

Effect of Self-Instructional Module on Foetal Well-being Measures among Nurses in Bengaluru

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Abstract

Perinatal mortality (accounting for 90% of all foetal deaths in developed countries) and morbidity remains a challenge for health functionaries and health purveyors. The present study was therefore undertaken to assess the existing knowledge of staff nurses regarding foetal well being measures, evaluate the effectiveness of self-instructional module and find the association, if any, between post-test knowledge score and selected variables. The sample consisted of 40 staff nurses of Vanivilas Women & Children Hospital, Bangalore. Using non-probability purposive sampling, the views of staff nurses were elicited 40 knowledge items. All the respondents were female, had GNM qualification; majority of them were married and in age range 30-39 years; over half of them had not undergone in-service education in obstetrics/ paediatrics. It is concluded that screening and monitoring in pregnancy are important strategies to monitor the well being of the foetus and reducing the incidence of perinatal mortality and morbidity.

Perinatal mortality and morbidity is a problem of serious dimension in all countries. Numerous factors are responsible for fetal death which may involve one or more complications in the mother during pregnancy or labour, in the placenta or in the foetus resulting from lack of knowledge of midwives about the advanced obstetric technologies and their implications.

The incidence of perinatal mortality accounts for about 90 percent of all foetal and infant mortality in the developed countries. In India, still births are seldom registered. The SRS estimates for perinatal mortality rate in India for the year 2006 is about 37/1000 total births, with about 41 for rural areas and 24 for urban areas. In Karnataka total perinatal mortality rate is estimated to about 34/1000 total births, with about 42 for rural areas and 80 for the urban areas.

Screening and monitoring in the pregnancy are the important strategies used to monitor the foetal well being and aid in preventing still births and also reduce perinatal morbidity and mortality. The main aims of foetal monitoring are:

1. Assuring satisfactory growth and well being of the foetus as well as the mother throughout the course of pregnancy.
2. Identify the development of factors which are likely to adversely affect maternal or foetal health and initiating steps to rectify the same.

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3. Detecting early in pregnancy, congenital foetal anomalies and inborn errors of metabolism which are incompatible with life, and lead to chronic ill health of the offspring.

Some of these tests include biochemical and biophysical assays. Biochemical assays include maternal serum alpha protein testing or triple testing, amniocentesis, etc. Biophysical assays include foetal movement count, foetal heart rate monitoring, non-stress test, etc.

Objectives

This study attempted to : (a) assess the existing knowledge of staff nurses regarding foetal well-being measures, (b) evaluate the effectiveness of self-instructional module regarding selected foetal well-being measures, and (c) find the association between the post-test knowledge score and the selected demographic variables such as Age, Gender, Marital status, General education, Professional education, Type of family, Number of children, Clinical experience, Inservice education and Source of Information.

Hypothesis

H₁ - There will be significant difference in pre-test and post-test knowledge scores on selected foetal well-being measures.

H₂ - There will be significant association between post-test knowledge score and selected demographic variables.

The Conceptual framework is based on critical thinking of Nursing Practice with Orem's Self Care Deficit Cognitive Theory, which emanates from four structural cognitive operations, viz. diagnostic, prescriptive, regulatory and control operations/phases.

Methodology

The research design used in this study was pre-experimental in nature. The study was conducted at Vanivilas Women & Children Hospital, Bangalore. The target population consisted of registered staff nurses working in Vanivilas Women & Children Hospital, Bangalore. The samples included 40 staff nurses. Non-probability purposive sampling was used for this study. The tool used for the study was the structured knowledge questionnaire consisting of Section 1 (demographic data) and Section II (consisting of 40 items relating to knowledge on selected foetal well-being measures). The distribution of items was based on three domains namely knowledge (21 items), comprehension (12) and application (7) covering all aspects of selected foetal well-being measures. The content validity of structured knowledge questionnaire was ensured by submitting the tool to the experts in the field of OBG for content validation. Pilot study was done on 5 non-sample subjects (who were not included in the study) at Government Hajee Sir Ismail Seth Ghouseia Hospital, Shivajinagar, Bangalore.

