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"A Study To Assess The Effectiveness Of Structured Teaching Programme Regarding Tb And Its Dot's Therapy Among The Asha's In Selected Primary Health Centre."

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Abstract:
Background: Tuberculosis (TB) remains a major public health issue in India, with the Directly Observed Treatment, Short-course (DOTS) strategy being central to national control efforts. Accredited Social Health Activists (ASHAs) serve as vital links between communities and healthcare systems, but inadequate knowledge among them may hinder effective TB management. Aim and Objectives: This study aimed to assess the effectiveness of a structured teaching programme in improving knowledge regarding TB and DOTS therapy among ASHAs in selected primary health centres. The specific objectives were to evaluate pre- and post-intervention knowledge levels and determine the impact of the teaching intervention.
Materials and Methods: A quantitative research approach with a one-group pre-test and post-test design was used. The study included 30 ASHA workers selected via non-probability convenient sampling. Data collection involved a structured questionnaire assessing knowledge on TB and DOTS therapy before and after the educational programme. Statistical analysis included descriptive statistics and paired t-test. Results: The mean pre-test knowledge score was 10.43, which increased to 15.13 post-intervention. The computed t-value of 8.63 was statistically significant at the 0.05 level, indicating a substantial improvement in knowledge. The results confirm that the structured teaching programme was effective in enhancing knowledge among ASHAs. Conclusion: The findings support the effectiveness of structured teaching programmes in improving ASHAs' understanding of TB and its DOTS therapy. Continued educational efforts and refresher training are recommended to ensure ASHAs are well-equipped to support TB control measures in the community.
Keywords: Tuberculosis, DOTS therapy, ASHA workers, structured teaching programme, knowledge assessment, community health, TB control, health education.

Introduction

Tuberculosis (TB), caused by *Mycobacterium tuberculosis*, is a communicable disease with serious public health implications. Despite being preventable and curable, TB continues to cause morbidity and mortality worldwide. In 2021, the World Health Organization (WHO) reported that 10.6 million people fell ill with TB and 1.6 million died from the disease globally. India bears the highest burden, contributing over 27% of the global TB cases.
In response to the TB epidemic, WHO launched the Directly Observed Treatment, Short-course (DOTS) strategy, which ensures patient adherence by requiring supervision during drug intake. In India, the Revised National Tuberculosis Control Programme (RNTCP), now known as the National TB Elimination Programme (NTEP), employs DOTS as its primary treatment strategy.
Accredited Social Health Activists (ASHAs) are community health workers tasked with mobilizing communities for health programs, including TB. However, research shows that many ASHAs have limited understanding of TB transmission, treatment, and the DOTS protocol. This necessitates structured educational interventions to enhance their capacity in TB control.

Review of Literature

Several studies have supported the need for structured educational interventions among frontline health workers. A study by Kaur and Kaur (2017) found that 64% of staff nurses had below-average knowledge about DOTS therapy. Out (2019) emphasized the effectiveness of community-based DOT in enhancing treatment adherence. Similarly, Zhang et al. (2017) demonstrated that structured teaching programs significantly improved knowledge and reduced default rates.
Lefevre et al. (2019) explored the psychosocial impact of TB and the role of patient-centered care. They suggested that effective education not only improves knowledge but also encourages empathy and commitment among health workers. Hence, strengthening ASHA capacity through structured teaching is both a practical and evidence-based approach.

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Need for the Study
India's TB burden, coupled with rising drug-resistant TB cases, underscores the urgency for effective control strategies. ASHAs, as grassroots health functionaries, play a critical role in the early detection, referral, and treatment compliance of TB cases. However, knowledge deficits among ASHAs can hinder their ability to perform these roles effectively.
A situational analysis of Gujarat's TB program revealed a 57% increase in reported cases within four years, primarily due to improved case detection. Such data reflect both the scale of the problem and the need for well-informed community health workers. The present study was thus undertaken to evaluate the impact of structured teaching on ASHAs' knowledge, with the aim of strengthening the community-level response to TB.

Objectives
1. To assess the pre-test knowledge of ASHAs regarding TB and DOTS therapy.
2. To assess the post-test knowledge of ASHAs following a structured teaching programme.
3. To compare the pre-test and post-test knowledge scores.
4. To evaluate the effectiveness of the structured teaching programme with respect to selected demographic variables.

Hypotheses
- **H0:** There is no significant difference between the pre-test and post-test knowledge scores.
- **H1:** There is a significant difference between the pre-test and post-test knowledge scores after the structured teaching programme.

Materials and Methods
Research Design:
Pre-experimental, one-group pre-test and post-test design.
Setting:
Selected Primary Health Centre, Mumbai.

