



# A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM ON KNOWLEDGE REGARDING PULMONARY TUBERCULOSIS AMONG CLIENTS REGISTERED AT DISTRICT TUBERCULOSIS CENTRE PULWAMA KASHMIR

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**Abstract-** Tuberculosis continues to be a major health problem in the world particularly in the developing countries. In developing countries there are varied factors which affect the health of the people. Majority of these can be prevented by adopting preventive measures and raising the level of knowledge of the people. So it is important that the patients should have adequate knowledge regarding the disease to survive and prevent further infection.

The study aimed at assessing the existing knowledge regarding pulmonary tuberculosis among clients before implementation of planned teaching programme [Pre-test], assessing the knowledge after the implementation of planned teaching programme [Post-test], to compare the pre-test and post-test knowledge scores regarding pulmonary tuberculosis and to determine the association of pre-test knowledge scores regarding pulmonary tuberculosis among clients with their selected demographic variables i.e. Age, Gender, Marital status, Type of family, Educational status, Occupation, and Income per month. A one group pre-test post-test pre-experimental approach was adopted. The study was conducted on 57 clients registered at district tuberculosis centre Pulwama, who were selected by total enumerative scattered sampling technique. Data was collected by administering structured knowledge interview schedule. The content validity of the tool and teaching plan was established. The reliability of tool was established by testing the internal consistency by using Test -retest method.

Result of study indicate that total among 57 subjects, 30(52.63%) subjects had moderately adequate level of knowledge regarding pulmonary tuberculosis, 22(38.60%) subjects had inadequate level of knowledge and only 5(8.77%) subjects had adequate knowledge before planned teaching programme. Where as in post-test, majority of the subjects 56(98.25%) had adequate level of knowledge regarding pulmonary tuberculosis, and only 1(1.75%) subject had moderately level of knowledge after planned teaching programme. The mean pre-test knowledge score was (28.31) which improved to (43.68) in post-test ( $p < 0.001$ ). This means Planned teaching programme improved the knowledge of clients regarding pulmonary tuberculosis. Improvement in knowledge was assessed by taking post-test after 5 days. This study concluded that planned teaching program is effective tool to improve the knowledge of clients regarding pulmonary tuberculosis.

**Keywords:** Knowledge, clients, pulmonary tuberculosis, DOTS (directly observed treatment short-course), planned teaching programme.

## 1. INTRODUCTION

Tuberculosis is an infectious disease known to have existed from ancient times. The disease has been perpetuated and maintained in the human population. It represents a dynamic balance between man and mycobacterium tubercle bacilli. Tuberculosis is a chronic infectious disease caused by tubercle bacilli (mycobacterium tuberculosis), the disease primarily affects lungs and causes pulmonary tuberculosis. It can also affect meninges, intestine, and bones. [1, 2]

In 1993, WHO took unprecedented step and declared tuberculosis as a global emergency. So great concern was about the modern tuberculosis epidemic. It is estimated that between the year 2002 and 2020 nearly one billion people will be newly infected, 2000 million will get sick and 35 million will die from TB if prevention is not further strengthened. And if left untreated, each person with active TB will infect 10-15 people in a year.[3]



**Annual status report, TB India 2011** states that Tuberculosis continue to remain as one of the major communicable disease in the world, particularly in developing countries. In 2010, there were an estimated 8.8 million incidence cases of tuberculosis globally. Mortality figures in tuberculosis reveal 1.1 million deaths among HIV-negative cases and an additional 0.35 million deaths among people who were HIV- positive. In the state of Jammu and Kashmir, published figures in 2010 revealed that out of 87080 suspects, 8673 were sputum positive.[4,5,6]

Tuberculosis is a major public health problem in India, coupled with rising number of cases of Acquired Immuno Deficiency Syndrome (AIDS) in whom the most common opportunistic infection is tuberculosis, and has gained even greater importance. The success of Revised National Tuberculosis Control Programme (RNTCP) depends on the passive efforts of the health institutions. Therefore, it is important that the basic knowledge about the disease, the availability of treatment and prevention of Tuberculosis should be clear among the individuals in the community. Equally important is to assess the impact of various strategies adopted for improving knowledge and compliance.[7] Planned Teaching Programme refers to a systematic way of educating people. Various studies have shown that planned teaching programme has been very effective in preventing and improving the knowledge on various diseases. A Planned Teaching Programme done on effectiveness of AIDS education programme on adolescent girls of Andhra Pradesh showed that there was a significant increase in the knowledge level after administering planned teaching programme , which proves that Planned Teaching Programme is an effective method to use in improving the knowledge level of the people.[8]

## 2. STATEMENT OF THE PROBLEM

A study to assess the effectiveness of planned teaching program on knowledge regarding pulmonary tuberculosis among clients registered at district tuberculosis centre Pulwama Kashmir.

