



“A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION BOOKLET REGARDING KNOWLEDGE OF TUBERCULOSIS AND DOTS THERAPY AMONG TUBERCULOSIS PATIENTS ATTENDING DOTS CENTERS AT SELECTED URBAN AREA OF AHMEDABAD”

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Abstract:

Background: Tuberculosis (TB) remains a major public health issue in India, requiring effective patient education for improved treatment outcomes. Enhancing knowledge about Directly Observed Treatment, Short-course (DOTS) is critical for compliance and recovery.

Objective: To evaluate the effectiveness of an information booklet on tuberculosis and DOTS therapy among TB patients attending selected urban DOTS centers in Ahmedabad.

Methods: The quantitative approach was used. A pre-experimental one-group pre-test post-test design was adopted, involving 100 TB patients selected through convenience sampling. A structured questionnaire assessed knowledge before and after administering an information booklet. Data were analyzed using descriptive statistics, paired t-test, and chi-square tests.

Results:

The post-intervention, the mean knowledge score increased significantly from 10.32 to 14.89 (mean gain = 4.57, $t = 24.93$, $p < 0.05$). Knowledge levels improved notably, with poor knowledge decreasing from 63% to 5%. Significant associations were found between knowledge and variables such as education ($\chi^2 = 26.925$), occupation ($\chi^2 = 14.955$), income ($\chi^2 = 17.945$), and duration of treatment ($\chi^2 = 10.205$).

Conclusion:

The information booklet significantly improved TB patients' knowledge on DOTS therapy, demonstrating its effectiveness as a simple yet impactful educational tool.

Keywords: Assess, Effectiveness, Information Booklet, Knowledge, Tuberculosis, DOTS Therapy, Tuberculosis Patients, Urban Areas.

I. INTRODUCTION

Tuberculosis (TB), an infectious disease caused by *Mycobacterium tuberculosis*, continues to be one of the world's top ten causes of death (World Health Organization, 2018). In 2017, it claimed 1.3 million lives globally, excluding HIV-positive cases, and 1.7 million including them. The World Health Organization (2016) stated that despite being a preventable and curable disease, TB remains widespread, especially in developing countries. India accounts for about 27% of the world's TB burden, with approximately 2.79 million cases in 2018 (RNTCP, 2019). The Revised National Tuberculosis Control Programme (RNTCP) introduced the DOTS (Directly Observed Treatment, Short-course) strategy in 1997 to enhance treatment adherence, reduce default rates, and improve cure rates (Park, 2019). Despite its success, the programme still faces challenges such as poor patient compliance, limited awareness, and social stigma (Indian Journal of Public Health, 2018).

Ahmedabad city, Gujarat, reported over 11,000 TB cases in 2018, with 28% of them coming from the East Zone (District Tuberculosis Office Report, Ahmedabad, 2018). Research shows that inadequate knowledge of TB, its transmission, symptoms, and treatment duration—along with socio-cultural stigma—contributes significantly to treatment default (Singh et al., 2019). A baseline internal assessment by the District TB Office revealed that many patients lacked understanding of DOTS and TB symptoms. Factors such as poverty, urban slum residence, and lack of access to accurate information further hinder treatment adherence. Hence, structured educational tools like information booklets can help bridge these knowledge gaps, foster positive attitudes, and promote treatment compliance among TB patients. By improving patient understanding, such interventions can support better health outcomes and contribute significantly to national TB elimination goals (World Health Organization, 2019).

1.1. PROBLEM STATEMENT

"A Study to Assess the Effectiveness of Information Booklet Regarding Knowledge of Tuberculosis and DOTS Therapy Among Tuberculosis Patients Attending DOTS Centers at Selected Urban Area of Ahmedabad"

1.2. OBJECTIVES

- To assess the pre-test level of knowledge regarding tuberculosis and DOTS therapy among tuberculosis patients attending selected DOTS centers.
- To administer an information booklet on tuberculosis and DOTS therapy to the selected group of patients.
- To assess the post-test level of knowledge regarding tuberculosis and DOTS therapy after administration of the information booklet.
- To evaluate the effectiveness of the information booklet by comparing the pre-test and post-test knowledge scores.
- To determine the association between pre-test knowledge scores and selected demographic variables.

