# Non-Compliance of Tuberculosis Treatment in Tamil Nadu, India

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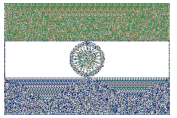
Great Problem Seminar: Heal the World; Professors Vassallo and Rulfs



## Abstract

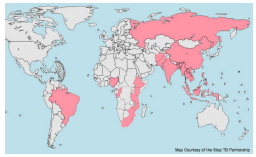
With 1.8 million new cases of TB in India each year, resulting in nearly 1,000 deaths each day, Tuberculosis is a rapidly increasing epidemic in rural India. Though multiple treatment options exist, a lack of compliance has resulted in the continuous spread of the disease and drug resistance. Cultural barriers are the main hurdle that must be overcome in order to achieve proper medical compliance. Through collaboration with the National Tuberculosis Institute and the implementation of educational programs that have been designed around the native cultures, we plan to reinforce the importance of following a treatment regimen.

## Tuberculosis

•*M. tuberculosis*
•Symptoms include chest pain, coughing up blood, a productive, prolonged cough, fever, chills, night sweats, appetite loss, weight loss, pallor and fatigue
•Currently one third of the world's population is infected with TB
•There are 8.8 million new cases of infectious TB each year throughout the world.
•TB kills 50-70% of its victims if it is left untreated.
•TB kills 1.6 million people each year and 4400 people per day in the world.
•The greatest number of infected people is concentrated in India.

Tuberculosis: An Uneven Burden

**Burden ranking**
1. India
2. China
3. Indonesia
4. Nigeria
5. Bangladesh
6. Pakistan
7. South Africa
8. Ethiopia
9. Philippines
10. Kenya



## Tamil Nadu

Located in South East India
The eleventh most populated state in India, consisting of a population of about 66.3 million.
Most of these people live in the rural areas, such as the mountains, and slums.
Little to no communication with the medical world "Proper treatment is not available"


## Resistance

•Resistance:

•Is the reduction in effectiveness of a drug towards the disease that it is treating
•If treatment is stopped before completed, stronger strains of bacteria are created
•This new strain infects a population, which now has less known treatment options.

A 1998 WHO study on the drug resistance to the four first-line TB medications in 35 countries:
• 7.3% of TB patients are resistant to Isoniazid; 6.5% are resistant to Streptomycin; 1.8% are resistant to Rifampin; 1.0% are resistant to Ethambutol
•36% of TB patients who did not comply to their first treatment are resistant to one of the drugs; 13% are resistant to more than one of the drugs.

## Compliance Issues

Cost
Lack of social support
Lack of satisfaction with health provider
Lack of trained staff
Poor distribution of clinical services
Difficulty gaining access to medical services and medication
Problematic Organization of health care services
Symptoms subside
Lack of motivation
Physically unable to take medication
Not convenient to patient lifestyles
Forgetting to take medication
Lack of education
Cultural barriers- These will be the focus of our project

## Cultural Barriers

In India, over 80% of the population is Hindu. Some of the Hindu beliefs that we found affect the people's compliance are as follows:

**Karma**- The belief that sins in a past life result in punishment in the present life, making one responsible for their suffering.
**Angry Ancestors**-The belief that actions in one's current life have angered one's ancestors, and in turn are being punished by one's ancestors .
**Angry Neighbors**- The belief that one has angered a neighbor who is now using witchcraft to punish and take revenge.
**Angry Gods**- The belief that actions in one's current life have angered one's gods, and therefore are being punished by one's gods.

These punishments can come in many forms, including disease. When one contracts a disease such as TB, it is believed that it is for a specific reason, and therefore, to receive penance, one must suffer through it without the aid of medication.

**Distrust in Western Medicine**-Westerners have been blamed by natives for bringing disease and war to the country. Because of this, there is a distrust of westerners and the products that they bring with them.

## Action Plan

We created a flyer that includes:
- •A personal story about a native who survived Tuberculosis due to the successful compliance of TB medication
- •A diagram demonstrating how the medication comes from natural substances and therefore taking it does not interfere with religious beliefs

We also are sending a letter to India's National Tuberculosis Institute describing certain steps that can be taken to interact with villagers and promote the compliance of TB medication. These steps are:
- •Send medical personnel with knowledge of the language and culture of the region to build trust
- •Gain the cooperation of those highly respected in the villages
- •Discuss the origin of the disease, how one contracts it, and show it is natural and not a form of punishment
- •Explain that taking the medication does not go against religious beliefs
- •Create songs and plays that incorporate the importance of compliance to ensure these ideas never die

In this letter, we will also include a copy of the flyer to be distributed.

## Assessment

•Either receive a response from or contact the National Tuberculosis Institute to see if our proposal is acted upon
•Evaluate future TB statistics and compare to present
•Conduct surveys on a random selection of villagers to measure the success of the program
•Evaluate the results

## Selected Sources

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