

Effectiveness of Health Education Programme on Knowledge Regarding Pulmonary Tuberculosis Among Adults

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Abstract- Tuberculosis is a major global health problem. Globally in 2015, there were an estimated 10.4 million incident cases of TB, 1 equivalent to 142 cases per 100 000 population. In India there is an estimated incidence of 2.2 million cases of TB. Community-oriented efforts can help to prevent the spread of TB. The aim of the study was to assess the effectiveness of health education programme on knowledge regarding pulmonary tuberculosis among adults. The study adopted non randomized control group pre test and post test research design and was conducted at selected villages of District Sirmour. A total of 60 adults in age range of 20-50 years were selected by convenience sampling technique. A structured interview schedule was used to assess knowledge of adults regarding pulmonary tuberculosis. Data analysis was done by descriptive and inferential statistics. The study results had shown that subjects in both the groups were similar in terms of socio demographic variables. The independent 't' test had shown that there was significant increase in knowledge regarding pulmonary tuberculosis in experimental group after administering health education program. It was concluded that the health education was effective in improving knowledge of the adults regarding pulmonary tuberculosis. The improved knowledge in the adults will help to prevent the chance of occurrence of disease.

Keywords- Health Education Programme, Pulmonary Tuberculosis, Knowledge, Adults

I. INTRODUCTION

Tuberculosis is a specific infectious disease caused by M. tuberculosis. The disease primarily affects lungs and causes pulmonary tuberculosis. It can also affect intestine, meninges, bones and joints, lymph nodes, skin and other tissues of the body. The disease is usually chronic with varying clinical manifestations.¹The major factors that have contributed to the resurgence of TB have been the high rates of TB among patients with HIV infection and the emergence of MDR strains of M. tuberculosis². According to WHO, globally in 2014, there were an estimated 9.6 million cases of

TB. 5.4 million among men, 3.2 million among women and 1.0 million among children. There were an estimated 1.2 million new HIV- positive TB cases (12% of all TB cases).³ India is the country with the highest burden of TB. The World Health Organization Statistics for 2014 gave an estimated incidence figure of 2.2 million cases of TB for India out of a global incidence of 9 million.⁴

II. MATERIAL AND METHODS

The study adopted a quasi-experimental design and was conducted at selected villages (Haloni and Bhedgaon) of District Sirmour. A total of 60 adults in age range of 20-50 years were selected by convenience sampling technique and 30 adults were assigned to both experimental and control group. The data was collected by the tools developed by the researchers which consisted of socio-demographic data and Knowledge questionnaire regarding Pulmonary tuberculosis. Health education programme was conducted for 45 minutes and the content included the definition, causes, signs and symptoms, diagnostic evaluation, treatment and management of Pulmonary tuberculosis.

III. RESULTS

The socio-demographic details of the adults: Table 1 depicts that majority of adults in experimental group 26.7% and in control group 30% were in age group 31-35 years. Regarding gender of adults in experimental group 70% and in control group 53.4% were females. All the adults in experimental and control group belonged to Hindu religion. Majority of adults in experimental group 73.3% and in control group 76.7% were married. Majority of adults in experimental group 66.6% and control group 60% belonged to nuclear family. Most of adults were having higher secondary education 33.3% whereas in control group most of adults were having secondary education 36.6%. Half of the adults in experimental group were having monthly income of Rs. 5001-10000 whereas in control group maximum 36.7% of adults were having less than Rs. 5000 monthly income. Majority of

adults in experimental group 86.7% and in control group 93.3% had heard about tuberculosis. The subjects in both the groups were similar in terms of socio demographic variables.

Table no 1: Frequency and percentage distribution of socio-demographic data of the adults(N=60)

Variables	Experimental group n=30		Control group n=30	
	f	%	f	%
Age (in years)				
20-25	4	13.3	3	10
26-30	6	20	3	10
31-35	8	26.7	9	30
35-40	5	16.7	7	23.4
41-45	3	10	4	13.3
46-50	4	13.3	4	13.3
Gender				
Male	9	30	14	46.6
Female	21	70	16	53.4
Religion				
Hindu	30	100	30	100
Marital status				
Married	22	73.3	23	76.7
Unmarried	6	20	4	13.3
Widow	2	6.7	3	10
Type of family				
Nuclear	20	66.7	18	60
Joint	10	33.3	12	40
Education status				
Higher secondary	10	33.3	10	33.3
Secondary education	9	30	11	36.6
Primary education	7	23.3	5	16.6
No formal education	4	13.3	4	13.3
Occupation				
Private employee	8	26.6	7	23.3
Self employed	13	43.3	16	53.3
Laborer or daily wager	4	13.3	2	6.7
Unemployed	5	16.6	5	16.7
Monthly Income (Rs)				
Less than 5000	7	23.3	11	36.7
5001-10000	15	50	9	30
10001-15000	7	23.3	8	26.7
15001-20000	1	3.4	1	3.4
More than 20000	0	0	1	3.4
Heard about Tuberculosis				
Yes	26	86.7	28	93.3
No	4	13.3	2	6.7

Table 2: Comparison of pre and posttest total knowledge scores between experimental and control group (N=60)

	Experimental group n=30	Control group n=30	t-value	df	p-value
	Mean ± SD	Mean ± SD			
pre-test	8.3 ± 3.09	8.3 ± 3.35	19.4	58	<0.001**
post-test	23.5 ± 2.04	8.6 ± 3.66			

Table 2 shows that the mean ± SD in experimental group for pre-test was 8.3 ± 3.09 and for post-test was 23.5 ± 2.04 having mean difference of 15.2 ± 3.75 whereas for control group the mean ± SD for pre-test was 8.3 ± 3.35 and for

post- test it was 8.6 ± 3.66 having mean difference of 0.3 ± 1.26. The independent “t” test had shown that there was significant increase (p<0.001) in knowledge regarding pulmonary tuberculosis in experimental group after administering health education programme.

