International Journal of
Recent Innovations in Medicine and Clinical Research
Open Access, Peer Reviewed, Abstracted and Indexed Journal

ISSN: 2582-1075
https://ijrimcr.com/
Volume-2, Issue-3, 2020: 55-61

A Study to Evaluate the Effectiveness of Structured Teaching Programme Regarding Home Care Management on Tuberculosis among Tuberculosis Clients in Selected PHC at Vijayapura

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Received: June 5, 2020 **Accepted:** June 26, 2020 **Published:** July 5, 2020

Abstract: Introduction: Tuberculosis remains a worldwide public health problem despite the fact that the causative organism was discovered more than 100 years ago and highly effective drugs and vaccines are available making tuberculosis a preventable and curable disease [1]. The global incidence rate of Tuberculosis being 119 per lakh population with low-income countries carrying most of the burden with the incidence rate 197 per lakh population [2]. Middle-income countries are having the rate of about 85 per lakh population and high income countries about nine per lakh population [3]. Eight out of ten of all those struck by tuberculosis are in economically productive age group of 15-49 years. It kills more adults than any other infectious disease. India accounts for nearly one third of global burden of tuberculosis [4]. **Objectives of the study:** (1) To assess the existing knowledge regarding home care management on tuberculosis among tuberculosis clients. (2) To evaluate the effectiveness of structured teaching programme regarding home care management on tuberculosis. (3) To find out the association between the knowledge about home care management on tuberculosis and selected demographic variables. **Material and methods:** An evaluative research approach with one group pretest posttest design in quasi-experimental design was used to evaluate the effectiveness of the STP. This study was conducted in Vijayapura. The population for this study consisted of TB clients. Random sampling technique by lottery method was used to select 60 samples. The tool used for the data collection was structured knowledge interview questionnaire which comprised of 11 items on demographic data and 40 items on home care management on TB. The reliability of the tool was established by Split Half technique, with 'r'=0.94. Conceptual frame work for the study was based on the J.W. Kenny system theory model. The pretest was administered to 60 TB clients followed by the STP on the 7th (seven) day; post test was conducted to the same sample using the same tool. **Results:** Regarding the existing knowledge of the home care management on TB, there was a lack of knowledge in all aspects of home care management on TB. The overall pretest mean knowledge was 20.82 and posttest mean knowledge was 31.10, with mean percent enhancement of knowledge score as 10.28 which was statistically significant as observed between pre and post test score with paired 't' test 20.42 at 0.05 level. **Conclusion:** Hence, the H_2 is rejected. So there is no significant association between level of knowledge scores and selected demographic variables. Also, Null Hypothesis (H_{01}) is accepted.

Keywords: TB clients, Level of knowledge, Home care management, structured teaching program.

Introduction

The burden of TB for India for the year 2000 was estimated to be 8.5 million and the annual risk of TB infection varied from 1 to 2%. The TB preventive was significantly higher among people living below the poverty line compared with those above the poverty line (242 versus 149/100, 00 population) [5]. Among the marginalized people TB was 1-5 items more prevent. TB was disproportionately high among the poor and socially executed groups [6]. India is classified along with the sub Saharan African countries to be among those with a high burden and the least prospects of a favourable time trend of the disease as of now (group IV countries). The average prevalence of smear positive cases 2.27 per thousand and average annual incidence of smear-positive cases at 84 per 1, 00,000 annually [7]. Bangalore rural area carried out between 1961-68 the annual incidence rate of cases in males increased during the five year observation period from 200 to 300 per 1, 00,000. It however remained stable among males aged 55 yr in successive surfaces for the five year period, ranged from 400-700 per 100,000. In females it had increased only from 150 to 200 per 100,000 [8]. An unexplained observation in there surveys was the annual incidence of about 100 per 100,000 in both sexes in the 15-34 yr age group [9].

The home care program for the TB rests on the assumption that an intelligent, co-operative patient partially restored to health can be treated for part of his long-term illness at home to his ultimate benefit. The home care program has been found most useful for patients undergoing major thoracic surgery [10]. After such operations most patients are able to spend part of the time at home convalescing, a period otherwise spent in the institution. Planned teaching program is suited for patients receiving pnuemothorax and punemoperitoneum with effective collapse of the lung as well as patients with spontaneously regressive TB in whom there is a reasonable expectation that in time the disease will become arrested. Two basic criteria are utilized in the conduct of the home care program. First, the condition of the patient must have improved sufficiently to permit continued treatment at home; secondly, home conditions must be adequate [11].