### 2.1 Objectives of the Study

- To assess the existing knowledge regarding pulmonary tuberculosis among clients before implementation of planned teaching programme [Pre-test].
- To assess the knowledge regarding pulmonary tuberculosis among clients after implementation of planned teaching programme [Post-test].
- To compare the pre-test and post-test knowledge scores regarding pulmonary tuberculosis among clients.
- To determine the association of pre-test knowledge scores regarding pulmonary tuberculosis among clients with their selected demographic variables i.e. Age, Gender, Marital status, Type of family, Educational status, Occupation, and Income per month.

### 2.2 Hypotheses

**H1:** There is significant difference between the mean pre-test and post-test knowledge scores of clients regarding pulmonary tuberculosis at  $p \leq 0.05\%$  level of significance.

**H2:** There is significant association of pre-test knowledge scores of clients regarding pulmonary tuberculosis with their selected demographic variables i.e., Age, Gender, Marital Status, Type of Family, Educational Status, Occupation and Income per Month at  $p \leq 0.05\%$  level of significance

## 3. MATERIALS AND METHODS

### 3.1 Research Approach

Quantitative research approach was used.

### 3.2 Research Design

Pre-experimental one group pre-test post-test Pre experimental research design was adopted.

### 3.3 Setting of the Study

The present study was conducted at District Tuberculosis Centre Pulwama Kashmir.

### 3.4 Population

Clients registered at the District Tuberculosis Centre Pulwama Kashmir were selected as population for the present study.

### 3.5 Sample

The sample for the current study are 57 clients registered at district tuberculosis centre Pulwama.

### 3.6 Sampling Technique

District tuberculosis centre Pulwama consisted of 3 tuberculosis units (TU), viz Tuberculosis unit Tral (TU Tral),

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Tuberculosis unit Shopain (TU Shopain) and Tuberculosis unit Pulwama (TU Pulwama). Firstly, the selection of the tuberculosis unit Pulwama was done by non-random method (i.e. convenience sampling). Then total enumerative scattered sampling was used to select 57 subjects for the present study.

### 3.7 DEVELOPMENT OF TOOL FOR DATA COLLECTION

#### 3.7.1 Section A

Demographic data related to the patients with Pulmonary Tuberculosis. It includes; Age, Gender, Marital status, Type of family, Educational status, Occupation, and Income per month.

#### 3.7.2 Section B

Deals with the knowledge assessment regarding Pulmonary Tuberculosis. It includes; General aspects of pulmonary tuberculosis, treatment and its side effects, & prevention and spread of Pulmonary Tuberculosis.

### 3.8 Validity of Instrument

To ensure the content validity of the prepared tool, it was submitted to 12 experts. Among these twelve experts, 8 were nursing experts, 3 medical experts, and 1 statistician.

### 3.9 Reliability

The reliability of tool was established by testing the internal consistency. The internal consistency was assessed by using Test -retest method. Co-efficient correlation was found 0.96 which indicated the high degree of reliability of the tool.

### 3.10 Data Collection Procedure

A formal written permission was obtained from the State Tuberculosis Officer Kashmir division (State TB Cell Directorate of Health Services Kashmir) and District Tuberculosis Officer Pulwama . Data was collected from 25.05.2015 to 23.06.2015.

The subjects were approached and rapport was established by self introduction. Informed written consent was obtained from the subjects to confirm their willingness to participate in the study. The subjects were taken at DOTS Sections of different health centers and structured knowledge interview schedule was administered by the investigator for conducting the pre-test. Planned teaching programme was administered to the same subjects on the same day after pre-test by using the computer slides and flip book. Post test was carried out 5 days after the administration of planned teaching programme using the same interview schedule in order to assess the effectiveness of planned teaching programme on Pulmonary Tuberculosis.

### 3.11 Analysis of Data

Both descriptive and inferential statistics analyzed on the basis of the objectives and hypotheses of the study. Mean, median, range and standard deviation calculated. Paired 't test' was used to determine the significant difference between the pre test and post test knowledge scores. To determine the association of pre-test knowledge scores with the demographic variables of clients, ANOVA and T-test test was used. The findings were interpreted and presented with the help of tables and graphs. The level of significance was set at the conventional level of 0.05% to test the hypotheses.