Table 3 :Pretest and Posttest knowledge scores of experimental and control group(N=60)

Level of knowledge	Pre-test				Post-test			
	Experimental group(n=30)		Control group(n=30)		Experimental group(n=30)		Control group(n=30)	
	f	%	f	%	f	%	f	%
Poor (< 50%)	29	96.6	28	93.3	0	0	28	93.3
Average (50-79%)	1	3.3	2	6.6	6	20	2	6.6
Good (80-100%)	0	00	0	00	24	80	0	0

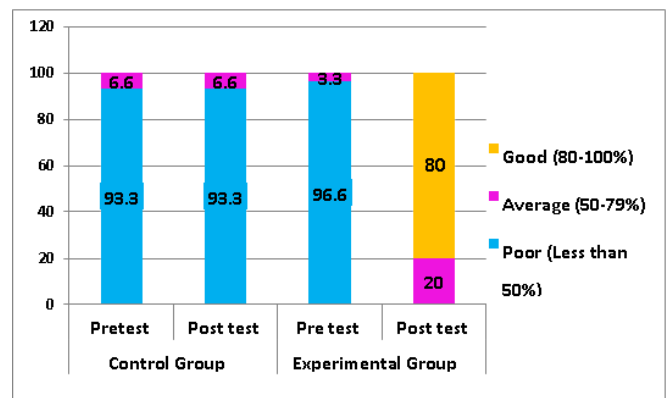


Fig 1:- Distribution of pre-test and post test knowledge scores of experimental and control group

Table 3 & fig.1 depicts pre test and post test knowledge regarding pulmonary tuberculosis among adults in experimental and control group. In the experimental group 96.6% of adults were having poor knowledge regarding pulmonary tuberculosis and 3.3 % of adults were having average knowledge regarding pulmonary tuberculosis. None of the adults was having good knowledge regarding pulmonary tuberculosis whereas in control group 93.3% of adults were having poor knowledge regarding pulmonary tuberculosis and 6.6% of adults were having average knowledge regarding pulmonary tuberculosis. None of the adults were having good knowledge regarding pulmonary tuberculosis in control group.

After the health education programme on pulmonary tuberculosis, in experimental group it was found that none of the adults were having poor knowledge regarding pulmonary tuberculosis, 20% of adults were having average knowledge regarding pulmonary tuberculosis and 80% were having good knowledge whereas in control group 93.3% of adults were having poor knowledge regarding pulmonary tuberculosis, 6.6% of adults were having average knowledge regarding pulmonary tuberculosis and none was having good knowledge

regarding pulmonary tuberculosis. Thus it was found that the health education programme was effective in improving the level of knowledge of the adults.

IV. DISCUSSION

In the current study, the pretest knowledge scores of the adults in the experimental group, 96.6% of adults were having poor knowledge regarding pulmonary tuberculosis, whereas in control group 93.3% of adults were having poor knowledge regarding pulmonary tuberculosis. After the health education programme, in experimental group it was found that 20% of adults were having average knowledge regarding pulmonary tuberculosis and 80% were having good knowledge whereas in control group 93.3% of adults were having poor knowledge regarding pulmonary tuberculosis. Thus it was found that the health education programme was effective in improving the level of knowledge of the adults. Similar findings were reported in a study conducted by Patil B. Y. (2015) that 88.66% had inadequate knowledge, only 11.34% had moderate knowledge and none of the Tuberculosis patients were having adequate knowledge in pre test. The post test knowledge score shows that 87.33% Tuberculosis patients had adequate knowledge on tuberculosis and 12.66% samples had moderate knowledge. None of them came under inadequate knowledge group⁶. Another study conducted by Kalpana J. (2015) reported that in the post-test knowledge score, most of subjects 52% had excellent knowledge score, 44% subjects had good knowledge score, 4% of subjects had average knowledge score and no one had poor knowledge score.⁷

In the present study the Mean \pm SD of pretest score for the experimental group was 8.3 ± 3.09 and for the post-test was 23.5 ± 2.04 whereas in the control group pre-test was 8.3 ± 3.35 and for post-test it was 8.6 ± 3.66 . This shows that there is a significant ($p < 0.001$) gain in knowledge among the adults in the experimental group. In a study conducted by Patil B. Y. (2015) it was revealed that the pretest Mean and SD was 21.91 ± 2.27 whereas in the post test the Mean and SD was 39.23 ± 2.23 which showed that there was a significant improvement in the knowledge level among patients regarding tuberculosis.⁶ Similar findings were reported by Gothankar JS (2013) shows that there was a highly significant increase in the knowledge of school students after the tuberculosis awareness program by medical undergraduate students.⁸

V. CONCLUSION

In this study the findings revealed that the health education programme can increase the awareness of adults regarding pulmonary tuberculosis. This helps them to recognize

the symptoms of the illness at an early stage and encourage them to seek medical treatment.

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