Results & Findings

A. Related to demographic characteristics of the subjects

- Majority of the respondents (40%) were in the age group of 30-39 years.
- 100 percent respondents were females.
- 92.5 percent respondents were married.
- Majority of the respondents (52.5%) were educated up to PUC.
- 100 percent respondents had GNM qualification.
- 37.5 percent of respondents had two children.
- Majority of respondents (60%) belonged to Nuclear family.
- 37.5 percent respondents had 10-15 years of clinical experience and 37.5 percent respondents had 16-20 years of clinical experience.
- 55 percent respondents have not undergone in-service education in Obstetrics / Paediatrics.

- 57.5 percent respondents got information through health personnel.

B. Related to the pre-test and post-test knowledge scores of staff nurses regarding selected foetal well-being measures:

- Highest (66.1%) knowledge score in aspect wise pre-test mean knowledge score on concept of foetal well-being measures.
- Highest knowledge score in aspect wise post-test mean knowledge score on concept of foetal well-being measures (95.7%), non-stress test (79.3%) and Amniocentesis (76.7%).
- The post-test mean knowledge score was found higher (95.7%) when compared with pre-test mean knowledge score (66.1%).
- Aspect wise enhancement of mean knowledge scores was higher (41.9%) in the aspect of amniocentesis. The overall enhancement of knowledge score was 36.1 percent.
- The statistical paired 't' test indicated that enhancement in the mean knowledge scores was significant at 0.05 level for all the aspects under the study.

C. Related to the impact of demographic variables on post-test knowledge scores

The impact of demographic variables on the knowledge scores was computed by using chi-square (X^2).

- There was significant impact of general education ($x^2 = 4.61$, $p < 0.05$), type of family ($x^2 = 4.86$, $p < 0.05$), in-service education ($x^2 = 6.83$, $p < 0.05$) on knowledge scores.
- There was no significant impact of age ($x^2 = 0.43$, $p > 0.05$), marital status ($x^2 = 0.01$, $p < 0.05$), number of children ($x^2 = 1.00$, $p > 0.05$), clinical experience ($x^2 = 0.04$, $p > 0.05$), source of information ($x^2 = 1.24$, $p > 0.05$) on knowledge scores.

Implications on Nursing

Nursing Education: Nursing students should be given necessary theoretical and practical knowledge on foetal well-being measures, its implications, application along with the recent and advanced technology. Curriculum should give additional importance in developing skills of the student nurses for better utilisation of available equipments.

Nursing Practice: Nurses' deficient knowledge regarding selected foetal well-being measures

indicated the need for arranging in-service education, continuing education, skill training programmes to enhance the staff nurse's knowledge and skills regarding foetal well-being measures.

Nursing Administration: The nursing administrators at institutional, local, state and national level should support nurses to know about the foetal well-being measures, its implications, application along with the recent and advanced technology. Print and electronic media may be utilised to educate the staff nurses. Health administrators should influence the education department in the curricula to include the foetal well-being measures with its advanced application.

Nursing Research: The findings of the study can serve as a basis for further studies on foetal well-being measures. It will motivate the researchers to conduct the same study on large scale.

Recommendations

- a. Similar study can be replicated on a larger scale to generalise the findings.
- b. An experimental study can be undertaken with control group for effective comparison.
- c. A study can be conducted (i) to evaluate various teaching strategies like Structured Teaching Programme, Information booklet, or (ii) to assess the standards/ protocols practiced in the hospitals related to assessment of fetal well-being.

Conclusion

Screening and monitoring in the pregnancy are the important strategies to monitor the foetal well-being and aids in preventing still births and also reduce perinatal morbidity and mortality. Nurse plays a vital role in assessing the knowledge of women and their families about these measures, risk to the foetus and possibly to the pregnant women and also in providing necessary information. Enhancement in knowledge mean percentage (pre-test 42.3% to post-test 78.3%) reveals that the SIM was an effective teaching material for the staff nurses, helping them gain knowledge regarding selected foetal well-being measures.

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