## 4. RESULTS

The data and findings were organized and presented under following sections:-

**Section I:** Description of demographic variables of subjects.

**Section II:** Assessment of Knowledge level of subjects regarding pulmonary tuberculosis before and after implementation of planned teaching programme.

**Section III:** Comparison of pre-test and post-test knowledge scores of subjects regarding pulmonary tuberculosis.

**Section IV:** Association of pre-test knowledge scores with selected demographic variables (Age, Gender, Marital status, Type of family, Educational status, Occupation and Income per month).

### 4.1 Section I

Description of demographic variables of subjects:

- Out of 57 subjects,
  - ▶ (23)40.4% were in the age group of >40yrs,(22), 38.6% were in the age of 20-40yrs and only (12 ) 21.1% subjects were in the age group of ≤20yrs.
  - ▶ 29(50.9%) were females and only 28(49.1%) were males.

- ▶ 36(63.2%) were married and only 21 (36.8%) were unmarried.
- ▶ 40(70.2%) were belonging to joint family and only (29.8%) were from nuclear family.
- ▶ 27(47.4%) were illiterate, 22(38.6%) subjects had educational qualification up to secondary and only 8(14%) subjects were graduate and above.
- ▶ 31(54.5%) were from labour class, 13(22.8%) were students, 10(17.5%) subjects were from business class and only 3(5.3%) subjects were employee.
- ▶ 25(43.9%) had monthly income  $\leq 5000$  Indian Rupees, 19(33.3%) had monthly income 5000-10000 and only 13(22.8%) had monthly income  $>10000$  Indian Rupees.

#### 4.2 Section II

Assessment of Knowledge level of subjects regarding pulmonary tuberculosis before and after implementation of planned teaching programme:

In pre-test majority of the subjects 30(52.63%) had moderately adequate level of knowledge regarding pulmonary tuberculosis, 22(38.60%) subjects had inadequate level of knowledge and only 5(8.77%) subjects had adequate level of knowledge before planned teaching programme. Where as in post-test, majority of the subjects 56(98.25%) had adequate level of knowledge regarding pulmonary tuberculosis, only 1(1.75%) subject had moderately adequate level of knowledge and none had inadequate level of knowledge as shown in Fig. 4.1.

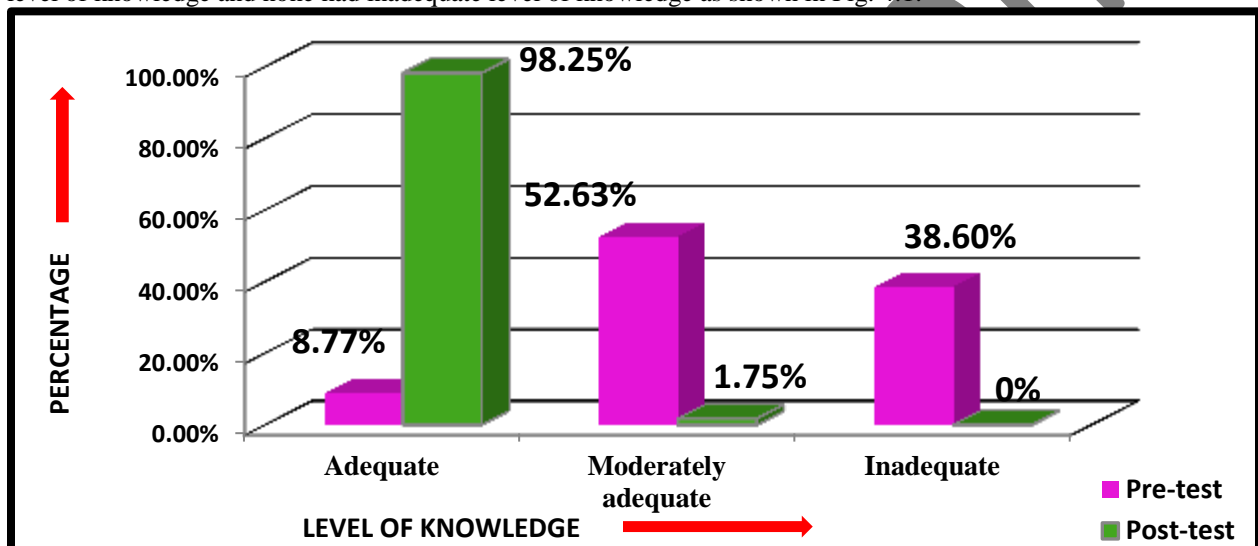


Fig. 4.1 Bar Diagram Showing Comparison Between Pre and Post-Test Level of Knowledge

#### 4.3 Section III

Comparison of pre-test and post-test knowledge scores of subjects regarding pulmonary tuberculosis:

The mean post-test score (43.68) was greater than the mean pre-test score (23.32) with mean difference (=15.37) [Fig. 4.2] at  $p$ -value  $< 0.001$  which indicates that there is high significant difference between pre-test and post-test mean knowledge score. So there is enough evidence that this change occurred due to intervention and not by chance.

