selected demographic variables.

Hypothesis

H₀: There will be no significant difference between pre-test and post-test knowledge score after providing Self Instructional Module to increase awareness of Umbilical Cord Blood Stem Cell Banking among eligible couples.

H₁: There will be significant difference between pre-test and post-test knowledge score after providing Self Instructional Module to increase Umbilical Cord Blood Stem Cell Banking among eligible couples.

Delimitation

The study is delimited to

- Eligible couples available during the study period.
- Administration of Self Instructional Module once after the pre-test.
- Assessment of knowledge score of eligible couples were made only once before and after the administration of Self Instructional Module.

Research Approach

A research approach tells the researcher as to what data to collect and how to analyze it. It is the overall plan or blue print chosen to carry out the study. It also suggests the possible conclusion to be drawn from the data. In view of the objectives of the present study, an evaluative research approach was considered to be most suitable.

Research Design

The research design selected for the study was pre-experimental one group pre-test and post-test design. This design is widely used in educational research. This study intended to measure the gain in knowledge scores by eligible couples who will be introduced to Self Instructional Module. Here only one group is observed before and after introducing the independent variable. The design can be represented as:

PE → 01 → X → 02

Conclusion

After the detailed analysis, this study leads to the following conclusion:

That eligible couples did have 100% knowledge regarding umbilical cord blood stem cell banking. They require further education and information because all of them need to enhance their knowledge regarding umbilical cord blood stem cell banking.

There was a highly significant increase in the knowledge of the subjects after the introduction of Self Instructional Module, the paired 't' test computed between mean pre-test knowledge score 6.55 and mean post-test knowledge score 17.65, which highly indicated a highly significant difference in the knowledge score. Thus, it is concluded that the Self Instructional Module regarding umbilical cord blood stem

cell banking is effective as a teaching strategy. Selected demographic variables do not show a major role in pre-test knowledge score. Hence, on the basis of above cited findings, it could be concluded undoubtedly that the written material prepared by the investigator in the form of Self Instructional Module helped the eligible couples to improve their knowledge regarding umbilical cord blood stem cell banking will also be serve as a ready reference for the subjects.

Conflict of Interest

Not available

Financial Support

Not available

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