Epidemiological Analysis of Tuberculosis in India: Trends, Challenges, and Interventions

Synopsis Submitted to

The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA) in

Hospital and Health Management/Pharmaceutical Management/Development Management

by

Rakesh Mandal

Under the Supervision and Guidance of

Dr Ashok Peepliwal

Title: Epidemiological Analysis of Tuberculosis in India: Trends, Challenges, and Interventions **1.**

1. Introduction

Tuberculosis (TB) remains a significant public health issue in India, affecting millions of people. Understanding the epidemiology of TB, including its trends, challenges, and potential interventions, is crucial for effective disease control. This study aims to explore TB patterns in India and propose strategies for better management.

2. Research Question

What is the difference in TB incidence rates in different states of India, and what are the related issues? And which interventions have the potential to enhance TB results?

3. Objectives

The objectives of this study are as follows:

- To compare the different level of tuberculosis among Indian populations
- To identify challenges in India
- To recommend targeted strategies for TB control and prevention

4. Hypothesis

We hypothesize that TB incidence rates will be higher in urban areas due to factors such as population density, migration, and healthcare access. Additionally, tailored interventions can mitigate these disparities.

5. Material and Methods Study Design

Will conduct a retrospective observational study using secondary data sources.

Study Population

- **Inclusion Criteria**: All individuals diagnosed with TB during the study period.
- **Exclusion Criteria**: None.

Study Tools

- Existing TB surveillance data.
- Demographic information.
- Clinical records.

Duration of Study

The study will span five years (2015-2022).

Sample Size

All eligible TB cases reported during the study period will be included.

Sampling Technique

Convenience sampling from existing records.

Data Collection Procedure

- Obtain TB surveillance data from national and state health departments.

- Extract relevant variables, including treatment outcomes, demographic details, and urban/rural classification.
- Analyze data using statistical software.

Operational Definitions

- **TB Incidence Rate**: The number of new TB cases per 100,000 population.
- **Treatment Success Rate**: Proportion of TB cases with successful treatment outcomes (cured or completed treatment).

6. Data Analysis Plan

We will use descriptive statistics to summarize TB incidence rates. Comparative analyses will assess differences between urban and rural areas. Chi-square tests will evaluate treatment success rates.

7. Ethical Considerations

We will ensure data privacy and comply with ethical guidelines for secondary data analysis.

8. Implications of Research

Understanding urban-rural disparities in TB can inform targeted interventions, improve patient outcomes, and enhance TB control efforts.