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A Study to Evaluate the Effectiveness of Structured Teaching Programme Regarding Genetic Screening among Nurses in Selected Maternity Units, Bangalore

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ABSTRACT

Introduction

Birth defects are a global problem, every year an estimated 8 million children about 6% of total births worldwide are born with a serious birth defect of genetic or partially genetic origin. In India, approximately half a million children are born annually with congenital malformations. Generally, the screening is done between 11 - 20 weeks of pregnancy. Genetic screening is used to determine whether a couple is at increased risk of having a baby with a hereditary genetic disorder). A quasi experimental study was conducted to evaluate the effectiveness of structured teaching programme regarding genetic screening among nurses in selected maternity units, Bangalore.

Method

The present study was conducted among nurses who are working in Vani vilas maternity center, Bangalore. The sample consisted of 40 nurses. Samples were selected through stratified random sampling. One group quasi experimental pre-test and post-test design.

Results

The present study to "evaluate the effectiveness of structured teaching programme regarding Genetic Screening among Nurses in the selected maternity units. The researcher observed mean difference between the pre-test and post-test knowledge score of nurses was found to be significant =10.420 at 0.001 levels. This confirms that STP is an effective strategy and no significant association between knowledge and selected demographic variables like Age, qualification, marital status, type of family, total years of experience, family history of genetic disease, and previous source of information.

Summary

The study to evaluate the effectiveness of structured teaching programme regarding genetic screening among nurses. Overall experience of conducting this study was satisfying and enriching, even the respondents were happy and satisfied with the information they received. For the investigator the study was a new learning experience, this also showed that there is a great need to educate the nurses regarding genetic screening**.**

KEYWORDS

Knowledge, Genetic Screening, Nurses

"Each generation is a filter, a sieve; good genes tend to fall through the sieve into the next generation; bad genes tend to end up in bodies that die young or without reproducing".

- River Out of Eden

INTRODUCTION

Genetic screening is "the analysis of RNA, chromosomes (DNA), proteins, and certain metabolites in order to detect heritable disease-related genotypes, mutations, phenotypes, or karyotypes for clinical purposes " (Holtzman & Watson 1997). It is used for amniocentesis [2], chorionic villus sampling, percutaneous umbilical blood

sampling, alpha fetoprotien analysis, fetoscopy and ultrasound. In India, approximately half a million children are born annually with congenital malformations, most of which are related to genetic or chromosomal abnormalities. Generally, the screening is done between 11 - 20 weeks of pregnancy.

NEED FOR THE STUDY

Birth defects are a global problem, but their impact is particularly severe in middle- and low-income countries where more than 94 % of births with serious defects [1]. This is a serious, vastly unappreciated and under-funded public health problem. India, like other developing countries, is facing congenital malformations and genetic disorders are important causes of morbidity and mortality. Due to the high birth rate in India a very large number of infants with genetic disorders are born every year almost half a million with malformations and 21,000 with Down syndrome.

The investigator observed that all nurses now need education related to genetics. Identification, referral, and support of clients with genetic concerns are no longer the sole responsibility of specialists. As the genetic components of disease become better understood and as genetically based diagnoses, screening tests, and therapies develop, clients need and expect nurses to help them interpret information, evaluate risks, and use services.

STATEMENT OF THE PROBLEM

"A study to evaluate the effectiveness of structured teaching programme regarding genetic screening among nurses in selected maternity units, Bangalore"

OBJECTIVES OF THE STUDY

1. To assess the pre test knowledge on genetic screening among nurses,
2. To assess the post test knowledge on genetic screening among nurses,
3. To evaluate the effectiveness of structured teaching programme regarding genetic screening,
4. To find out the association between knowledge regarding genetic screening and selected variables.

HYPOTHESIS

H_1: There is a significant increase in the knowledge on genetic screening after structured teaching programme than before structured teaching programme.

H_0: There is no significant association between the knowledge score and the selected demographic variables.

CONCEPTUAL FRAMEWORK

The conceptual framework selected for the study was based on Patricia Benner [5]. Her model is one of the most useful frameworks for assessing nurses' needs at different stages of professional growth. Benner believed that nurses have been delinquent in documenting their clinical learning and, this lack of charting of our practices and clinical observations deprives nursing theory of the uniqueness and richness of the knowledge embedded in expert clinical practice [5]. The concepts of the theory are novice, advanced beginner, proficient, expert, aspect of a situation, attribute of a situation, experience. These concepts are interrelated in every nursing situation. These terms are defined as concepts in the conceptual framework.

METHODOLOGY

In view of the nature of the problem selected for the study and the objectives to be accomplished, an evaluative research approach was considered as appropriate for the present study

RESEARCH DESIGN

The research design selected for this study was Quasi experimental One Group Pre and Post – test design (O_1 x O_2).

POPULATION

In the present study population consisted of all nurses who are working in Vani Vilas Maternity Center, Bangalore.

SAMPLING

a**) Sample**: Samples are selected from the population who meets the inclusion criteria.

b) **Sample size**: sample consisted of 40 Nurses who are working in Vani Villas Maternity Unit, Bangalore.

c) **Sampling technique**: In this study stratified random sampling technique was used.

INCLUSION CRITERIA

1. Those who are willing to participate.
2. Nurses who are present at the time of data collection.
3. Nurses who can read and understand Kannada or English.

EXCLUSION CRITERIA

Nurses who have already undergone training programme on genetic screening.

DEVELOPMENT AND DESCRIPTION OF TOOL

Section I: demographic data.

