

A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Tuberculosis, Its Prevention and Treatment among Nursing Students of Chandigarh University, Gharuan, Punjab

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Abstract

Introduction : Tuberculosis, often known as TB, is an infectious illness that is typically brought on by Mycobacterium tuberculosis, also known as MTB. Tuberculosis is a disease that often affects the lungs, but it may also affect other regions of the body, such as the belly, glands, bones, and nervous system. Through the inhalation of minute droplets that are produced by the coughing or sneezing of an infected individual, tuberculosis may be transmitted from one individual to every other individual.

Methodology : The Pre experimental design was used. The total sample size of the study was 60 nursing students of district Mohali, Punjab, which were selected by non-probability purposive sampling technique. The tool selected for the present study was self structure knowledge questionnaire. Tool Validity with experts opinion and reliability Was determined by using test -retest method. After the pre-test, structure teaching program was given ,post test was taken after 7 days .Data of present study was analyzed by using descriptive and inferential statistics .

Results : The major analysis revealed that the pre-test level of knowledge regarding the tuberculosis, its prevention and treatment , where 54 (90%) nursing students had moderate level of knowledge. Only 6 (10%) had inadequate level of knowledge and none of them had adequate level of knowledge. By conducting post-test in same group, it was seen that 49 (81.7%) nursing students had adequate level of knowledge. While 11 (18.3%) had moderate level of knowledge and none of them had inadequate level of knowledge. The mean post-test knowledge score was high (19.22±3.247), whereas mean pre-test knowledge score for the same group was less (10.65±2.106) with 't' test value 16.653 ,which was significant (p value < 0.001). Hence, the research hypothesis was accepted.

Conclusions : There was significant improvement in the level of knowledge of nursing students after administration of structured teaching Programme.

Keywords : Structured Teaching Program, Knowledge, Tuberculosis, Prevention and treatment.

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Introduction

Tuberculosis, often known as TB, is an infectious illness that is typically brought on by *Mycobacterium tuberculosis*, also known as MTB. Tuberculosis is a disease that often affects the lungs, but it may also affect other regions of the body, such as the belly, glands, bones, and nervous system. Through the inhalation of minute droplets that are produced by the coughing or sneezing of an infected individual, tuberculosis may be transmitted from one individual to every other individual. In addition to being one of the top 10 causes of sickness and disability throughout the globe, tuberculosis is also the greatest cause of mortality from an infectious disease that can be treated. This makes it a significant global health concern. The number of persons who get sick with tuberculosis (TB) each year is ten million. Despite the fact that tuberculosis is a disease that can be prevented and treated, it nevertheless claims the lives of 1.5 million people every year, making it the most infectious killer in the world. Approximately 18 lakhs of people throughout the world pass away as a result of tuberculosis, with the bulk of these deaths occurring in underdeveloped nations. The yearly incidence of new cases of tuberculosis, including all kinds, amounts for around 88 lakhs, with 90 percent of these cases occurring in underdeveloped nations. Tuberculosis (TB) is an infectious disease that is transmitted by the air and is also known as tuberculosis. It is caused by *mycobacterium TB*, which is an aerobic, acid-fast bacillus. The inhalation of a particle that is tiny enough to reach the alveolus is the most common method of this disease transmission. The sickness cannot be passed on to those who are afflicted with it but have not yet shown symptoms of the illness. The immune system is an important defense mechanism that helps to restrict the development and replication of tuberculosis (MTB). In the event that the immune system is unable to inhibit their development, it is quite probable that they will spread throughout the body. In point of fact, not all individuals who are infected with tuberculosis will have symptoms at the same time. The incubation time might range anywhere from one year to many years for some individuals. One of the most critical factors that determine an individual's ability to fight against infections is their nutritional state. There is a strong correlation between dietary deficiencies and reduced immunological functioning, as has been shown by several studies. For a very long time, people have been aware of the connection that exists between tuberculosis and starvation. The development of active tuberculosis is facilitated by malnutrition, while malnutrition is made worse by active tuberculosis.

Objectives

1. To assess the knowledge of nursing students regarding tuberculosis, its prevention and treatment.
2. To develop and administer the structured teaching program.
3. To find out the effectiveness of structured teaching program on knowledge of nursing students on prevention and treatment of tuberculosis.
4. To find out an association between pretest and post-test knowledge scores of nursing students with socio-demographic variables.

Methodology

Research approach : Quantitative research approach was used in present study.

Research Design : The research design selected for the study was pre experimental research design with one group pre-test -post-test design.

Research setting of the study : The settings of the study refer to the area where the study is conducted. The main study was conducted at Chandigarh University, Gharuan, Punjab.

Target Population: the target population for the present study was 2nd year nursing students Of Chandigarh University, Gharuan, Punjab.

