J Nur Today

RESEARCH ARTICLE

www.jolnt.com

e-ISSN 2456-1630

The Congenital Anomalies, Its Prevention and Knowledge

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Received: 03.03.2016

Edited : 01.04.2016

Accepted: 10.05.2016

Published: 10.05.2016

Abstract

A pre experimental study to assess the effectiveness of an information booklet on selected aspects of the congenital anomalies and its prevention among health workers of the selected rural areas of the Ahmedabad District. Research was conducted at randomly selected 4 PHCs of 2 selected Talukas named Sanand and Dhandhuka of the Ahmedabad District.

Keywords Congenital, Anomalies, Booklet

Introduction

During the last couple of decades, the fetus in the uterus has been considered as second patient, the mother being the first. Pregnancies can be described as high risk for any of several undesirable outcomes. The fetus usually faces much greater risks of serious morbidity and mortality – than does the mother. The leading causes of death in the perinatal period are congenital anomalies.

This chance for survival lies in the hands of the mother and caregiver. Thus it is important that mothers and caregivers know what type of care the child needs and that determines chances of survival, healthy growth and development for their child

The congenital anomalies are common today in developing countries. Lack of proper care and due to environmental changes these anomalies are more prone to be in today's life. In our country (India) the congenital defects are increasing day by day. According to Indian academy of paediatrics (IAP) it is covering about 3 to 5 % incidence rate. Common congenital anomalies are seen in Cardio Vascular System, (congenital heart defects), Gastro Intestinal System and Central Nervous System.

In 2010, the World Health Assembly issued a report on birth defects. The report describes the basic components for creating a national programme for the prevention and care of birth defects before and after birth. It also recommends priorities for the international community to assist in establishing and strengthening of these national programmes.

The fetus today has achieved a status almost equivalent to that of the mother and this importance is gaining more ground as we progress with the ever evolving science of medicine and its synergy with fast developing technology.

So, early identification of an abnormality through advanced antenatal investigation of fetal well-being is of great benefit in antenatal care to bring down the maternal and neonatal morbidity and mortality

Need of the study

Out of 1082 million population of India as per 2001 census, 72.2% resides in rural

areas. This population has spread over 593732 inhabited villages in 593 Districts of the country. At present, Rural Health Care Services are provided through the network of 142655 Sub-centres, 23109 PHCs and 3222 CHCs in the country.

Congenital anomalies affect approximately 1 in 33 infants and result in approximately 3.2 million birth defect-related disabilities every year. An estimated 270000 newborns die during the first 28 days of life every year from CAs. CAs may result in long-term disability, which may have significant impacts on individuals, families, health-care systems and societies. The most common serious CAs are heart defects, NTDs and Down syndrome. CAs may have a genetic, infectious or environmental origin; although in most of the cases it is difficult to identify their causes. Many birth anomalies can be prevented and treated. An adequate intake of folic acid, iodine, vaccination, and adequate antenatal care are keys **(WHO, 2012).**

In an article, The Profile of CAs in newborns: a hospital based prospective study, had been done in Shimla, India. 5221 live and still births, born between .August 2008 to July 2009, 80 had one or other CA with incidence of 1.5%. 38% had single CA and 62% had multiple CA. The pattern of CA included MSS (28.7%), CNS (21.3%), GIT (20%), Syndromic (18.7%), Genitourinary (8.75%), and CVS (4%) **(Ashwani Sood, Seema Sharma, Mangla Sood, July 2009).**

4456 Newborns delivered at obstetrics department of civil hospital, Ahmedabad were examined for congenital malformations over a period of nine months. The overall incidence of malformations was 2.38%. NTD were commonly found. The incidence of congenital malformations was higher in still born, low birth weight, male and preterm babies. It concluded that Congenital malformations of the CNS were the highest (10.42/1000) followed by malformations of the MSS (2.95/1000), gastrointestinal system (2.49/1000), CVS (2.27/1000), genitourinary system (0.91/1000), respiratory system (0.91/1000), and chromosomal and ear (0.45/1000) **(Dr. Kanan Shah, Dr. C. A. Pensi, December 2013).**

In a descriptive survey study to assess the knowledge of 75 staff nurses on selected aspects of fetal well-being at selected hospitals of Bangalore south, Karnataka. The mean knowledge score was 47.49, median score was 46 with standard deviation 12.21. The study concluded that nurses don't have adequate knowledge about antepartal assessment of fetal well – being. They should have adequate

knowledge. So, they can prevent the complication **(Susan K. Baby, 2005).**

Statement of problem

"A study to assess the effectiveness of an information booklet on selected aspects of the congenital anomalies and its prevention among health workers of the selected rural areas of the Ahmedabad District."