Section II: Self-administered questionnaire

Section III: Structured Teaching Programme.

ETHICAL CONSIDERATION

The permission from Institution Review Board and ethical committee researcher was taken and then study was conducted. Permission from the institution and informed consent from samples were taken.

PLAN FOR DATA ANALYSIS

The data is analyzed by both descriptive and inferential statistics on the basis of objectives and hypothesis of the study. To compare the data, master data sheet was prepared by the investigator.

DESCRIPTIVE STATISTICS

Frequency and percentage distribution were used to analyze demographic variables and to assess the blood pressure.Mean and standard deviation were used to determine the difference in level of blood pressure.

INFERENTIAL STATISTICS

The‘t’ test was used to determine the significance of the effectiveness of the planned teaching programme. The ‘chi – square’ test was used to check association between selected demographic variables and pre test score.

RESULTS

The researcher observed in pre-test knowledge on genetic screening that majority of the participants 67.5 % had moderate knowledge and 32.5 % had inadequate knowledge and 0 % had adequate knowledge. In post-test knowledge on genetic screening, majority of the participants i.e., 52.5 % had adequate knowledge, 47.5 % had adequate knowledge and neither had inadequate knowledge.

The mean percentage of post-test knowledge score 26.15 (74.71percentage) was apparently higher than its mean percentage of pre-test knowledge score 19.18 (54.79percentage). The mean difference between the pre-test and post-test knowledge score of nurses was found to be significant (t (39) =10.420) at 0.001 levels. This confirms that STP is an effective strategy. Hence, the research hypothesis H1 was accepted.

There is no significant association between knowledge and selected demographic variables like age, qualification, marital status, type of family, total years of experience, family history of genetic disease, and previous source of information.

There was a significant reduction observed between pre and post test score among experimental group at 0.05 level of significance. Hence the hypothesis stated H1 that “There is a significant difference in post intervention score of blood pressure among experiment group as compared to the pre intervention score at 0.05 level of significance” is accepted. This is supported by the study, Park and Brown (2006) conducted a study on relaxation exercise training on treatment of 30 hypertensive patients showed a positive effect by reduction in systolic and diastolic blood pressure.

On comparing the post test score between experimental and comparison group on blood pressure there was a significant difference observed at $p<0.05$ level of significance. Hence the hypothesis stated H2 that "There is a significant reduction in post intervention score of blood pressure among experiment group than that of comparison group at 0.05 level of significance" is accepted.

The researcher associated the pre test score of blood pressure with selected demographic variables with experiment and comparison group. Out of 6 variables associated only meal pattern has found an association with blood pressure. Hence the hypothesis stated H3 "There is a significant association of pre intervention score of blood pressure among experiment group and comparison group with selected demographic variable at 0.05 level of significance" was rejected except for the meal pattern. It may due the over consumption of Jung and fast foods, sedentary life style, working men and women etc. It is supported by the study conducted by Bhargha and Sanghvi (2003) that prevalence of hypertension is greater among industrial workers, working parents, professional classes in Ludhiana, Punjab.

CONCLUSION

The study assessed the effectiveness of STP regarding genetic screening among nurses. It is quiet clear that structured teaching programme help the nurses to improve the knowledge regarding genetic screening.All nurses now need education related to genetics. And supports of clients with genetic concerns are no longer the sole responsibility of specialists. As the genetic components of disease become well understood and as genetically based diagnoses, screening tests, and therapies develop, clients need and expect nurses to help them interpret information, evaluate risks, and use services.

RECOMMENDATIONS

1. A study may be done to explore the attitude and practice of the nurses regarding genetic screening.
2. In-service education should be conducted periodically.
3. Develop further research and Meta analysis on the same subject

LIMITATIONS

The study is limited to 40 samples, hence generalization is difficult.

BIBLIOGRAPHY

1. Adele Pillitteri. (2010) "maternal & child health nursing: care of the childbearing& childrearing family", 6th edition. New York: Lippincott Williams & Wilkins

2. Genetic screening Wikipedia The free encyclopedia. Available from:http://en.wikipedia.org/wiki/Genetic_testing

3. World Health Organization. . Amniocentesis and chorionic villus sampling for prenatal diagnosis [Serial online] 2009 April 1 [Cited 2009 Nov 20]. Available from: URL: http://apps.who.int/rhl/pregnancy_childbirth/fetal_disorders/prenatal_diagnosis/CD00325

4. White Dlains N.V, Dr. Jennifer L. Howse. Birth defects, 8 million annually world. A comprehensive global analysis identified trends & interventions. [Serial online] 2006 January30 [cited 2008 Sep22]; [P-43-44]. Available from: URL:http:// www.marchofdimes.com/aboutus/15796-18678.gsp

5. Benner P, Benner-Studied-Clinical-Nursing-Practice-in-an-Attempt-to-Discover-and-Describe-the-Knowledge-Embedded-in-Nursing-Practice. [Serial online] 2007 July [cited on 2017 march 22];[P-1-4]. Available from: URL: https://www.scribd.com/document/88562157/

6. Ahmad Behrooz. Prevalence of neural tube defect and its relative factors in South - West of Iran. [Serial online] 2007 July [cited on 2009 February]; 23(4): [P-654-656]. Available from: URL: http://pjms.com.pk/issues/julsep07/article/bc1.htm

7. Sutter health. Prenatal test. [Serial online] 2008 march [cited on 2010 January24]; Available from: URL: http://www.babies.sutterhealth.org/during/preg_prenataltests.html