Sampling Technique : It refer to the process of selecting a portion of the population to represents the entire population. In this study , non-probability purposive sampling technique was used .

Sample Size : Sample size of the present study was 60 2nd year nursing students.

Variables under the Study

The Demographic Variable : The demographic variable is an uncontrolled variable that influences the study.

The study also consist of demographic variable like - age in years, sex, religion, family income, education status of parents, occupational status of parents, and source of information.

The Independent Variables

In this study the independent variable is structured teaching programme (STP) regarding tuberculosis.

The Dependent Variables

The dependent variable in the study was the Knowledge of nursing students on tuberculosis .

Description and interpretation of the tool

Part I - Socio-demographic characteristics are the focus. It consists of items for obtaining information from the nursing students such as age in years, sex, religion, family income, education status of parents, occupational status of parents, and source of information.

Part II - Self structured knowledge questionnaire on knowledge regarding tuberculosis. The questions are related to definition, causes, sign and symptoms, treatment and prevention of tuberculosis

Results : Collected data were organized, tabulated and analyzed by using the frequent distribution, Descriptive statistics (mean, SD, and mean score percentage and inferential statistics (paired 't' test Chi square) which was done on the basis of the objective of the study to find out association of pre-test and post-test knowledge score regarding tuberculosis with selected socio demographic variables among 2nd year nursing students.

SECTION-1 : Table-1: Frequency and percentage distribution of socio demographic variables.

N=60

Variables	Option	F	%
Age	17-20 years	35	58..%
	21-25 years	25	41.7%
	25-30years	0	0.0%
	30-35 years	0	0.0%
Gender	Male	38	63.3%
	Female	22	36.7%
Religion	Hindu	27	45.0%
	Muslim	11	18.3%
	Sikh	11	18.3%
	Christian	11	18.3%
Type of family	Nuclear	32	53.3%
	Joint	17	28.3%
	Single parent	11	18.3%
Father's Education	High school	29	48.3%
	Bachelor's degree	12	20.0%
	Master degree	11	18.3%
	Doctoral or professional degree	08	13.3%

Mother's Education	High school	29	48.3%
	Bachelor's degree	20	33.3%
	Master degree	4	6.7%
	Doctoral or professional degree	7	11.7
Occupation of Mother	Homemaker	26	43.3%
	Govt. Employed	15	25.0%
	Private Employed	15	25.0%
	Self Employed	4	6.7%
Occupation of Father	Unemployed	0	0.0%
	Govt. Employed	36	60.0%
	Private Employed	14	23.3%
	Self Employed	10	16.7%
Family monthly income	Rs. 10,000-15,000	0	0.0%
	Rs.15,000 - 20,000	13	21.7%
	20,000 - 30,000	15	25.0%
	Above 30,000	32	53.3%
Previous information Sources of Information	Yes	60	100.0%
	No	0	0.0%
	Books	15	25.3%
	Internet	32	53.3%
	Health worker	13	21.7%
	Other	0	0.0%

Table 1: shows the distribution of nursing students according to their sociodemographic variables such as age, gender, religion, type of family, education status of father, education status of mother, occupational status of father, occupational status of mother, income of family per month, source of information and previous information.

SECTION:II

Table 2: Comparison of pre-test and post-test level of knowledge on tuberculosis, its prevention and treatment among nursing students. N =60

KNOWLEDGE SCORE	PRE-TEST		POST- TEST	
	F	%	F	%
Inadequate knowledge (0-08)	6	(10%)	0	(0%)
Moderate knowledge (09-16)	54	(90%)	11	(18.3%)
Adequate knowledge (17-25)	0	(0%)	49	(81.7%)
Maximum=25,Minimum =0				

SECTION-III :**Table 3: Effectiveness of structured teaching programme on tuberculosis among nursing students by Paired "t" test.****N=60**

Knowledge	Mean ±S.D	Mean %	Mean Diff.	Paired 't' test	P value	Table value at 0.05	Result
Pre-Test	10.65±2.106	42.60	8.570	16.653	<0.001	2.00	Significant
Post -Test	19.22±3.247	76.90					
Maximum=25, Minimum =0				**Significance Level 0.05			

Table 4: Association of pre-test level of knowledge on tuberculosis among nursing students with their selected socio-demographic variables.**N=60****ASSOCIATION OF PRETEST KNOWLEDGE SCORES WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES.**