1.3. HYPOTHESIS

H₀ (Null Hypothesis): There will be no significant difference between the pre-test and post-test knowledge scores regarding tuberculosis and DOTS therapy among tuberculosis patients after administration of the information booklet.

H₁ (Research Hypothesis 1): The mean post-test knowledge score regarding tuberculosis and DOTS therapy among tuberculosis patients will be significantly higher than the mean pre-test knowledge score after administration of the information booklet at the 0.05 level of significance.

H₂ (Research Hypothesis 2): There will be a significant association between the pre-test knowledge score of tuberculosis and DOTS therapy and the selected demographic variables (such as age, gender, education, duration of treatment, etc.) at the 0.05 level of significance.

1.4. CONCEPTUAL FRAMEWORK

A conceptual framework provides a structured approach to understanding the phenomenon under study. The conceptual framework for this study is developed based on **General System Theory**, which consists of input, throughput, output, and feedback.

INPUT: The **input** includes demographic variables and the existing knowledge level of patients regarding tuberculosis and DOTS.

THROUGHPUT: The **throughput** involves the administration of a pre-test, delivery of an information booklet, and the internalization of knowledge by the patients.

OUTPUT: The **output** is the improved post-test knowledge scores reflecting the effectiveness of the booklet.

FEEDBACK: Finally, the **feedback** consists of statistical analysis and insights for future educational improvements. The entire process occurs within the DOTS center environment and is influenced by patients' socio-cultural factors.

1.5. VARIABLES

A variable is a characteristic or attribute that differs among tuberculosis patients.

- **Dependent Variable:** In this study, dependent variable is level of knowledge of tuberculosis patients.
- **Independent Variable:** In this study, independent variable is an information booklet.
- **Demographic Variable:** In this study the selected demographic variables are age, gender, education, occupation, income, marital status and duration of TB treatment.

1.6. DELIMITATIONS

- The study will be delimited to tuberculosis patients within the age group of 18 to 60 years.
- The study will be delimited to a sample size of 100 patients selected from the identified DOTS centers.
- The study will be delimited to tuberculosis patients attending DOTS centers in selected urban areas of Ahmedabad.

II. MATERIALS AND METHOD

2.1. Research Approach: A quantitative evaluative approach was used in the study.

2.2. Research Design: Pre-experimental one-group pre-test post-test research design was used.

2.3. Sample: The sample comprises 100 tuberculosis patients who are attending DOTS centers in selected urban health centers.

2.4. Sampling Technique: The samples were selected through a non-probability convenience sampling technique.

2.5. Criteria for Sample Selection

❖ *Inclusion criteria:*

- Samples who are willing to participate in this study.
- Samples who are available at the time of data collection.
- Samples who can read and write Gujarati language.

❖ *Exclusion criteria:*

- Samples who are not willing to participate in the study.
- Samples who are not available at the time of data collection.
- Samples who cannot read and write Gujarati language.

2.6. Setting: The setting selected for study from urban health centers of Jodhpur and Ghatlodia at Ahmedabad.

2.7. Population: The population was tuberculosis patients who are attending DOTS centers in selected urban health centers.

2.8. Description of tool: It consisted of two parts:

- **Section-I:** This section comprised demographic variables of the samples such as age, gender, education, occupation, income, marital status and duration of TB treatment.
- **Section-II:** This section consisted of a structured knowledge questionnaire with 30 items related to tuberculosis. Each correct answer was awarded 1 mark, and an incorrect answer received 0 marks, with a maximum score of 30.

2.9. Ethical consideration: Ethical clearance was obtained from ethical committee from J G College of Nursing, Ahmedabad. A pilot study was conducted from 18/02/2019 to 22/02/2019 at the Thaltej DOTS Center to test the feasibility and clarity of the tool, with results indicating no major changes were needed. The main study was conducted from 25/03/2019 to 11/04/2019 at the Jodhpur and Ghatlodia DOTS Centers. Prior to data collection, formal permissions were obtained from the Commissioner's Office, Ahmedabad, and Medical Officers of the respective UHCs.