The investigator had exposure to many clients with TB with symptoms of chest pain coughing up blood, and productive prolonged cough for more than three weeks. Fever chills night stress appetite loss, weight loss, infection moves from the lungs causing other kinds of TB. The investigator also finds that family health nurse giving more importance in home care management to treat the TB. And investigator also find that there is very few homecare relevant articles on TB and its DOTS for this reason the investigator felt that there is a need for homecare management on tuberculosis among the TB clients to prevent further complication and promote healthy life [12].

Objectives of the study

1. To assess the existing knowledge regarding home care management on tuberculosis among tuberculosis clients.
2. To evaluate the effectiveness of structured teaching programme regarding home care management on tuberculosis.
3. To find out the association between the knowledge about home care management on tuberculosis and selected demographic variables.

Methodology

An evaluative research approach with one group pretest posttest design in quasi-experimental design was used to evaluate the effectiveness of the STP. This study was conducted in Vijayapura. The population for this study consisted of TB clients. Random sampling technique by lottery method was used to select 60 samples. The tool used for the data collection was structured knowledge interview questionnaire which comprised of 11 items on demographic data and 40 items on home care management on TB. The reliability of the tool was established by Split Half technique, with ‘r’=0.94. Conceptual frame work for the study was based on the J.W. Kenny system theory model. The pretest was administered to 60 TB clients followed by the STP on the 7^{th} (seven) day; post test was conducted to the same sample using the same tool. Data gathered was analyzed using descriptive and

inferential statistics in terms of frequency, percentage, mean, standard deviation, paired 't' test and chi-square test.

Results

Section-A: **Demographic variables of TB clients regarding home care management on TB.**

Table 1. Classification of Respondents by Personal Characteristics (N=60)

Characteristics	Category	Respondents	
		Number	Percent
Age Group (years)	21-30	26	43.3
	31-40	22	36.7
	41-50	12	20.0
Sex	Male	39	65.0
	Female	21	35.0
Marital Status	Married	44	73.3
	Unmarried	16	26.7
Educational Status	Illiterate	22	36.7
	Primary	22	36.7
	Middle school	7	11.6
	High school	9	15.0
Occupational Status	Coolie	21	35.0
	Agriculture	22	36.7
	Private	9	15.0
	House wife	8	13.3
Total		**60**	**100.0**

The above table 1 depicts that classification of respondents by personal characteristics, such as age, sex, marital status, educational status and occupational status. Majority of the respondents 26 (43.3%) were in the age group of 21-30 years, followed by22 (36.7%) found in the age group between 31-40 years 12 (20%) in the age group of 41-50 years. Majority of the respondents were male 39 (65%) followed by 21(35%) were female.

Majority of the respondents were married 44(73.3%) followed by 16(26.7%) were unmarried. It was observed from the result that, majority of the respondents studied 22 (36.7%) equally up to illiterate and primary school level. Further 9(15%) studied up to high school level, remaining 7(11.6%) found to be up to middle school. Further, occupational status indicates 22(36.7%) were agriculture and 21(35%) coolie and 9(15%) were private workers and remaining 8(13%) were housewives.

Section–B

Overall and aspect wise knowledge scores of respondents on home care management on Tuberculosis

Table 2. Classification of respondents on pretest knowledge level on homecare management on Tuberculosis (N=60)

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	< 50 % Score	32	53.3
Moderate	51-75 % Score	28	46.7
Adequate	> 75 % Score	0	0.0
Total		60	100.0

Table 2 reveals that the level of knowledge on home care management on tuberculosis out of 60 TB clients, in pretest 32(53.3%) of them had inadequate knowledge and 28(46.7%) had moderately adequate knowledge.

Section-3

Data on effectiveness of structured teaching programme on the home care management on TB.