Objectives of study

Assess the knowledge of health workers on selected aspects of the congenital anomalies and its prevention; before and after issuing an information booklet.

To find out the association between pre-test knowledge score with selected Demographic variables.

Hypothesis

H_1: The mean post test knowledge scores of health workers of the selected rural areas regarding selected aspects of the congenital anomalies and its prevention will be significantly higher than their mean pre test knowledge scores as determined by structured knowledge questionnaire at 0.05 level of significance.

H_2: There will be significant association between pre test knowledge score of the health workers on the selected aspects of the congenital anomalies and its prevention with selected demographic variables.

Conceptual framework

The conceptualization of this study is based on system theory. A system is a group of elements that interact with another in order to achieve a goal. This theory has three components. e.g. Input which is health worker's characteristics or demographic variables, Process that the different operational procedure in an information booklet and research tool preparation and implementation and Output is to evaluate the effectiveness of an information booklet as resultant change in the knowledge regarding selected aspects of the congenital anomalies and its prevention among health workers of the selected rural areas of the Ahmedabad District.

Research methodology

Research approach

A pre experimental approach was used to assess the effect of an information booklet on the variables that were knowledge of the samples in the selected rural areas because the control over the variables under the study was not completely possible and randomization was not used.

Research design

In the present study the investigator selected one group pre test post test design.

Variables

Independent variable: Information booklet on selected aspects of the congenital anomalies and its prevention.

Dependent variable : Knowledge of health workers towards selected aspects of

the congenital anomalies and its prevention.

Inclusion criteria:

- Samples who are working in the rural areas.
- Samples who are willing to participate in the study.
- Samples who are professionally qualified.
- Who are available at the time of the data collection.

Exclusion criteria:

- Samples those who are not ready to participate in the study.
- The study excludes the staff who have less than 2 years of work experience.

Setting of the study

The setting for the study was undertaken at selected rural areas of the Ahmedabad District. Total selected PHCs were 2 for pilot study from Daskroi Taluka and 4 from Sanand and Dhandhuka (From each 2 PHCs) and samples also included from all sub centers of those selected PHCs.

Population

The population of this study consisted of health workers working in the selected rural areas (PHCs and those sub-centers) of the Ahmedabad District.

Sample and sampling technique

Non Probability Convenient Sampling technique was used.

Sample size

Sample comprised of 40 health workers.

Description of the tool

A Structured Knowledge Questionnaire was prepared to assess the knowledge of the Samples.

Reliability

Reliability was ascertained by Test Retest Method. With Test Retest Method, The reliability of the Structured Knowledge Questionnaire was 0.84 (By Karl Pearson's Correlation Coefficient Formula) which is more than 0.70. Hence, the Structured Knowledge Questionnaire was found to be reliable.

Major findings

Findings related to sample characteristics

Age wise distribution of the sample: 57.5% samples were of 21-30 years of age, 31-40(17.5%), 41-50(12.5%), 51-60 yrs (12.5%)

Gender: Majority of the samples, 57.5% were females and males were 42.5%.

Professional qualification: 37.5% samples were Auxiliary nurse midwife, Multipurpose health workers 32.5%, 17.5% Female/Male health supervisor and General nursing and midwifery were only 12.5%.

Total years of Professional experience: 40% of the samples, which formed the majority who had 5 - 10 yrs of professional experience, 35% had less than 5 yrs, More

than 15 years of work experience were among 22.5% and 2.5% of the samples had 11-15 yrs of professional experience.

Area of work experience: Amongst them 62.5% were in the Sub-centers and 37.5% were in the Primary Health Centres.

