Research Article

Effectiveness of Planned Teaching Program on Knowledge Regarding Prevention of Congenital Anomalies among Newly Married Couples

Aparna B. Kale

Department of pediatric Nursing, Bharati Vidyapeeth (Deemed to be) University, College of Nursing, Sangli, Maharashtra, India

Abstract

Aim: The aim of this study was to assess the effectiveness of planned teaching program on knowledge regarding to prevention of congenital anomalies among newly married couples from selected community area of Sangli city.

Introduction: Congenital anomalies also commonly referred to as birth defects. These encompass a wide array of structural and functional abnormalities that can occur in isolation (i.e., single defect) or as a group of defects (i.e., multiple defects). Congenital anomalies can lead to infant mortality. Hence, investigator felt need to impart the knowledge to the couples to take care of before and after pregnancy, to prevent risk of developing congenital anomalies in children.

Objectives: The present study was carried out to assess the pre-existing knowledge regarding congenital anomalies from selected community area from Sangli city and the effectiveness of planned teaching program related to prevention of congenital anomalies among newly married couples.

Methodology: The research design used was one group pre-test and post-test design to collect the sample constitutes; 70 newly married couples (6 months–1 years) in selected community from Sangli, Miraj area. Based on the study objectives, pre-test – post-test was conducted and questionnaires were used for collecting the data.

Results: Knowledge of newly married couples of pre-test mean score is 5.3, standard deviation is 1.963, and in post-test mean score is 11.14, standard deviation is 2.736, $t = -12.689$ and, $P = 0.00{,}001$, it is highly significant as $P < 0.05$.

Conclusion: The present study is shown that there is increase in the knowledge score after planned teaching program. Suggesting that planned teaching program is effective.

Keywords: Congenital disease, planned teaching program, newly married couple

Introduction

Occurrence of birth defects remains an important public health issue. Inadequate knowledge about the defects among prospective mothers could result in delayed interventions. Several studies determined the knowledge of birth defect among pregnant women in relation to their socio-demographic profile.[1] Most of the reports on mothers with bicornuate uterus analyze fertility, reproductive capacity, and pregnancy outcomes. Very few of them, however, mention the risk for congenital anomalies in their offspring. Further, to the best of our knowledge, no epidemiologic studies estimating the risk for congenital defects and analyzing the type of anomalies observed in infants born to mothers with bicornuate uterus have been reported.[2]

Proper knowledge about risk factors and prevention of congenital malformations in pregnant women can lead to primary prevention of disease.[3] Congenital anomalies are a major cause of stillbirths and neonatal mortality. The pattern and prevalence of congenital anomalies may vary over time or

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Address for Correspondence:
Mrs. Aparna B. Kale, Department of Paediatrics, Bharati Vidyapeeth College of Nursing, Sangli, Maharashtra, India. E-mail: baparnakale@gmail.com

with geography. In 2010, congenital anomalies were estimated to be the fifth largest cause of neonatal deaths in India after preterm births (34.7%), intrapartum complications (19.6%), pneumonia (16.3%), and neonatal sepsis (15%).[4]

Despite this ranking, in absolute numbers, congenital anomalies were estimated to contribute to 60, 699 neonatal deaths in India in 2013, which accounted for the highest global burden of neonatal mortality due to congenital anomalies.[5] India lacks national birth defects surveillance, indicating that there are no data on the magnitude of congenital anomalies in the country. Thus, systematic data on the magnitude of congenital anomalies, the most prevalent types of congenital anomalies, their healthcare impact, and their impact on neonatal health are required, especially as India has announced a program for the management of children born with selected birth defects.[6]

It is noteworthy that several studies have attempted to measure the magnitude of congenital anomalies in India.[7] Most suffer from methodological issues such as issues non-random sampling, lack of use of standard case definitions, and lack of systematic evaluation of infants. Thus, these studies yield a wide variation in prevalence.[8]

The offspring's of consanguineous parents are at a risk of a host of disease such as cancer, mental disorders, hypertension, hearing deficit, diabetes mellitus, epilepsy, asthma, leukemia, beta-thalassemia, and congenital and non-congenital heart diseases.[9] It is observed that in the rural community, consanguineous marriages are still practiced and also families are having diabetic mellitus, thyroid problems, and other medical illness.[1,10]

Thus, the present study was carried out to assess the effectiveness of planned teaching program on knowledge regarding to prevention of congenital anomalies among newly married couples from selected Community Area of Sangli city. Furthermore, effectiveness of planned teaching program related to prevention of congenital anomalies was also evaluated.

