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"A Study To Assess The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Prevention And Control Of Pulmonary Tuberculosis Among Adult In Selected Community Area, Satna (MP)."

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ABSTRACT

Background: Tuberculosis is a specific infectious disease caused by mycobacterium tuberculosis. The disease primarily affected lungs and causes pulmonary tuberculosis. It can also affect intestine, meanings, bone and joints, lymph gland, skin and other tissue of the body. The factor can affect someone to suffer from tuberculosis are low immunity generally due to malnutrition and unhealthy behavior. Tuberculosis affected all age group the incidence of infection increases sharply from infancy to adult. One percent of children in the age group under five are infected with tuberculosis as evidence by tuberculin test. The incidence of infection is more in male than female. **Objective:** The present study aimed to assess the level of knowledge regarding the prevention and control of pulmonary tuberculosis among adult in selected community area. **Material and Method:** In this study used one group pretest posttest design, the subject selected for the study was adults. The sample consists of 40 adults from selected community area, Satna. The study participants were selected by random sampling technique. A structured knowledge questionnaire was used to assess the knowledge of prevention and control of pulmonary tuberculosis. **Results:** The mean score is increased in the post test. The mean in the post test is 32.3 whereas the mean in the pretest is 10.9. The variation is decreased in posttest when compared to pre test.SD in the post test is 1.6 and in the pretest are 2.2. The mean improvement is 21.4. Though it was seen that the posttest knowledge score was more than the pre-test knowledge score, it is essential to put it under statistical significance. So suitably the paired t-test was chosen and worked out. The calculated t - value is 43.2 which is significant. The results undoubtedly confirm that the STP significantly was effective in improving the knowledge on prevention and control of pulmonary tuberculosis among adults. **Conclusion:** The study finding showed that there was a significant increase in the knowledge of adults after administration of STP regarding prevention and control of pulmonary tuberculosis. Hence it was concluded that STP has been an effective method to increase knowledge of adult regarding prevention and control of pulmonary tuberculosis.

Key Words: Effectiveness, Prevention, Pulmonary Tuberculosis

INTRODUCTION

Tuberculosis is one of the most important diseases in the history of humanity and remains as an extra ordinary burden on human health today. The Greek term pathos is used by Hippocrates to describe the wasting disease later known as tuberculosis. The term tuberculosis was introduced in the early 10th century derived from the tubercles characterized in the study of pathological features of the

disease. Tuberculosis is one of the most prevalent infections of human being and contributes considerably to illness and death around the world. It is spread by in haling tiny droplets of saliva from the coughs or sneezes of an infected person. It is slowly spreading chronic granulomatous bacterial infection characterized by gradual weight loss. Tuberculosis is the world's second most common cause of death from infection disease after HIV/AIDS[1]. Primary Health Center (PHC) center have been established near to residence of patients to the extent possible all public health facilities sub center community volunteers, Accredited Social Health Activist (ASSHA), women self-group etc. also function as Directly Observe Therapy (DOTS) providers at the center.

NEED FOR THE STUDY

Tuberculosis is a major health problem in India. It affects people of all age and is highly infectious and is highly infectious and preventable, communicable disease that dates as for back to the existing records on human issues. Tuberculosis is the world evokes feeling of fear anxiety stigma and despair. Many infected people transmit the infection to others who come in close to contact with them. It spread from person to person by exposure to air, it is air –borne disease. An infected person through talking, coughing, sneezing or laughing, releases large and small droplet[2]. A total of 1.6 million people died from Tuberculosis in
2021 (including 187 000 people with HIV). World Health Organization 2007 reported that
3276 cases were suspected to be affected with tuberculosis in Kolar district of Karnataka
prevention is better than cure. Lack of knowledge and awareness about prevention of Tuberculosis are influenced by illiteracy, low socio- economic status, unemployment, overcrowding, etc. in developing countries there are varied factors which affect the health of the people majority of the secant be prevented by adopting preventive measures and raising the level of knowledge of people. Many experts have produced enough truth and government had developed many strategies to eradicate tuberculosis. Even then the intensive efforts take by the shows that the alternatives methods and related educations have not reached the populations properly[3]. One quarter of the world's population was thought to have a latent infection of the tuberculosis. new infection occurs in about 1% of population each year. In 2020 an estimated 10 million people developed active tuberculosis, resulting in 1.5 million deaths, making it the second leading cause of death from an infectious disease after COVID- 19. AS OF 2018 most Tuberculosis cases occurred in the regions of south east Asia (44%), Africa (24%), and the western pacific (18%), with more than 50% of cases being diagnosed in seven countries India(27%), China (9%), Indonesia (8%), the Philippines (6%), Pakistan (6%), Nigeria (4%), and Bangladesh (4%), By 202 the number of new cases each year was decreasing by around 2% annually. about 80% of people in many Asian and African countries test positive while 5-10% of people in the United States population test positive via the tuberculin test positive tuberculosis has been present in humans since ancient time[4].