2.10. Plan for data analysis: The data analyses were done according to the study objectives by using descriptive and inferential statistics. The plans of data analysis were as follows:

- Frequency, percentage, mean, and standard deviation will be calculated.
- The t-test will be used for the assessment of comparison between pre-test and post-test level of knowledge.
- The chi-square test will be used for association with demographic variables.

III. RESULTS

The data obtained are divided into sections for easy and accurate interpretation of data. The data finding has organized under the following section:

- **Section I:** Analysis of Demographic Variables of the Participants.
- **Section II:** Analysis & Interpretation of Pre-Test & Post-Test Knowledge Mean Scores of Participants.
- **Section III:** Analysis & Interpretation of Frequency of Participants as Pre-Test & Post-Test Knowledge Scores.
- **Section IV:** Analysis & Interpretation of Effectiveness of Information Booklet by Comparing Pre-Test & Post-Test Knowledge Mean Scores of Participants.
- **Section V:** Analysis & Interpretation of Association Between Pre-Test Knowledge Scores and Selected Demographic Variables.

SECTION - I: DISTRIBUTION OF TUBERCULOSIS PATIENTS BASED ON THEIR DEMOGRAPHIC VARIABLES:

The demographic data consists of 07 items seeking information about the age, gender, education, occupation, income, marital status and duration of TB treatment.

Table-1: Distribution of Demographic Variables of the Participants

N = 100

S. N.	Demographic Variables		Frequency (n)	Percentage (%)
1	Age (in years)	18–30	48	48.0%
		31–40	29	29.0%
		41–50	15	15.0%
		50 & above	8	8.0%
2	Gender	Male	68	68.0%
		Female	32	32.0%
3	Education	Primary	33	33.0%
		Secondary	22	22.0%
		Higher Secondary	21	21.0%
		Graduate	20	20.0%
		Post Graduate	4	4.0%
4	Occupation	Unemployed	15	15.0%
		Unskilled labour worker	6	6.0%
		Farmer	7	7.0%
		Student	19	19.0%
		Housewife	13	13.0%
		Other	40	40.0%
5	Monthly Family Income (₹)	< 2000	0	0.0%
		2001–5000	24	24.0%
		5001–10000	29	29.0%
		> 10000	47	47.0%
6	Marital Status	Married	59	59.0%
		Unmarried	33	33.0%
		Widow/Widower	4	4.0%
		Divorced/Separated	4	4.0%
7	Duration of TB Treatment	1–6 months	51	51.0%
		7–12 months	43	43.0%
		1.1–1.5 years	6	6.0%
		1.6–2 years	0	0.0%

Table-1 describes the demographic characteristics of 100 tuberculosis patients who are attending DOTS centers in selected urban health centers who participated in the study. The variables include age, gender, education, occupation, income, marital status and duration of TB treatment. The demographic characteristics of the 100 participants were analyzed and presented as follows:

1. **Age (in years):** The majority of the participants, 48 (48.0%), were in the age group of 18–30 years, indicating that a large proportion of tuberculosis (TB) patients were young adults. This was followed by 29 (29.0%) participants in the 31–40 years age group. 15 (15.0%) participants were between 41–50 years, while the remaining 8 (8.0%) were aged 50 years and above. This shows that TB affects individuals across a wide age range, though it is more common among younger adults.
2. **Gender:** Among the respondents, a majority were male, comprising 68 (68.0%), whereas 32 (32.0%) were female. This gender distribution suggests that TB may be more prevalent among males in the study area, or males may be more likely to seek treatment at the DOTS centre.
3. **Education:** Regarding educational status, 33 (33.0%) participants had completed only primary education, while 22 (22.0%) had secondary education. 21 (21.0%) had studied up to higher secondary, and 20 (20.0%) were graduates. Only 4 (4.0%) had postgraduate qualifications. These figures suggest that a significant portion of TB patients had relatively low educational levels, which could affect their understanding of disease management and treatment adherence.
4. **Occupation:** The occupational status of participants varied. A considerable number, 40 (40.0%), were categorized under ‘Other’ occupations, suggesting a mix of informal or unspecified work. 19 (19.0%) were students, and 15 (15.0%) were unemployed. 13 (13.0%) were housewives, 7 (7.0%) were farmers, and 6 (6.0%) were unskilled labourers. This occupational diversity highlights the socioeconomic variation among TB patients.
5. **Monthly Family Income (in ₹):** In terms of monthly family income, 47 (47.0%) participants reported earning more than ₹10,000, while 29 (29.0%) had income in the range of ₹5,001–₹10,000. 24 (24.0%) earned ₹2,001–₹5,000, and notably, none (0.0%) reported earning less than ₹2,000. These figures reflect a moderate-income profile among most participants, though nearly one-fourth belonged to a low-income bracket.
6. **Marital Status:** The data shows that 59 (59.0%) participants were married, 33 (33.0%) were unmarried, while 4 (4.0%) were widow/widower, and another 4 (4.0%) were divorced or separated. This distribution indicates that a majority of TB patients were in marital relationships, which might influence family support and health-seeking behavior.
7. **Duration of TB Treatment:** Regarding the duration of TB treatment, 51 (51.0%) participants had been undergoing treatment for 1–6 months, and 43 (43.0%) had been on treatment for 7–12 months. 6 (6.0%) had treatment duration between 1.1–1.5 years, while none (0.0%) had been under treatment for more than 1.5 years. This shows that most participants were in the early or mid-phase of TB treatment, which is a crucial period for adherence and recovery.

SECTION - II: ANALYSIS & INTERPRETATION OF PRE-TEST & POST-TEST KNOWLEDGE MEAN SCORES OF PARTICIPANTS:

This section presents a detailed analysis of area-wise mean knowledge scores, standard deviation (SD), mean percentage, and percentage gain of tuberculosis patients before and after the intervention. The comparison highlights the effectiveness of the educational intervention on participants’ knowledge regarding tuberculosis and DOTS.

Table-2: Area-wise mean scores, mean percentage, SD of tuberculosis patients by the level of knowledge score

Area	Max Score	Pre-test Knowledge Score			Post-test Knowledge Score			Percentage (%) Gain	Mean Difference
		Mean Score	Mean %	SD	Mean Score	Mean %	SD		
Introduction	1	0.18	18.00	0.386	0.89	89.00	0.314	71.00	0.71
Causes	1	0.35	35.00	0.479	0.55	55.00	0.5	20.00	0.2
Risk Factors	2	0.75	37.50	0.479	1.02	51.00	0.586	13.50	0.27
Pathophysiology	2	0.63	31.50	0.619	0.83	41.50	0.603	10.00	0.2
Incidence Of Disease	1	0.7	70.00	0.386	0.79	79.00	0.409	9.00	0.09
Clinical Manifestation	1	0.18	18.00	0.954	0.27	27.00	0.446	9.00	0.09
Diagnostic Tests	5	2.09	41.80	0.460	2.66	53.20	0.794	11.40	0.57
DOTS	12	3.92	32.67	1.454	5.39	44.92	1.687	12.25	1.47
Prevention	5	1.58	31.60	0.965	2.49	49.80	1.029	18.20	0.91
Total	30	10.38	34.6	6.182	14.89	49.63	6.368	15.03	4.51

Table-2 illustrates the area-wise distribution of knowledge scores among tuberculosis patients in the pre-test and post-test. The maximum possible score for each domain varies, with a total maximum score of 30.

