

Effectiveness of Self-Instructional Module on vaccine preventive disorders among the adults in selected rural areas, Bangalore.

Ms. Jinsha Raj. P¹, Mr. Nikhil George²

Lecturer -Department of Mental Health Nursing,

RV College of Nursing, Bangalore 560011¹

Assistant Professor, Department of Mental Health

Nursing, Christian College of Nursing, Bangalore-560113²

Email : jinsharajp.rvcn@rvei.edu.in Mobile: 81294 52237

ABSTRACT

Vaccination is probably one of the most cost effective interventions to reduce burden of childhood morbidity and mortality, provided used optimally and judiciously. Currently it is estimated that immunization saves the life of 3 million children a year but 2 million more lives could be saved by existing vaccines. Vaccination is a cornerstone of public health, believed to save an estimated 2-3 million lives annually. The present study was aimed to evaluate the effectiveness of information booklet on vaccine preventive disorders among the adults in selected rural areas in Bangalore. The objectives of the study were: To assess the pre-test level of knowledge of adults regarding vaccines, to evaluate the effectiveness of informational booklets on vaccine comparing pre-test and post test scores, to determine association between their knowledge score with selected socio demographic variables such as age, sex, education , previous knowledge etc. Pre-experimental one group pre- test post- test design was used for the present study. Structured questionnaire was used to assess the level of knowledge of adults regarding vaccine preventive disorders. Data was collected from 30 adults using purposive sampling technique. The pre -test findings revealed that 55 percent of adults had an average knowledge on vaccine preventive disorders and 45% had poor knowledge and none had good knowledge on vaccine preventive disorder and in post- test 66.5% had good knowledge. The present study findings showed that the post test results had improved regarding the knowledge of adults about vaccine preventive disorders at 0.05 level of significance P- value for paired- t was 0.000. Hence the information booklet was effective in improving the knowledge of the adults on vaccine preventive disorders.

Key Words: Adults, vaccine preventive disorders, information booklet.

Introduction

Vaccination is a simple, safe, and effective way of protecting people against harmful diseases, before they come into contact with them. It uses your body's natural defenses to build resistance to specific infections and makes your immune system stronger.

Vaccines train your immune system to create antibodies, just as it does when it's exposed to a disease. However, because vaccines contain only killed or weakened forms of germs like viruses or bacteria, they do not cause the disease or put you at risk of its complications.

Most vaccines are given by an injection, but some are given orally (by mouth) or sprayed into the nose.¹

There are more vaccine simultaneously in the pipeline for COVID-19 than ever before for any infectious disease. All of them are trying to achieve the same thing – immunity to the virus, and some might also be able to stop transmission. They do so by stimulating an immune response to an antigen, a molecule found on the virus. In the case of COVID-19, the antigen is typically the characteristic spike protein found on the surface of the virus, which it normally uses to help it invade human cells.² Many conventional vaccines use whole viruses to trigger an immune response. There are two main approaches. Live attenuated vaccines use a weakened form of the virus that can still replicate without causing illness. Inactivated vaccines use viruses whose genetic material has been destroyed so they cannot replicate, but can still trigger an immune response. Both types use well-established technology and pathways for regulatory approval, but live attenuated ones may risk causing disease in people with weak immune systems and often require careful cold storage, making their use more challenging in low-resource countries. Inactivated virus vaccines can be given to people with compromised immune systems but might also need cold storage.⁴

Subunit vaccines use pieces of the pathogen - often fragments of protein - to trigger an immune response. Doing so minimizes the risk of side effects, but it also means the immune response may be weaker. This is why they often require adjuvants, to help boost the immune response. An example of an existing subunit vaccine is the hepatitis B vaccine.

Need for the Study

Immunizations are the single most important way to protect your child from disease. Vaccines can literally help save your child's life. Vaccinating children helps prevent the development of deadly or incurable viruses and diseases.

Despite the existence of a reliable national vaccine program, 17% of medical students do not recognize that vaccines protect against life-threatening diseases. Additionally, 64.5% of these students and 38.5% of doctors are not familiar with the vaccines that make up the official vaccine schedule.³

This was one of the conclusions made by researchers at the São Leopoldo Mandic School in Campinas, São Paulo. They applied questionnaires with open and closed-ended questions to a sample of 92 subjects, who were selected at a private medical school in Campinas. The sample was divided into two groups: group 1, with 53 medical students (first through fourth year students); and group 2, with 39 doctors, some of whom were also professors, from different specialties. The study entitled “Perceptions on the importance of vaccination and vaccine refusal in a medical school” was published in the *Revista Paulista de Pediatria* (Vol. 37, No. 1).⁹

The data collected by the questionnaire, 94.9% of the physicians reported having an immunization record, and most said they remembered their last vaccine. However, even though they are at-risk for catching the flu, 15.4% of the physicians and 47.2% of the students did not receive the flu vaccine in 2015 due to “lack of interest” and “fear of adverse events. In Brazil, the National Immunization Program (Program Nacional de Imunizações – PNI) was considered to be efficient and reliable.