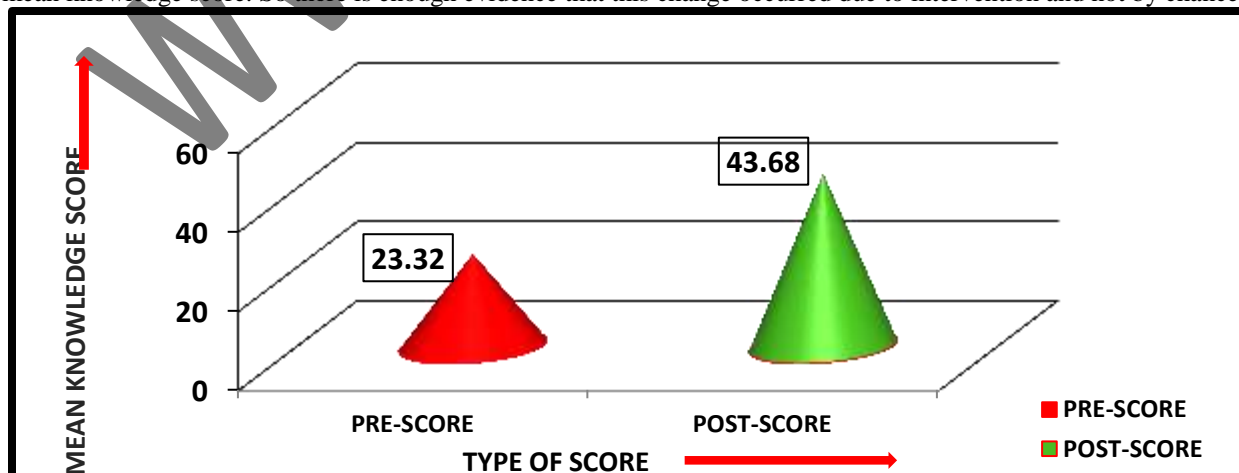


Fig. 4.2 Cone Diagram Showing Over All Mean Knowledge Score

#### 4.4 Section IV

Association of pre-test knowledge scores with selected demographic variables (Age, Gender, Marital status, Type of family, Educational status, Occupation and Income per month):

Age ( $p \leq 0.006$ ), marital status ( $p \leq 0.011$ ), educational status ( $p \leq 0.001$ ), occupation ( $p \leq 0.001$ ) and income per month ( $p \leq 0.009$ ) of subjects were found to have significant association with the pre-test knowledge score. Conversely, no association was found between gender and type of family with the pre-test knowledge score ( $p > 0.05$ ).

