

# A Pre-Experimental Study to Assess the Effectiveness of Information Booklet on Knowledge Regarding Pulmonary Tuberculosis Among Males and Females in the Age Group 18-40 Years in Selected Urban Area Boileauganj, Shimla (H.P) in the Year 2018-19

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**Abstract:** Background: Tuberculosis is a disease caused by a bacterium called *Mycobacterium tuberculosis*. The bacterium usually attacks the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal. In India awareness of tuberculosis is centered on the extent of people's knowledge regarding the most important facts about the disease. Most of the people are either ignorant or not fully knowledgeable about the disease. Knowledge about the cause, symptoms, transmission, prevention, Medications, dietary patterns, life style and hygienic practices are still required to a large extent in the country to reduce its severity. So information booklet was developed and administered to improve the knowledge of general population regarding Pulmonary Tuberculosis. Objective: The study was conducted with an objective to evaluate the effectiveness of information booklet on Pulmonary Tuberculosis among males and females in the age group 18-40 years in selected Urban area, Boileauganj, Shimla. Methodology: A pre-experimental study was conducted in May 2019 in Urban area Boileauganj, Shimla. Sample of 60 males and females were selected using convenience sampling technique. Pre-test was conducted. Information Booklet regarding Pulmonary Tuberculosis was provided to samples. Then after seven days post-test was taken. Data was collected using self-structured questionnaire related to Pulmonary Tuberculosis. The gathered data was analysed by calculating mean, median, mean percentage, mean difference, standard deviation, paired t-test to evaluate the effectiveness of Information booklet and chi square test to find association of knowledge with selected socio-demographic variables. Result: The study findings showed that post-test mean knowledge score regarding Pulmonary tuberculosis has statistically improved from  $15.2 \pm 3.545$  in pre-test to  $20.15 \pm 3.085$  in post-test. Conclusion: The Information Booklet has improved post-interventional knowledge score of males and females in the age group of 18-40 years in Urban area Boileauganj, Shimla.

**Keywords:** Information booklet, Pulmonary Tuberculosis

## 1. Introduction

Infectious disease is a major public health issue for both developed and developing countries like Africa and India, both suffer significant population losses each year. Approximately two million people in India die with infectious diseases. Tuberculosis is a disease caused by a bacterium called *Mycobacterium tuberculosis*. The bacterium usually attacks the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. If not treated properly, TB disease can be fatal. In India about 70% of the cases occur among the age group of 15-54 years (most productive age group), whereas in the developed countries, elderly people are affected more.

### Objectives

- To assess the level of knowledge regarding Pulmonary Tuberculosis among males and females in the age group 18-40 years in selected Urban area Boileauganj, Shimla.
- To develop and administer information booklet on Pulmonary Tuberculosis.
- To evaluate the effectiveness of information booklet on Pulmonary Tuberculosis among males and females in the

age group 18-40 years in selected Urban area, Boileauganj, Shimla.

- To find out the association of knowledge with selected socio-demographic variables.

## 2. Methodology

The Pre-experimental (one group pre-test post-test) design was used in the study and the data was collected from 60 males and females in the age group 18-40 years, who were willing to participate in the study and were available at the time of data collection. The study was conducted in the selected Urban Area Boileauganj, Shimla (H.P).

Convenience sampling technique was used and a self-structured knowledge questionnaire was prepared to collect data. The tool comprised of two sections: section one included questions related to socio-demographic variables of the subjects such as age, gender, religion, dietary pattern, type of fuel used, type of family, educational status, occupation, monthly income of family, previous knowledge and source of information regarding Pulmonary Tuberculosis. Section two had self-structured knowledge

questionnaire which consisted of 30 knowledge items regarding Pulmonary Tuberculosis.

To ensure the content validity of the tool, it was submitted to 10 experts. The reliability of the tool was measured using Karl Pearson’s correlation coefficient formula (test-retest formula) and was found to be 0.80.

Ethical approval was taken from the Councillor of Urban area Boileaganj, Shimlato conduct the research study. A written informed consent was obtained from the subjects before data collection and the confidentiality of the information was maintained.

Data was analyzed using descriptive and inferential statistics i.e. frequency and percentage distribution, mean percentage, median and chi square to determine the results.

### 3. Results

The frequency and percentage distribution of the subjects according to their socio-demographic variables revealed that the majority of study subjects (26.7%) were in the age group of >35-40 years. Majority of study subjects (65%) were females. Majority of study subjects (95%) belonged to Hindu religion. Majority of study subjects (63.3%) were vegetarian. Majority of study subjects (80%) used LPG in their homes. Majority of study subjects (65%) were from

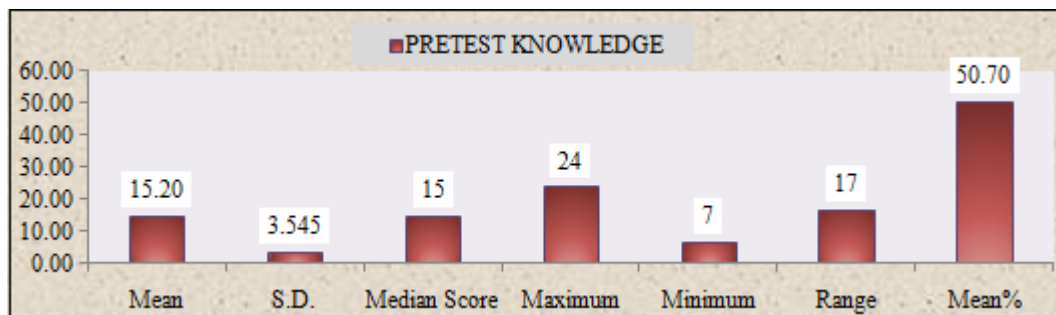
nuclear family. Majority of study subjects (28.3%) were educated up to matriculation and graduation. Majority of study subjects (53.3%) were home maker. Majority of study subjects i.e. (26.7%) were having monthly family income of Rs.5001-10,000 and 10,001- 15,000. Majority of study subjects (88.3) had knowledge regarding TB. Majority of study subjects (50.9) had information regarding pulmonary tuberculosis from radio/TV.