However, most of the students and 38.5% of the doctors were unaware of the number of infectious diseases that can be avoided with the help of PNI vaccines.

The study also showed that while most physicians and students recognize that vaccinated individuals can protect others from infectious diseases, 34% of the students did not recognize the importance of herd immunity in controlling infectious diseases.

This area of study has been selected because even today the mortality of under five children is high and it is mainly due to diseases that can be prevented. Hence, the need was felt to identify the learning needs of mothers and educate them regarding immunization by introducing structured teaching Programme and promoting health of under five children which in turn reduces mortality among under five children.

While working in the community the investigator found that there are so many children missed the opportunities of vaccination due to the inadequate knowledge of mothers and are in high risk for developing communicable diseases. So the investigator thought that if the mothers are educated well the disease can be controlled to some extent. Therefore the investigator decided to undertake the study to assess the effectiveness of Self Instructional Module for the adult population in a selected community at Bangalore.

Methodology:

Research Design: One group pre-test and post- test pre-experimental design was adopted for the present study.

Objectives: The objectives of the study were:
-To assess the pre test level of knowledge of adults regarding Vaccines,

-To evaluate the effectiveness of informational booklets on vaccine comparing pre test and post test score,

-To determine association between their knowledge score with selected socio demographic variables such as age, sex, education , previous knowledge etc.....

Hypothesis: There were two research hypotheses which were tested at 0.05 level of significance. H_1 – There will be significant difference between pre-test and post-test score knowledge regarding vaccine. H_2 – There will be significant association between the selected demographic variables and knowledge regarding practice of vaccination.

Setting of the study– Horamavu Agara Rural Area in Bangalore.

Population: Refers to the Adults living in Horamavu Agara Rural area

Sample: Adults above 18 years

Sample size: 30 adults

Sampling technique: Total 30 Adults selected for the present study by using purposive sampling technique, from Horamavu Agara.

Inclusion criteria: Adults with the age of 18 years and above, Living in Horamavu Agara, Bangalore, available during the data collection and able to read and write Kannada or English.

Data collection method: Self-responding questionnaires.

Description of the tool: The tool consists of two sections. Section A- Socio demographic variables, Section B- structured knowledge questionnaire. Scoring procedure: In this study tool consists of 30 questions. The maximum score of the knowledge questionnaire was “25”.

The minimum score of the knowledge questionnaire was “0”. For each correct answer the participants were awarded with

the score “1” and for every wrong answer they awarded with score of “0”. If the response of the item is missed participants were awarded with score “0”.The reliability of tool established by the researcher using spearman’s test (Test-retest method) $r=0.8660$. Knowledge level category was three namely good knowledge (18-25 Score),Average knowledge (10-17 score), Poor knowledge (≤ 10 score).

Data analysis: The data analyzed by means of descriptive and inferential statistics. Frequency percentage distribution, mean, standard deviation, were described the sample characteristics. A paired t-test was used to assess the effectiveness of information booklet on vaccine preventive disorders.

The chi-square was used to know the level of association between pre-test score and selected demographic variables.

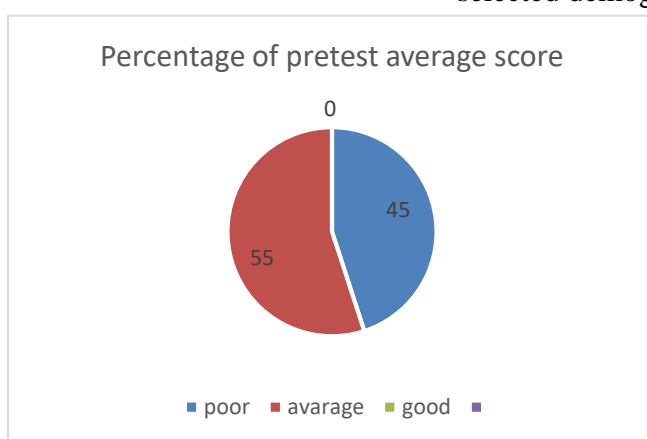


Figure: 1. Pre-test Knowledge among adults regarding vaccine preventive disorder.

Figure: 1.1 depicts that in pre-test 55% of subjects had an average knowledge and 45% of subjects had poor knowledge regarding vaccine preventive Disorder.0% of subjects had good knowledge.