- In the **Introduction** section, the mean score significantly increased from 0.18 (18.00%) in the pre-test to 0.89 (89.00%) in the post-test, showing a **percentage gain of 71.00%**, indicating substantial improvement in basic awareness. The **Causes** section also showed improvement from 0.35 (35.00%) to 0.55 (55.00%), with a **20.00% gain**. In the **Risk Factors** area, the score improved modestly by 13.50%, from a pre-test mean of 0.75 (37.50%) to a post-test mean of 1.02 (51.00%).
- The **Pathophysiology** section had a mean score increase from 0.63 (31.50%) to 0.83 (41.50%), showing a **10.00% gain**. For **Incidence of Disease**, the score rose slightly by **9.00%**, from 0.70 (70.00%) to 0.79 (79.00%). **Clinical Manifestations** improved from 0.18 (18.00%) to 0.27 (27.00%), also showing a **9.00% gain**.

- The **Diagnostic Tests** domain increased from 2.09 (41.80%) to 2.66 (53.20%), showing an **11.40% gain**, while the **DOTS** section, which had the highest weightage (max score = 12), showed a significant improvement from 3.92 (32.67%) to 5.39 (44.92%), indicating a **12.25% gain**.
- The **Prevention** section also saw notable improvement, with the mean score rising from 1.58 (31.60%) to 2.49 (49.80%), resulting in a **18.20% gain**. Overall, the **total knowledge score** improved from a pre-test mean of 10.38 (34.6%) to a post-test mean of 14.89 (49.63%), with an overall **mean percentage gain of 15.03%** and a **mean difference of 4.51**.
- These findings clearly demonstrate the effectiveness of the intervention in improving knowledge regarding TB and DOTS among the participants across all content areas.

SECTION III: ANALYSIS & INTERPRETATION OF FREQUENCY OF PARTICIPANTS AS PRE-TEST & POST-TEST KNOWLEDGE SCORES:

This section deals with analysis and interpretation of collected data to find out the frequency and percentage according to knowledge scores of participants before and after, giving an information booklet among tuberculosis patients.

Table-2: Frequency and percentage distribution of tuberculosis patients by the level of knowledge score

N = 100

Level of Knowledge	Pre-test		Post-test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Poor (0-10)	63	63%	5	5%
Average (11-20)	37	37%	91	91%
Good (21-30)	0	0%	4	4%
Total	100	100%	100	100%

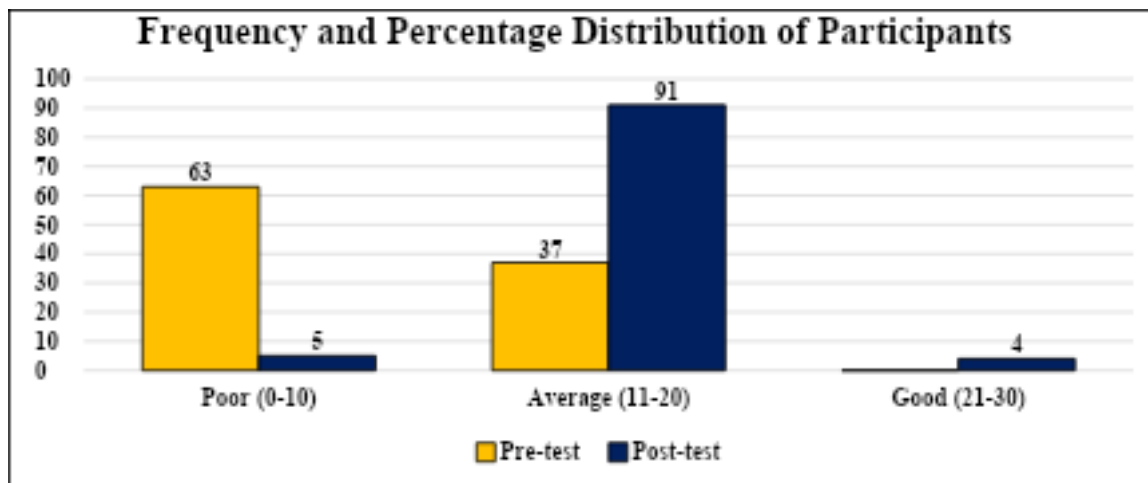


Figure-1: Frequency Distribution of Participants According to Pre-test & Post-test Level of knowledge