PROBLEM STATEMENT

"A study to assess the effectiveness of Structured Teaching Programme on knowledge regarding prevention and control of pulmonary tuberculosis among adult in selected community area, Satna (MP)."

OBJECTIVES

To assess the level of knowledge regarding the prevention and control of pulmonary tuberculosis among adult in selected community area.

To deliver a structured Teaching Programme on knowledge regarding prevention and control of pulmonary Tuberculosis among adults in selected community area.

To evaluate the effectiveness of structured teaching program on knowledge regarding the prevention and control of pulmonary tuberculosis among adults in selected community area.

To find the association between the pretest levels of knowledge regarding the prevention and control of pulmonary tuberculosis among adult in selected demographic variables.

HYPOTHESIS

H_1: There will be significant difference between pre-test and post-test level of knowledge regarding prevention and control of pulmonary tuberculosis among adults in selected community area.

H_2: There will be significant association between the pre-test knowledge level of regarding prevention and control of pulmonary tuberculosis among adult in selected community area.

METHODOLOGY

Research approach: Evaluative approach
Research design: One group pre-test post-test design
Setting: Data collected from Community Health Center (CHC) and Primary Health Center (PHC), Satna
Sample and sampling technique: 40 adults were selected by using simple random sampling
Variables:
Independent variable: In the present study, structured teaching programme was the independent variable
Dependent variable: In this study, knowledge of adult regarding prevention and control of pulmonary tuberculosis was the dependent variable in the study
Description of Tool
Section A: Consist of demographic variables such as age, residential area, religion, type of family, monthly income, dietary pattern, previous history, and source of information.
Section B: Consist of structured knowledge questionnaire to use assess the level of knowledge.
Validity of tool

To ensure the content validity, the demographic Performa for selected personal information, and structured knowledge questionnaire were given to10 experts along with the blueprint and objectives of the study and evaluation criteria ratings scale. The experts were from medicine and nursing department. They were requested to give their opinion and suggestions regarding the relevancy, adequacy and appropriateness of the items on the tool.

There was100% agreement for the demographic items. Structured knowledge questionnaire had 36 items. There was 100% agreement among the experts for 34 items were retained without any change; the remaining two items had 88.89% agreement among the experts. The items were also retained after making necessary modification in the stem.

Reliability of tool

Pre-testing is the trial administration of a newly developed tool to identify flows or assess time requirement. Pre-testing of the tool was done to check the clarity of items. Permission was obtained from the concern authorities. Pre-testing of the knowledge questionnaire along with the selected personal information was administered to 40 adults in a selected community area of at Satna, reliability was established by split half method using the Spearman Brown prophecy formula The reliability co-efficient of the tool was found to be 0.96% which showed that the tool was reliable.

Data collection

Written permission was obtained from the medical officer of Community Health Center Shohawal, Satna the data collection was done from 22-02-2023 to 01-03-2023. The samples were selected by random sampling. The purpose of the study was explained to them and informed consent was obtained. The knowledge questionnaire was administered for adults of Community Health Center shohawal, Satna and structured teaching programme was administered on the same day. STP was administrated for the students and10 minutes was a allotted for discussion. After 7 days of STP, posttest was conducted with the same questionnaire for the same group of adults to assess the effectiveness of STP.