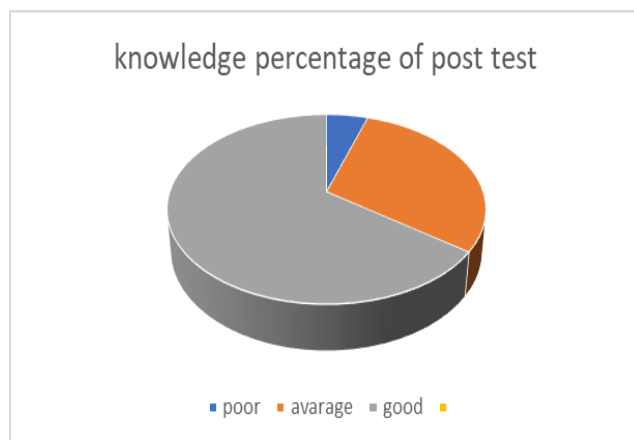


Figure 2.Post-test Knowledge among adults regarding vaccine preventive disorder.

Fig 1.2depicts that in post-test knowledge assessment 65.0% had good knowledge, 30.0% had an average knowledge and 5.0% had poor knowledge regarding vaccine preventive disease.

Table 1. Effectiveness of Information Booklet on vaccine Preventive Disease

N=30

Sl no	Test	Mean value	Mean difference (md)	Sd	Paired t- test	Df	Level of significance (0.005)
1	Pre-test	11.6	7.67	4.789	0.62	29	0.000
2	Post-test	19.27		2.993			

Table 1. depicts that mean difference of both pre-test and post-test was 7.67, paired t-test value was 0.62 and there was significant difference in knowledge.

Table 2. Association between the knowledge and selected socio demographic data

N= 30 df=1

Sl. No	Demographic Variables	Levels of Knowledge						Chi square value
		Poor		Average		Good		
		f	%	f	%	f	%	
1.	Age (years)							4.517
	18-23	1	3.3	4	13.33	5	16.66	
	24-29	3	10	6	20	3	10	
	29- 34	3	10	4	13.33	0	-	
	35and above	0	0	1	3.33	0	-	
2.	Religion							1.911
	a. Hindu	3	10	9	30	8	26.66	
	b. Muslim	0	0	4	13.33	2	6.66	
	c. Christian	1	3.33	2	6.66	1	3.33	
4.	Educational qualification							3.757
	a. SSLC	5	16.66	5	16.66	3	10	
	b. UG	3	10	6	20	3	10	
	c. PG	1	3.33	4	13.33	5	16.66	
5.	Family monthly income							*9.27
	a. Rs. 5000-10000/-	0	0	3	10	2	6.66	
	b. Rs.11000-15000/-	4	13.33	3	10	4	13.33	
	c. Rs.16000-20000/-	0	-	2	6.66	2	6.66	
	d. Rs.21000 & abo	0	-	7	23.33	3	10	

7.	Type of family							
	a. Joint	4	13.33	14	46.66	11	36.66	1.034
	b. Nuclear	0		1	3.33	0	-	
8.	Source of knowledge							
	a. Medical professional	1	3.33	6	20	1	3.33	*5.137
	b. Course of study	1	3.33	2	6.66	2	6.66	
	c. Mass media	1	3.33	2	6.66	5	16.66	
	d. Others	1	3.33	5	16.66	3	10	

* $\chi^2_{tab} = 5$ ($P > 0.05$)

Table 2. shows that there is no statistically significant association between knowledge and socio demographic variables of adults.

The obtained chi-square value for monthly income (9.27) and previous knowledge score is(5.137) was more than the table value (5.). Hence, there was a significant association between the level of pre-test knowledge scores of Adults and their monthly income and previous knowledge at 0.05 levels. there was no significant association between the levels of pre-test knowledge scores of Adults and other demographics variables i.e. age, educational qualification, religion, place of residence, on vaccination.

Result and Discussion

In the pre-test, investigator found that majorities 55% of adults were having an average knowledge and 45% were having poor knowledge. Knowledge of mean was 11.6 and standard deviations were 4.789.

In the post test, investigator found that majorities 60% of adults were having good knowledge and 35% were having an average knowledge where as 5% of the adult were having poor knowledge. Knowledge of mean were 19.27 and standard deviation were 2.993 The overall mean difference of knowledge was 7.67, paired t- test value was 0.62 and there was significant difference in knowledge.

The result showed that there is no significant association between knowledge and selected socio-demographic variables among adults. Hence stated research hypotheses were rejected with regard of these variables.

Conclusion

The present study found that there is a significant difference in knowledge of adults regarding vaccine preventive disorders, the knowledge score improved after the implementation of information booklet.

As a nurse it is important to educate the community and family members regarding vaccination and services available to prevent vaccine preventive disorders. Nurse educator should prepare effective future nurses which can be done through active participation of student nurses in giving health talk regarding vaccination. A nurse can also act as counsellor in promoting vaccination.

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