Table-2 presents the frequency and percentage distribution of tuberculosis patients according to their level of knowledge scores in both the pre-test and post-test phases. Before the intervention, a majority of participants, 63 out of 100 (63%), were found to have poor knowledge regarding tuberculosis and DOTS (Directly Observed Treatment, Short-course), with scores ranging from 0 to 10. Another 37 participants (37%) demonstrated an average level of knowledge, with scores between 11 and 20. Notably, none of the participants (0%) scored in the good knowledge range (21 to 30) during the pre-test. Following the educational intervention, there was a significant improvement observed in the post-test scores. The number of participants in the poor knowledge category reduced drastically to just 5 (5%). A substantial increase was seen in the average knowledge group, with 91 participants (91%) achieving scores between 11 and 20. Furthermore, 4 participants (4%) advanced into the good knowledge category, indicating scores ranging from 21 to 30. This shift in scores clearly suggests the effectiveness of the educational programme in enhancing the participants' knowledge about tuberculosis and its management. The decrease in poor knowledge levels and the increase in average and good scores demonstrate a positive outcome of the intervention.

SECTION IV: ANALYSIS & INTERPRETATION OF EFFECTIVENESS OF INFORMATION BOOKLET BY COMPARING PRE-TEST & POST-TEST KNOWLEDGE MEAN SCORES OF PARTICIPANTS:

This section interprets the description of the evaluation of the effectiveness of an information booklet on level of knowledge among tuberculosis patients

Table-3: Effectiveness of an information booklet on level of knowledge score among tuberculosis patients

N = 100

Knowledge test	Mean	Mean difference	SD	Calculated value	Table value	DF
Pre-test	10.32	4.57	2.00	24.93***	1.96	99
Post-test	14.89		2.92			

****Significant**

Table-3 presents the statistical analysis of the effectiveness of an information booklet on the knowledge level of tuberculosis patients. The table compares the mean scores of the pre-test and post-test to determine the impact of the educational intervention. The mean knowledge score before the intervention was 10.32, while after the intervention, it increased significantly to 14.89. This reflects a mean difference of 4.57, indicating a notable improvement in knowledge following the distribution of the information booklet. The standard deviation (SD) for the pre-test was 2.00, and for the post-test, it was slightly higher at 2.92, showing some variability in the post-test responses. The calculated 't' value was 24.93, which is far greater than the table value of 1.96 at a 0.05 level of significance with 99 degrees of freedom. This large calculated value strongly supports the hypothesis that the educational intervention was effective. Since the calculated value exceeds the table value and is statistically significant at the 0.05 level (as indicated by the triple asterisks ***), it confirms that the information booklet had a significant positive effect on improving the knowledge of tuberculosis patients. Therefore, the findings clearly demonstrate the effectiveness of the intervention. Hence proved H_1 was accepted and null hypothesis rejected.

SECTION V: ANALYSIS & INTERPRETATION OF ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE SCORES AND SELECTED DEMOGRAPHIC VARIABLES:

This section presents the findings related to the association between the pre-test knowledge scores of tuberculosis patients and their selected demographic variables. The chi-square test was used to determine whether there is a statistically significant association at the 0.05 level of significance.

Table-4: Association between pre-test knowledge scores with selected demographic variables

N = 100

S. N	Demographic Variables	df	Chi-Square (χ^2)		Association At P=0.05
			Table Value	Calculated Value	
1	Age	3	7.815	7.105	Non-significant
2	Gender	1	3.841	1.59	Non-significant
3	Education	4	9.488	26.925**	Significant
4	Occupation	5	11.07	14.955**	Significant
5	Monthly Family Income	2	5.991	17.945**	Significant
6	Marital Status	3	7.815	5.214	Non-significant
7	Duration Of TB Treatment	2	5.991	10.205**	Significant