Table 3. Classification of respondents on posttest knowledge level on homecare management on Tuberculosis (N=60)

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	< 50 % Score	0	0.0
Moderate	51-75 % Score	20	33.3
Adequate	> 75 % Score	40	66.7
Total		**60**	**100.0**

From the above Table 3 showed that the levels of knowledge on home care management on tuberculosis among TB clients.

Out of 60 TB clients in posttest 20 (33.3%) of them had moderate knowledge and 40(66.7%) had adequate knowledge.

Section-4

Data on association between the knowledge with their selected demographic variable.

Table 4. Association between demographic variables and pretest knowledge level on homecare management on Tuberculosis (N=60)

Demographic Variables	Category	Sample	Respondents Knowledge				χ^2 value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Age Group (years)	21-30	26	9	34.6	17	65.4	8.29*	< 0.05
	31-40	22	13	59.1	9	40.9		
	41-50	12	10	83.3	2	16.7		
Sex	Male	39	25	64.1	14	35.9	5.19*	< 0.05
	Female	21	7	33.3	14	66.7		
Marital Status	Married	44	25	56.8	19	43.2	0.81 NS	> 0.05
	Unmarried	16	7	43.8	9	56.2		
Educational Status	Illiterate	22	12	54.5	10	45.5	2.39 NS	> 0.05
	Primary	22	12	54.5	10	45.5		
	Middle school	7	2	28.6	5	71.4		
	High school	9	6	66.7	3	33.3		
Occupational Status	Coolie	21	11	52.4	10	47.6	0.07 NS	> 0.05
	Agriculture	22	12	54.5	10	45.5		
	Private	9	5	55.6	4	44.4		
	House wife	8	4	50.0	4	50.0		
Type of Family	Nuclear	25	9	36.0	16	64.0	5.17*	< 0.05
	Joint	35	23	65.7	12	34.3		
Family income/month	Rs.1,00-1,500	24	13	54.2	11	45.8	0.07 NS	> 0.05
	Rs.1,501-2,000	24	13	54.2	11	45.8		
	> Rs.2,000	12	6	50.0	6	50.0		
Family history	Yes	35	23	65.7	12	34.3	5.17*	< 0.05

of Tuberculosis	No	25	9	36.0	16	64.0		
Relationship	Grand parent	13	6	46.2	7	53.8	1.49 NS	> 0.05
	Parents	22	14	63.6	8	36.4		
	Not applicable	25	12	48.0	13	52.0		
Received information TB	Yes	36	15	41.7	21	58.3	4.92*	< 0.05
	No	24	17	70.8	7	29.2		
Combined		60	32	53.3	28	46.7		
* Significant at 5% Level, NS: Non-significant								

Table 4 depicted the association between selected demographic variables and knowledge level of pretest among TB clients regarding home care management on tuberculosis.

In regard to TB clients, 21.30 years 9(34.6%) had inadequate knowledge 17(65.4%) had moderate knowledge. Among 31-40 years 13(59.1% had inadequate knowledge 9(40.9%) had moderate knowledge. Among 41.50 years 10(83.3%) had inadequate knowledge 2(16.7%) had moderate knowledge. The obtain χ^2 value 8.29 was significant at 5% level. So the hypothesis was accepted. It is inferred that there was significant association between age and knowledge of TB clients in rural PHC.

In regard to sex among male 25(64.1) had inadequate knowledge 14(35.9%) had moderate knowledge. Among female 7(33.3%) had inadequate knowledge 14(66.7%) had moderate knowledge. The obtain χ^2 value 5.19 was significant at 5% level. So the hypothesis was accepted. It is inferred that there was significant association between sex and knowledge of TB clients in rural PHC.

In regard to marital status among married 25(56.8%) had inadequate knowledge 19(43.2%) had moderate knowledge. In unmarried 7(43.8%) had inadequate knowledge 9(56.2%) had moderate knowledge. The obtain χ^2 value 0.81 was not significant at 0.05% level. So the hypothesis was rejected. Also, Null Hypothesis (H_{01}) is accepted. It is inferred that there was no significant association between marital status and knowledge of TB clients in rural PHC.