Analysis and interpretation of data

Data analysis is the systematic organization of research data and the testing of the research hypothesis of the study to compute data, master data sheet would be prepared by the investigator.

The data will be presented under the following headings.

Section–I

Description of sample Characteristics:

Baseline data containing sample characteristics would be analyzed using frequency and percentage.

Section-II

Level of Knowledge on Pulmonary tuberculosis among adults

Level of knowledge of adults regarding prevention and control of pulmonary tuberculosis before and after the administration of STP would be analyzed using frequency, percentage and mean percentage.

The significance of difference between the pre-test and post-test scores would be found out by using test r-0.96 level of significance.

Section-III

Evaluate the effectiveness of STP by comparing pre and posttest knowledge score

Section-IV

Association between the demographic variables and the knowledge of adults regarding prevention and control of pulmonary tuberculosis in pretest.

RESULTS

Table.1: frequency and percentage distribution of socio-demographic variables of adults

SL. No.	Socio-Demographic variables	Categories	Frequency (f)	Percentage (%)
1.	Age (in years)	20-30 years	16	40
		31-40 years	12	30
		41-50 years	08	20
		51-60 years above	04	10
2.	Residential area	Urban	0	0
		Rural	40	100
3.	Educational status	No formal education	04	10
		Primary education	08	20
		Higher secondary	12	30
		Graduate and above	16	40
4.	Religion	Hindu	33	82.5
		Muslim	06	15
		Christian	01	205
		Other	0	0
5.	Types of family	Joint	21	52.5
		Nuclear	19	47.5
6.	Family income/month	<5000	04	10
		5001-10000	15	37.5
		10001-15000	11	27.5
		15001-above	10	25
7.	Dietary pattern	Vegetarian	33	82.5
		Non vegetarian	07	17.55
8.	Previous history	Yes	35	87.5
		No	05	12.5
9.	Source of information	No information	03	7.5
		Mass media	08	20
		Friends and relative	23	57.5
		Medical and nursing staff	06	15

Table no. 2 Assessment of knowledge on prevention and control of pulmonary tuberculosis among adults before STP.

Sl. No.	Knowledge	Max. possible score	Mean	SD	SEM	Range	Mean score %
1.	Prevention and control of TB	36	10.9	2.2	0.34	7-15	30.3

Table 3: Overall, knowledge of adults regarding prevention and control of pulmonary tuberculosis among before the administration of STP.

Sl. No.	Overall level of knowledge	Frequency	%
1.	Inadequate	40	100
2.	Moderate adequate	0	0
3.	Adequate	0	0

Table 4: Assessment of knowledge on prevention and control of pulmonary tuberculosis among adults after STP.

Sl. No.	Knowledge	Max. possible score	Mean	SD	SEM	Range	Mean score %
1.	Prevention and control of TB	36	32.3	1.6	0.26	30-35	89.7

Table 5: Overall, knowledge of adults regarding prevention and control of pulmonary tuberculosis among after the administration of STP.

Sl. No.	Overall level of knowledge	Frequency	%
1.	Inadequate	0	0
2.	Moderate adequate	0	0
3.	Adequate	40	100

Table 6: Evaluate the effectiveness of STP by comparing the pre-test and post-test knowledge score

Parameter	Mean	S.D.	SEM	Range	Mean %	t-value	Result
Pre-test	10.9	2.2	0.34	7-15	30.3	43.2	Sig P<0.05
Post-test	32.3	1.6	0.26	30-35	89.7		
improvement	21.4	0.6					

The mean score is increased in the post test. The mean in the post test is 32.3 where as the mean in the pre-test is 10.9. The variation is decreased in post-test when compared to pre-test. SD in the post test is 1.6 and in the pre-test is 2.2. The mean improvement is 21.4. Though it was seen that the post- test knowledge score was more than the pre-test knowledge score, it is essential to put it under statistical significance. So suitably the paired t'-test was chosen and worked out. The calculated t - value is 43.2 which are significant.