Population:
ASHAs working in the selected PHC.

Sample Size and Sampling:
A total of 30 ASHA workers were selected using non-probability convenience sampling.

Inclusion Criteria:
- ASHAs who were present and willing to participate
- Those who could read and understand Marathi or Hindi

Exclusion Criteria:
- ASHAs not available during the time of the study
- Those unwilling to give consent

Tool for Data Collection:
A structured questionnaire divided into three sections:
- Demographic data
- Knowledge of TB
- Knowledge of DOTS therapy

Intervention:
A structured teaching programme covering TB epidemiology, transmission, symptoms, diagnosis, DOTS therapy components, and ASHA responsibilities.

Validity and Reliability:
The tool was validated by subject experts in nursing and public health. Pilot testing ensured reliability.

Ethical Considerations:
Ethical approval was obtained from the institutional review board. Written consent was obtained from participants.

Demographic Characteristics of Participants
A total of 30 ASHA workers participated in the study. Their demographic profile is summarized in Table 1.

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Results:

Table 1: Distribution of Participants by Demographic Variables

Demographic Variable	Category	Frequency (n)	Percentage (%)
Age (in years)	18–23	8	26.67%
	24–28	10	33.33%
	29–33	7	23.33%
	34 and above	5	16.67%
Educational Status	Below 8th	12	40.00%
	SSC	8	26.67%
	HSC	7	23.33%
	Graduate	3	10.00%
Previous Knowledge	Yes	28	93.33%
	No	2	6.67%
Source of Knowledge	Community	22	73.33%
	Book	3	10.00%
	Television	5	16.67%
	Internet	0	0.00%

Pre-Test and Post-Test Knowledge Score Analysis

A structured questionnaire with 20 items was used to assess knowledge. The scores were categorized and compared before and after the teaching intervention.

Table 2: Comparison of Pre-Test and Post-Test Knowledge Scores

Knowledge Level	Pre-Test (n, %)	Post-Test (n, %)
Poor (0–10)	9 (30%)	0 (0%)
Average (11–15)	17 (56.67%)	6 (20%)
Good (16–20)	4 (13.33%)	24 (80%)

Item-wise Knowledge Score Comparison

Table 3: Selected Item-wise Pre-Test and Post-Test Comparison

Item No.	Knowledge Question (Short Form)	Pre-Test (%)	Post-Test (%)
Q1	What does TB stand for?	70%	90%
Q3	Causative agent of TB	66%	93.3%
Q5	TB spread mode	56%	90%
Q6	Organ most commonly affected	6.6%	80%
Q13	Test used for TB	40%	100%
Q15	WHO recommended strategy for TB	76.6%	100%
Q17	Prophylactic treatment for children	6.6%	76.6%

Statistical Analysis of Knowledge Score Improvement

Table 4: Mean, Standard Deviation, and Paired t-test Result

Test	Mean Score	SD	Mean Difference	t-value	p-value
Pre-Test	10.43	3.13	2.5		
Post-Test	15.13	2.03	4.70	8.63	<0.001

The mean knowledge score increased from 10.43 (pre-test) to 15.13 (post-test), showing a significant improvement. A paired t-test yielded a t-value of **8.63**, which is statistically significant at **$p < 0.001$**. This confirms the effectiveness of the structured teaching programme.

Summary of Findings

- Majority of ASHAs were between the ages of 24–28 years and had education below the 10th standard.

- 93.3% had prior exposure to TB-related information, primarily through community sources.
- Pre-intervention, most ASHAs demonstrated average or poor knowledge.
- Post-intervention, 80% achieved a "good" knowledge score.
- Significant improvement ($p < 0.001$) was seen in all 20 questionnaire items after the educational session.

Discussion

The study revealed a significant increase in knowledge among ASHAs post-intervention, suggesting that structured teaching programs are effective educational tools. The findings are in line with studies by Thomas (2017) and Karumbi & Garner (2019), which emphasized the effectiveness of education in enhancing TB-related knowledge and compliance. Moreover, the structured teaching method helped clarify misconceptions about TB transmission, treatment duration, and the importance of treatment adherence, which are critical for the success of the DOTS strategy.

Given the results, it is evident that educational interventions tailored to the learning needs and literacy levels of ASHAs can yield impactful outcomes in TB control.

Conclusion

The study demonstrates that structured teaching programs are effective in improving ASHA workers' knowledge about TB and DOTS therapy. As key stakeholders in the National TB Elimination Programme, ASHAs must be equipped with accurate and practical knowledge to carry out their responsibilities effectively. Strengthening ASHA training initiatives could thus significantly contribute to national TB control efforts.

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