In regard to educational status of TB clients illiterate 12(54.5%) had inadequate knowledge 10(45.5%) had moderate knowledge. Among primary 12(54.5%) had inadequate knowledge 10(45.5%) had moderate knowledge. Among middle school 2(28.6%) had inadequate knowledge 5(71.4%) had moderate knowledge. The obtain χ^2 value 2.39 was not significant at 0.05% level. So the hypothesis was rejected. Also, Null Hypothesis (H01 is accepted). It is inferred that there was no significant association between educational status and knowledge of TB clients in rural PHC.

In regard to occupational status of TB clients coolie 11(52.4%) had inadequate knowledge 10(47.6%) had moderate knowledge. Among agriculture 12(54.5%) had inadequate knowledge 10(45.5%) had moderate knowledge. Among private 5(55.6%) had inadequate knowledge 4(44.4%) had moderate knowledge. Among house wife 4(50%) had inadequate knowledge 4(50%) had moderate knowledge. The obtain χ^2 value 0.07 was not significant at 0.05% level. So the hypothesis was rejected. Also, Null Hypothesis (H01is accepted). It is inferred that there was no significant association between occupational status and knowledge of TB clients in rural PHC. In regard to type of family among nuclear family 9(36%) had inadequate knowledge 16(64%) had moderate knowledge. Among joint family 23(65.7%) had inadequate knowledge 12(34.3%) had moderate knowledge. The obtain χ^2 value 5.17 was significant at 5% level. So the hypothesis was accepted. It is inferred that there was significant association between type of family and knowledge of TB clients in rural PHC.

In regard to income of family 1,000-1,500, 13(54.2%) had inadequate knowledge 11(45.8%) had moderate knowledge. Among Rs. 1,501-2,000/-, 13(54.2%) had inadequate knowledge 11(45.8%) had moderate knowledge. Among more than Rs 2000/- 6(50%) had inadequate knowledge 6(50%) had moderate knowledge. The obtain χ^2 value 0.07 was not significant at 0.05 level. So the hypothesis was rejected. Also, Null Hypothesis (H01 is accepted). It is inferred that there was no significant association between income and knowledge of TB clients in rural PHC.

In regard to family history of tuberculosis details reveals that 23(65.7%) had inadequate knowledge 12(34.3%) had moderate knowledge. The obtain χ^2 value 5.17 was significant at 5% level. So the hypothesis was accepted. It is inferred that there was significant association between family history of tuberculosis and knowledge of TB clients in rural PHC.

In regard to relationship of TB clients among grandparents 6(46.2%) had inadequate knowledge 7(53.8%) had moderate knowledge. Among parents 14(63.6) had inadequate knowledge 8(36.4%) had moderate knowledge. The obtain χ^2 value 1.49 was not significant at 0.05% level. So the hypothesis was rejected. Also, Null Hypothesis (H01 is accepted). It is inferred that there was no significant association between relationship of TB clients and knowledge of TB clients in rural PHC. In relation to source of information regarding TB among TB clients details reveals that 15(41.7%) had inadequate knowledge 21(58.3%) had moderate knowledge. The obtain χ^2 value 4.92 was significant at 5% level. So the hypothesis was accepted. It is inferred that there was significant association between source of information regarding TB and knowledge of TB clients in rural PHC.

Conclusion

The main conclusion drawn from study includes the level of knowledge regarding home care management on tuberculosis which was found to be 33.3% with moderately adequate knowledge and 66.7% with adequate knowledge in posttest. The overall pretest mean percent knowledge score was 52% and posttest mean percent knowledge score was 77.8%, with mean percent enhancement of knowledge score as 25.7% which was statistically significant as observed between pre and posttest score with paired 't' test 20.42 at $p<0.05$ level. The student researcher observed while collecting the data that majority of the subjects had inadequate knowledge regarding home care management which was found to be 53.3% with inadequate knowledge and 46.7% with moderately adequate knowledge. The overall pretest mean percent knowledge score was 52%.

Conflict of Interest

There is no conflict of interest stated.

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Citation: Kirani SS, Pateel PS, Natekar DS. A Study to Evaluate the Effectiveness of Structured Teaching Programme Regarding Home Care Management on Tuberculosis among Tuberculosis Clients in Selected PHC at Vijayapura. Int J Rec Innov Med Clin Res. 2020;2(3):55-61.