Research Methodology

In the present study, quantitative research approach was used. Pre-experimental study, one group pre-test and post-test design, was adopted for study. In this study, the planned teaching program has been used as independent variables, whereas knowledge of newly married couples is considered as dependent variable.

The study was conducted in Miraj Sangli city. The study was conducted among 70 newly married couple from selected community in Sangli, Miraj area. Purposive sampling technique was used.

Sample selection

Inclusion criteria

Newly married couples who can understand, read, and speak Marathi and English language and those who were available at the time of data collection were included in the study.

Exclusive criteria

Newly married couples who were not willing to participate were excluded from the study.

Data collection tools

The tools used in the study were demographic data (age, educational status, religion, type of family, and consganeous marriage) and structured questionnaire.

Validity

To ensure the content validity of the tool, it was submitted to 14 experts along with the blue prints. Three teachers from pediatrics department, five teachers from medical department, two teachers from community department, two teachers from obstetrics and gynecology department, and suggested reliable changes were made.

Reliability

The questioners were given to ten newly married couples to assess the level of knowledge. Test split half method used. The reliability coefficient "r" is for present questionnaires, which was 0.8 which is more than 0.7; hence, the questionnaire was found to be reliable.

Pilot study

Pilot study was conducted in Kamanves, Isryel Nagar, and Bethel Nagar, community area. Prior permission was obtained from Mahanagarpalika. Newly married couples were selected a probability purposive sampling techniques which were used 10 samples. A pilot study was conducted from September 25, 17 to October 01, 2017 on 10 samples.

Collection of data

The final study was conducted in Sangli city. Data collection was done on 70 newly married couples.

The following schedule was followed for collection.

- An objective of the study was discussed with the subject
- Consent was obtained from the participants
- They were assured about the confidentiality of the data
- The investigator administered questionnaire as a pre-test
- The answers were recorded immediately
- Planned teaching program is given immediately after pre-test
- Post-test is taken after 7 days.

Data analysis

The analysis was done based on the objectives and assumptions to be assessed items related to background variables should be analyzed in term of frequency and percentages. Mean, median, standard deviation and mean percentage of knowledge regarding congenital anomalies among newly married couples were calculated. Based on the objectives of the study, the data will be analyzed using mean, median, standard deviation, and *T* values.

Results/Interpretation of Data

Table 1 revels, in demographic variables:- 56% samples belong to 18–25 years of age group, 40% samples belong to 26–30 years of

age group, and 4% samples belong to *t* 31–35 years of age group. In education,- 54% of mothers had primary education and 35% of mothers had secondary education, where 7% of mothers had higher secondary education and 4% of mothers was illiterate. In religion,- 67% of mothers were from Hindu religion, 21% of mothers were from Muslim religion, and 12% of mothers were from Christian religion. From types of family,- 29% of mothers were from nuclear family and 71% of mothers were from joint family. Consanguineous marriages, 31%couples had consanguineous marriage, and 69% couples did not had consanguineous marriage.

Table 2 shows that, in pre-test, newly married couples had 69% poor knowledge and 31 % had average knowledge about congenital anomalies.

Table 3 shows that after planned teaching program, newly married couples had 41% average knowledge and 59% had good knowledge regarding congenital anomalies.

Table 1: Frequency and percentage distribution of demographic variables *n*=70

Demographic variables	Frequency	Percentage
Age (years)		
18–25	39	56
26–30	28	40
31–35	3	4
36–40	0	0
Education		
Illiterate	3	4
Primary education	38	54
Secondary education	24	35
Higher secondary	5	7
Graduation and above	0	0
Religion		
Hindu	47	67
Muslim	15	21
Christian	8	12
Other	0	0
Type of family		
Nuclear	20	29
Joint	50	71
Consanguineous marriage		
Yes	22	31
No	48	69

Table 2: Frequency and percentage distribution of pre-test level of knowledge score *n*=70