Socio-demographic variables	Option	Adequate knowledge	Moderate knowledge	Inadequate knowledge	Chi TEST	Pvalue	Df	TABLE VALUE	Result
Age	17-20 years	0	30	5	1.714	0.190	1	3.841	NS
	21-25 years	0	24	1					
	25-30years	0	0	0					
	30-35 years	0	0	0					
Gender	Male	0	34	4	0.032	0.858	1	3.841	NS
	Female	0	20	2					
Religion	Hindu	0	26	1	6.876	0.076	3	7.815	NS
	Muslim	0	11	0					
	Sikh	0	9	2					
	Christian	0	8	3					
Type of family	Nuclear	0	30	2	1.615	0.446	2	5.991	NS
	Joint	0	14	3					
	Single parent	0	10	1					
Father's Education	High school	0	26	3	1.748	0.626	3	7.815	NS
	Bachelor's degree	0	11	1					
	Master degree	0	9	2					
	Doctoral or professional degree	0	8	0					
Mother's Education	High school	0	27	2	1.453	0.693	3	7.815	NS
	Bachelor's degree	0	17	3					
	Master degree	0	4	0					
	Doctoral or professional degree	0	6	1					
Occupation of mother	Homemaker	0	23	3	2.920	0.404	3	7.815	NS
	Govt. Employed	0	13	2					
	Private Employed	0	15	0					
	Self Employed	0	3	1					

Occupation of father	Unemployed	0	0	0	0.397	0.820	2	5.991	NS
	Govt. Employed	0	33	3					
	Private Employed	0	12	1					
	Self Employed	0	9	0					
Family monthly income	Rs. 10,000-15,000	0	0	1	2.869	0.238	2	5.991	NS
	Rs.15,000 - 20,000	0	12	0					
	20,000 - 30,000	0	15	5					
	Above 30,000	0	27	6					
Previous information	Yes	0	54	6	-	NA	-	-	-
	No	0	0	0					
Sources of Information	Books	0	12	3	2.244	0.326	2	5.991	NS
	Internet	0	30	2					
	Health worker	0	12	1					
	Other	0	0	0					

S-significant NS- Not Significant

Table 5 : Association of post-test level of knowledge on tuberculosis among nursing students with selected socio-demographic variables.

N=60

ASSOCIATION OF PRETEST KNOWLEDGE SCORES WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES.

Socio-demographic variables	Option	Adequate knowledge	Moderate knowledge	Inadequate knowledge	Chi TEST	Pvalue	Df	TABLE VALUE	Result
Age	17-20 years	0	30	5	1.714	0.190	1	3.841	NS
	21-25 years	0	24	1					
	25-30years	0	0	0					
	30-35 years	0	0	0					
Gender	Male	0	34	4	0.032	0.858	1	3.841	NS
	Female	0	20	2					
Religion	Hindu	0	26	1	6.876	0.076	3	7.815	NS
	Muslim	0	11	0					
	Sikh	0	9	2					
	Christian	0	8	3					
Type of family	Nuclear	0	30	2	1.615	0.446	2	5.991	NS
	Joint	0	14	3					
	Single parent	0	10	1					
Father's Education	High school	0	26	3	1.748	0.626	3	7.815	NS
	Bachelor's degree	0	11	1					
	Master degree	0	9	2					
	Doctoral or Professional degree	0	8	0					
Mother's Education	High school	0	27	2	1.453	0.693	3	7.815	NS
	Bachelor's degree	0	17	3					
	Master degree	0	4	0					
	Doctoral or Professional degree	0	6	1					

Occupation of mother	Homemaker	0	23	3	2.920	0.404	3	7.815	NS
	Govt. Employed	0	13	2					
	Private Employed	0	15	0					
	Self Employed	0	3	1					
Occupation of father	Unemployed	0	0	0	0.397	0.820	2	5.991	NS
	Govt. Employed	0	33	3					
	Private Employed	0	12	1					
	Self Employed	0	9	0					
Family monthly income	Rs. 10,000-15,000	0	0	1	2.869	0.238	2	5.991	NS
	Rs.15,000 - 20,000	0	12	0					
	20,000 - 30,000	0	15	5					
	Above 30,000	0	27	6					
Previous Information Sources of Information	Yes	0	54	6	2.244	0.326	2	5.991	NS
	No	0	0	0					
	Books	0	12	3					
	Internet	0	30	2					
	Health worker	0	12	1					
	Other	0	0	0					

S-Significant NS-Not Significant

Conclusion

The finding of the study concluded that, the structured teaching program was effective in terms of improved post test that is 49 (81.7%) nursing students had adequate level of knowledge. While 11 (18.3%) had moderate level of knowledge and none of them had inadequate level of knowledge. Thus study revealed that after administration of structured teaching program there was significant improvement in the level of knowledge of nursing students.

Recommendations

Based on the results of study following recommendations are made:

1. The study can be replicated on large sample to validate and generalize its findings.
2. Similar studies can be conducted in different settings like community.
3. A quasi-experimental study can be conducted to assess the effectiveness of structured teaching Programme on knowledge regarding tuberculosis among old age in community or hospital.
4. A comparative study can be conducted to assess the level knowledge regarding tuberculosis among nursing students in rural and urban areas.

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