****Significant**

Table-4 despite that the analysis revealed that there was **no significant association** between pre-test knowledge scores and variables such as **age** ($df = 3$, $\chi^2 = 7.105$, table value = 7.815, $p > 0.05$), **gender** ($df = 1$, $\chi^2 = 1.59$, table value = 3.841, $p > 0.05$), and **marital status** ($df = 3$, $\chi^2 = 5.214$, table value = 7.815, $p > 0.05$), indicating that these factors did not influence the baseline knowledge levels of tuberculosis patients. However, a **significant association** was found between pre-test knowledge scores and **education** ($df = 4$, $\chi^2 = 26.925$, table value = 9.488, $p < 0.05$), **occupation** ($df = 5$, $\chi^2 = 14.955$, table value = 11.07, $p < 0.05$), **monthly family income** ($df = 2$, $\chi^2 = 17.945$, table value = 5.991, $p < 0.05$), and **duration of TB treatment** ($df = 2$, $\chi^2 = 10.205$, table value = 5.991, $p < 0.05$). These findings suggest that higher education, occupation status, economic background, and length of treatment significantly influenced the knowledge levels of the patients before the intervention. Overall, the data indicates that socio-economic and treatment-related variables played an important role in determining the baseline awareness of tuberculosis among patients. Hence proved H_2 was accepted and null hypothesis rejected.

IV. DISCUSSION

The study aimed to evaluate the effectiveness of an information booklet on tuberculosis and DOTS therapy among TB patients in selected urban DOTS centers of Ahmedabad. Guided by the General System Model, the framework includes input (demographic data and pre-test knowledge), throughput (administration of the booklet and structured teaching), output (post-test knowledge improvement), and feedback (statistical analysis and interpretation). The study used a pre-experimental one-group pre-test post-test design with 100 TB patients selected through convenience sampling. A structured questionnaire assessed knowledge levels before and after the intervention. Data analysis involved descriptive statistics and paired t-tests to evaluate effectiveness and chi-square tests to explore associations with demographic variables. The results were systematically organized into five sections for clarity. Section I dealt with the demographic profile of 100 TB patients. Most participants were young adults aged 18–30 years (48%) and predominantly male (68%). A significant proportion had only primary education (33%) and were involved in various occupations, with 40% categorized under 'Other'. Almost half (47%) had a monthly income of more than ₹10,000, and most were married (59%). Regarding treatment duration, the majority (51%) had been on TB treatment for 1–6 months. Section II presented the analysis of pre- and post-test mean knowledge scores across various TB-related areas. A significant increase in overall knowledge was observed, with the total mean score rising from 10.38 (34.6%) to 14.89 (49.63%), showing a mean gain of 15.03%. The highest gain was seen in the 'Introduction' section (71.0%), indicating that the booklet substantially improved foundational understanding. Section III showed a major shift in knowledge levels: pre-test data revealed 63% of participants had poor knowledge, which reduced to 5% post-intervention, while average and good knowledge scores improved to 91% and 4%, respectively. In Section IV, the statistical comparison of pre- and post-test scores using a paired t-test revealed a significant mean difference of 4.57 (pre-test = 10.32; post-test = 14.89), with a calculated t-value of 24.93, which was much higher than the table value of 1.96 at df = 99 ($p < 0.05$), indicating the intervention was highly effective. Section V used chi-square analysis to examine associations between pre-test knowledge and demographic factors. A significant relationship was found with education ($\chi^2 = 26.925$), occupation ($\chi^2 = 14.955$), income ($\chi^2 = 17.945$), and duration of TB treatment ($\chi^2 = 10.205$), while age, gender, and marital status showed no significant association. These findings affirm that socio-economic and educational factors significantly influenced baseline knowledge levels, and the information booklet effectively enhanced understanding of TB among patients. The study concluded that the information booklet significantly improved tuberculosis patients' knowledge regarding DOTS therapy. It proved to be an effective and simple educational tool to enhance patient awareness and self-care.

V. CONCLUSION

The study concluded that the information booklet was effective in enhancing the knowledge of tuberculosis patients regarding DOTS therapy. A significant improvement in post-test scores indicated that structured teaching is a beneficial educational tool. The intervention helped bridge the knowledge gap among patients attending urban DOTS centers. Statistical analysis confirmed the effectiveness of the educational approach. Overall, the booklet proved to be a simple yet impactful method to improve TB-related awareness and self-care practices.

VI. ACKNOWLEDGMENT

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