**Table 1:** Pre-test knowledge score of the subjects regarding Pulmonary Tuberculosis, N=60  
Criteria measure for pre-test knowledge score

Score Level	Pre-Test f(%)
Very Poor (0-6)	-
Poor (7-12)	10(16.7%)
Average (13-18)	38(63.3%)
Good (19-24)	12(20%)
Very Good (25-30)	-
Maximum Score=30	Minimum Score=0

Table 1 depicts that in pre-test score, none of the sample fall in very poor category. 10(16.7%) had poor knowledge, 38 (63.3%) had average knowledge, 12 (20%) had good knowledge about pulmonary tuberculosis. None was under the category of very good.

#### Descriptive statistics of the Pre-test knowledge score



**Figure 1:** Descriptive statistics of Pre-test knowledge scores of the subjects regarding Pulmonary Tuberculosis

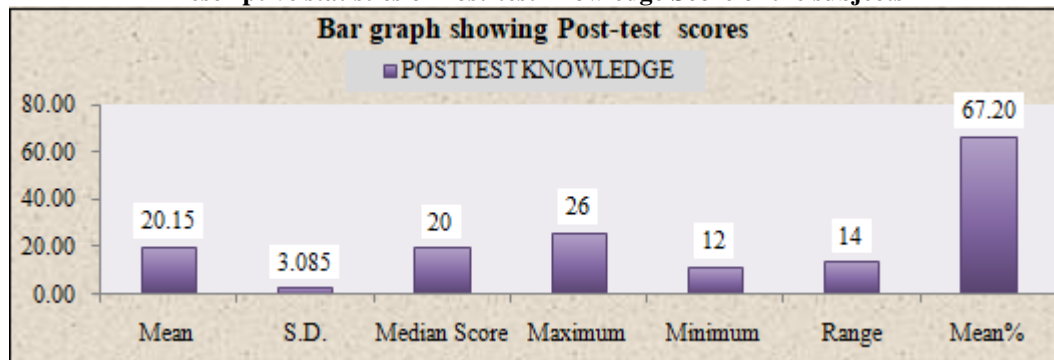
As per the mentioned figure, mean knowledge score was 15.20 with standard deviation 3.545. Maximum score obtained in the group was 24 and minimum score obtained was 7. The median score found in the group was 15. Mean percentile was 50.70.

Table 2 shows post-test knowledge score. None of the sample falls in very poor category. Only 1 (1.7%) falls in the poor category. 14 (23.3%) were having average knowledge score. 40 (66.7%) were having good knowledge score. 5 (8.3%) were having very good knowledge score.

**Table 2:** Post-test knowledge scores of the subjects regarding Pulmonary Tuberculosis, N= 60

Criteria Measure For Post-Test Knowledge Score	
Score Level	Post-Test f(%)
Very Poor (0-6)	-
Poor (7-12)	1(1.7%)
Average (13-18)	14(23.3%)
Good (19-24)	40(66.7%)
Very Good (25-30)	5(8.3%)
Maximum Score=30	Minimum Score=0

## Descriptive statistics of Post-test knowledge Score of the subjects



**Figure 2:** Descriptive statistics of Post-test knowledge score of the subjects regarding Pulmonary Tuberculosis

Fig. No. 2 shows that post-test mean score was 20.15, standard deviation was 3.085, median score was 20. Maximum and minimum values were 26 and 12 respectively. Range was 14 and mean percentile was 67.20.

**Table 3:** Comparison of Pre-test knowledge score and Post-test knowledge score within the group using paired t test, N=60

Paired t-test	Mean±S.D.	Mean%	Range	df	Mean Diff.	Paired t-test	Table Value at 0.05
Pre-Test Knowledge	15.2±3.545	50.70	7-24	59	4.950	18.029	2.00
Post-Test Knowledge	20.15±3.085	67.20	12-26	59			

\*\* Significance at  $p \leq 0.05$

Maximum Score = 30; Minimum Score = 0

Data presented in table 3 depicted that by using paired t-test, it was found that there is significant change in post-test knowledge score of the group with t value 18.029. The degree of freedom is 59 at  $p \leq 0.05$  level of significance.

#### Association of Knowledge scores with Socio-demographic Variables of the subjects, N=60

There was no significant association between the level of scores and other socio-demographic variables such as age, gender, religion, dietary pattern, type of fuel used, type of family, educational status, occupation, monthly income of family, previous knowledge regarding Pulmonary Tuberculosis and source of information.

#### 4. Conclusion

The main focus of the study was to assess the effectiveness of information booklet on knowledge regarding pulmonary tuberculosis among males and females in the age group of 18-40 years in selected Urban area Boileauganj, Shimla. As tuberculosis is a communicable disease and it imposes a greater health risk to community people. So greater attention should be paid to increase the knowledge of community people. There was a significant difference in the level of knowledge score between pre-test and post-test score after administering information booklet. The mean knowledge score in pre-test was 15.2 which was increased in post-test to 20.15 after implementation of information booklet.

Hence, the study findings concluded that the administration of information booklet had significantly improved the knowledge of males and females in the age group of 18-40 years in Urban area Boileauganj, Shimla.

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