Grading	Frequency	Percentage
Poor (0–5)	48	69
Average (6–10)	22	31
Good (11–15)	0	0

Table 3: Frequency and percentage distribution of post-test level of knowledge score *n*=70

Grading	Frequency	Percentage
Poor (0–5)	0	0
Average (6–10)	29	41
Good (11–15)	41	59

Table 4 shows that the pre-test Mean Score was 5.3, Standard Deviation was 1.93 ,and post-test Mean Score was 11.14,Standared Deviation was 2.736 and $t = -12.689$ and $P = 0.00001$ which is <0.05. Hence planned teaching was effective.

Discussion

Congenital anomalies, also commonly referred to as birth defects, congenital disorders, congenital malformations, or congenital abnormalities, are conditions of prenatal origin that are present at birth, potentially impacting an infant's health, development, and/or survival.[1] Congenital anomalies encompass a wide array of structural and functional abnormalities that can occur in isolation (i.e., single defect) or as a group of defects (i.e., multiple defects).[3] Multiple defects may occur as part of well-described associations, such as the non-random co-occurrence of vertebral anomalies, anal atresia, cardiac defects, tracheoesophageal fistula, and/or esophageal atresia, renal and radial anomalies, and limb defects.[4] The main impact of consanguineous marriage is an elevation in the rate for homozygotes in recessive disorder.[5] Congenital anomalies can lead to infant mortality and it has been seen that more than 70% of such infants die in the 1st month of birth. Etiology shows that 30–40% of congenital malformation is genetic. One of the major factors contributing to the increased risk of congenital malformation and infant mortality isconsanage.[6] Thus, the present study was conducted to assess the pre-existing knowledge regarding congenital anomalies and evaluation of effectiveness of planned teaching program related to prevention of congenital anomalies among newly married couple. It was found that 56% samples belong to 18–25 years of age group, 40% samples belong to 26–30 years of age group, and 4% samples belong to *t* 31–35 years of age group. About 54% of mothers had primary education and 35% of mothers had secondary education, where 7% of mothers was higher secondary education and 4% of mothers was illiterate. About 67% of mothers were from Hindu religion, 21% of mothers were from Muslim religion, and 12% of mothers were from Christian religion. About 29% of mothers were from nuclear family and 71% of mothers were from joint family. About 31% couples had consanguineous marriage, and 69% couples did not had consanguineous marriage.

The present study was undertaken for descriptive study to assess the effectiveness of planned teaching program on knowledge regarding to prevention of congenital anomalies

Table 4: Comparison between pre-test and post-test knowledge score *n*=70

Test	Mean	Standard deviation	Standard error mean	*t*-value	*P*-value
Pre-test score	5.3	1.963	0.235	–12.689	0.00001
Post-test score	11.14	2.736	0.327		

among newly married couples from selected Sangli city. Based on the objectives, researcher tried to assess the knowledge regarding to prevention of congenital anomalies among newly married couples. 70 samples were selected to know about their knowledge regarding the prevention of congenital anomalies among newly married couples in Sangli city. Demographic variables of above study were found to be similar. A study was conducted on newly married couples, and 70 samples were selected. It was found that pre-test knowledge score, poor is 69% and average is 31%, and post-test knowledge score is average is 41%and good is 59%.

A findings of the study show the effectiveness of planned teaching program on knowledge related to prevention of congenital anomalies among newly married couples from selected Sangli city. The newly married couples need to be knowledge about to prevention of congenital anomalies. If they will take care of early stage, then the later stages, they will not have problems in delivery, such as cleft palate, cleft lip, and any congenital abnormalities. The study supports the conceptual framework which is based on the system theory approach. The system theory constitutes a way of explaining a unit as it relates and interacts with other systems. According to this theory, there are input, throughout, and output, input was given in the form of planned health teaching which is given to the newly married couples, through put is change knowledge after giving planned health teaching, output is to check the differences or no significant differences on knowledge after giving planned teaching and feedback is in the form of post-test, which shows that there is increase in the knowledge after administration of planned teaching program. The result of above study was found effective and contradictory.

Conclusion

Planned teaching was effective in improving the knowledge of newly married couples regarding preventions of congenital anomalies.

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