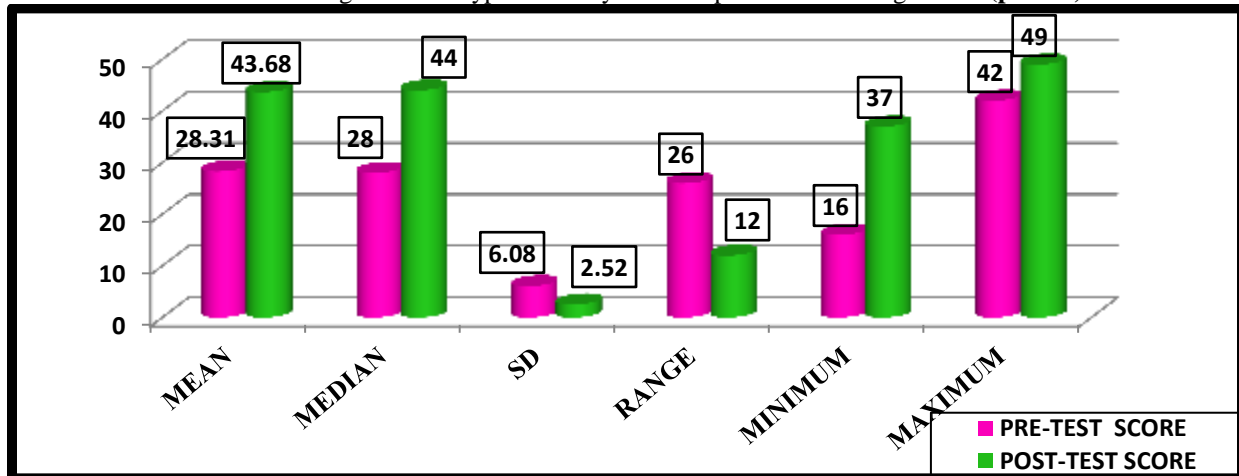


Fig. 4.3 Cylinder Diagram Showing Comparison Between Mean, Median, Standard Deviation, Minimum, Maximum and Range of Pre-test and Post-test Knowledge Scores of Subjects Regarding Pulmonary Tuberculosis

## 5. DISCUSSION

While comparing the knowledge scores of subjects regarding pulmonary tuberculosis the mean post-test score (43.68) was greater than the mean pre-test score (28.31) with mean difference (=15.37) at  $p < 0.001$  which indicates that there is high significant difference between pretest and post-test mean knowledge score and hence confirmed that the planned teaching programme was effective in increasing the knowledge of clients. The finding of the study were found similar to a study conducted by **Patidar, Ravindra, Pavan (2014)** on effectiveness of structured teaching programme (STP) on knowledge regarding prevention and control of tuberculosis among internship GNM students. Result of study indicate that total pretest mean percentage was 52.73% and posttest mean percentage 81.05 % which shows increase in post-test knowledge compare to the pretest knowledge score and concluded that structure teaching programme is effective tool to improve the knowledge of students on prevention and control of tuberculosis.[9]

## 6. LIMITATIONS OF THE STUDY:

- The size of the sample was small (57), which impose limitation in generalization.
- Sample was selected only from District tuberculosis centre Pulwama hence generalization can only be made for the sample studied.
- Effectiveness of planned teaching programme was assessed in terms of knowledge gain only. Practice and attitude domains were not included.
- The researcher didn't use control group. Hence the investigator had no control over the events that took place between pre-test and post-test.
- Data collection period was limited to four weeks only.

## 7. RECOMMENDATIONS

On the basis of the findings of the present study the following recommendations have been made:

- A similar study can be conducted on a larger sample in order to draw more definite conclusions and generalizations.
- A similar study can be conducted on a larger sample with different demographic characteristics.
- A quasi-experimental study can be conducted with control group.
- A similar study can be recommended by using different method of teaching.
- A similar study can be recommended to compare effectiveness of planned teaching programme and other methods on knowledge regarding pulmonary tuberculosis among clients registered at district tuberculosis centre Pulwama.



- A comparative study may be done between rural and urban areas.
- A study may be conducted to see the prevalence of pulmonary tuberculosis.
- A study can be conducted to find out the practices of health care providers in educating TB clients.
- Follow-up of the subjects can be done to evaluate the long term effects of PTP.

## 8. ETHICAL STANDARDS

Prior permission was obtained from the concerned authorities of MMINSR SKIMS SOURA Srinagar, Ethical Committee SKIMS Soura Srinagar for ethical clearance and permission. Permission was also accorded from the head of the concerned area (State tuberculosis officer and District tuberculosis officer) to conduct the study on the pulmonary tuberculosis clients. Permission was obtained by taking informed consent from subjects, prior to their inclusion as sample in the study. Privacy, confidentiality and anonymity was guarded.

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**Conflict of interest:** The authors had no relationship/condition/circumstances that present a potential conflict of interest.

## CONCLUSION

Knowledge score of clients registered at district tuberculosis centre Pulwama was found inadequate regarding pulmonary tuberculosis in the pre-test. 30(52.63%) had moderately adequate level of knowledge regarding pulmonary tuberculosis, 22(38.60%) of subjects had inadequate level of knowledge and only 5(8.77%) of subjects had adequate level of knowledge.

There was evident increase in knowledge score of subjects after the implementation of planned teaching programme regarding pulmonary tuberculosis. The mean of pre-test knowledge score was (28.31) which improved to (43.68) in post-test ( $p < 0.001$ ).

The socio demographic variables Age, Marital Status, Educational Status, Occupation and Income per Month of subjects were found to have significant association with the pre-test knowledge score whereas, gender and type of family had no association with their pre-test knowledge scores.

Planned teaching programme improved the knowledge of clients regarding pulmonary tuberculosis. Improvement in knowledge was assessed by taking post-test after 5 days.

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