Have you attended in-service education programme on congenital anomalies? 67.5% had not attended any In-service Education Programme and other 32.5% had attended In- Service education programme on congenital anomalies by Government Programme of "Ability Gujarat"

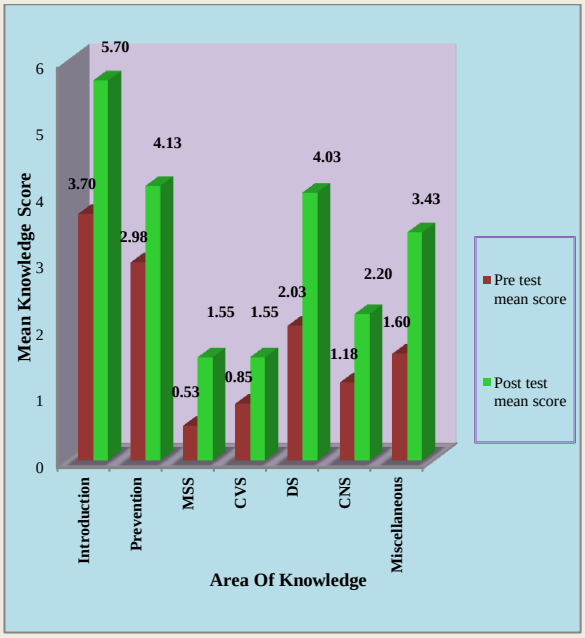
Sources of information: Majority 62.5% had source of information regarding congenital anomalies were Journals/ News paper/ Medical Books, 32.5% had in - service education and 5% of them had colleagues as a source of information.

Findings related to knowledge score before and after administration of an information booklet

Score of knowledge	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Poor (00 To 10)	07	17.5%	0	0 %
Average (11 To 20)	30	75 %	09	22.5 %
Good (21 To 30)	03	7.5%	31	77.5%
Total	40	100 %	40	100 %

There was significant increase in the knowledge of the health workers after the administration of an information booklet on selected aspects of the congenital anomalies and its prevention. Hence it was concluded that an information booklet was effective in improving the knowledge among the health workers of the selected rural areas of the Ahmedabad District.

Bar Graph Showing the Comparison of Area Wise Mean Score of Pre Test and Post Test Knowledge Scores of Samples on Selected aspects of the congenital anomalies and its prevention



Mean, Mean Difference, Standard Deviation (SD) and 't' test value of the Pre-test and Post-test Knowledge scores of samples.

Knowledge test	Mean	Mean difference	SD	Calculated 't' value	Table 't' value	df
Pre-test	12.85	9.73	3.20	30.00	2.02	39
Post-test	22.58		2.50			

* significance at the level of 0.05

Findings related to Association of Pre-test Knowledge score with Selected Demographic Variables of Samples

Sr. No.	Demographic variables	Frequency (f)	Fisher's χ^2		df	Significance
			Calculated value	Table value		
(1)	Age:					
	a) 21-30 years.	25	9.17	0.08	6	Significant
	b) 31-40years.	7				
	c) 41-50years	5				
	d) 51-60years.	5				
(2)	Gender					
	a) Male	17	2.49	0.34	2	Significant
	b) Female	23				
(3)	Professional Qualification					
	a) FHS/ MHS	7	5.59	0.41	6	Significant
	b) ANM	15				
	c) MPHW	13				
	d) GNM	5				
(4)	Total years of Professional experience					
	a) ≤ 5 Years	14	11.54	0.03	6	Significant
		16				
	b) 5 – 10 Years	1				
	c) 11 – 15 Years	9				
	d) ≥ 15 Years					
(5)	Area of work experience					
	a) Primary Health Centre	15	0.46	0.85	2	Not Significant
	b) Sub-centre	25				
(6)	Have you attended ISE program on CA?					
	a) Yes.	13	8.58	0.00	2	Significant
	b) No.	27				
(7)	Sources of information					
	a) Colleagues	2	9.52	0.02	4	Significant
	b) Electronic media	0				
	c) Journals/ News paper/Medical Books	25				
	d) ISE/ WS	13				

The association between the pre test knowledge score and Demographic variables was tested using the Fisher's Chi-square test. There was significant association found with the age, gender, professional qualification, total years of

professional experience, attended in service education programme and sources of information and not significant association between pre test knowledge score and the Area of work experience.

Recommendations

- A similar study can be replicated using a large sample so that findings can be generalized for a larger population.
- A descriptive study can be conducted to assess the awareness regarding congenital anomalies among married women with a view to conduct health teaching programme in community settings.
- A similar study can be conducted among the group of parents who have child with congenital anomalies.
- A study may be carried out to assess the knowledge and practice of staff nurses on patients who have undergone surgery of congenital anomalies with a view to develop an information booklet on Rehabilitation after surgery of congenital anomalies

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