Table no: 7 Chi square tests to associate the pre-test level of knowledge among adults with selected Socio demographic variables.

Demographic Variables	**<median**		**>median**		**Total**	**χ2**	**p-value**
	F	**%**	**f**	**%**			
1.Age (in years)							
a)20-30years	10	50	6	30	16		
b)31-40years	5	25	7	35	12	5.8	0.12(NS)
c) 41-50years	5	25	3	15	8		
d) 51-60years	0	0	4	20	4		
2.Residential area							
a)Urban	0	0	0	0	0		
b)Rural	20	100	20	100	40	0	0(NS)
3.Educational status							
a) No formal education	4	20	0	0	4	22.1	0.000**
b) Primary	7	35	1	5	8		
c) Higher Secondary	8	40	4	20	12		
d) Graduate & above	1	5	15	75	16		
4. Religion							
a)Hindu	16	80	17	85	33		
b)Muslim	3	15	3	15	6	0	0(NS)
c)Christian	1	5	0	0	1		
d)Others	0	0	0	0	0		

Demographic Variables	**<Median**		**>Median**		**Total**	**χ2**	**p-value**
	f	**%**	**F**	**%**			

5. Type of family:							
a)Joint	17	85	4	20	21	16.9	
b) Nuclear	3	15	16	80	19		0.000***
ıcome/month: a)<5000							
b)5001-10000	3	15	1	5	4	16.4	0.000**
c)10001-15000	12	60	3	15	15		
d)Rs.Above15000	5	25	6	30	11		
	0	0	10	50	10		
DietaryPattern							0.21(NS)
a)Vegetarian b)Non vegetarian	15 5	75 25	18 2	90 10	33 7	1.55	
8.Previoushistory of TB							
a)Yes b)No	15 5	75 25	20 0	100 0	35 5	5.7	0.01**
10.Sourceof information						11.04	0.01**
)No information b)Mass media c)Friendsand relatives Iedical&nursin g staff	3 6 11 0	15 30 55 0	0 2 12 6	0 10 60 30	3 8 23 6		

DISCUSSION

Here this study evaluates the effectiveness of structured teaching program on knowledge regarding adults from Primary Health Centre Shohawal, Satna (M.P). A pre-experimental pre- test, post-test design was used to assess the effectiveness of structured teaching program on prevention and control of pulmonary tuberculosis among adults. A structured teaching program was implemented to find out the effectiveness. The investigator utilized the random sampling technique to select the subjects. Pre-test was conducted prior to implementation of teaching program and post-test was conducted after a week, using a same structured knowledge questionnaire as employed for pre-test.

The pre-test findings of the study revealed that the overall score in the pre-test mean 10.9, standard deviation 2.2 and mean score percentage was 30.3%. This shows that the knowledge of adults regarding prevention and control of pulmonary tuberculosis was inadequate. The post-test findings of the study revealed that the overall score in the post-test was mean 32.3, standard deviation 1.6 and mean score percentagewas89.7%.This shows that the knowledge of adults regarding prevention and control of pulmonary tuberculosis was improved.

Association of pre-test knowledge score with demographic variables and post-test knowledge score with demographic variables was done using chi-square test. Present study showed that the clinical hours showed a significant association with pre-test and post-test findings among adults. According to the

hypothesis of the study the investigator found that there is significant association between pre-test and post-test knowledge score with selected demographic variable hence alternative hypothesis is accepted.

CONCLUSION

The study was conducted with the objective to evaluate the pre-test showed that knowledge of adults regarding prevention and control of pulmonary tuberculosis was inadequate in all areas. It indicates the importance of frequent in- service education programs to update the knowledge regarding prevention and control of pulmonary tuberculosis. After the administration of STP, the post-test scores showed an increase in knowledge, hence it was concluded that STP was an effective method to improve knowledge.

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