

Influence of Stigma in the delay of Diagnostic Sputum Examination for Tuberculosis - A Cross Cultural Perspective: India and United States of America

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World Health Organization (WHO) estimated that worldwide 8.7 million new cases of Tuberculosis (TB) and 1.4 million deaths happened due to TB in 2011. Geographically, the TB burden is higher in developing countries like India, China, South Asian countries and Africa accounting for one third of global cases [1]. In 2013, incidence of TB in India was 171 per 100,000 persons [2] compared with 3.0 cases per 100,000 persons during 2013 - 2015 in the United States of America (USA) [3]. A total of 9,421 TB cases (a rate of 2.96 cases per 100,000 persons) were reported in the United States in 2014. There were 555 deaths from TB in 2013, and this is 8% increase from 510 TB deaths in 2012. After 2 decades of progress toward tuberculosis (TB), there was annual decrease of ≥ 0.2 cases per 100,000 persons [3]. Over 44% of TB deaths occur in the poorest 20% countries, while only 2% occur in the wealthiest 20% of countries [4]. Tuberculosis rates continue to affect more communities and individuals that are most vulnerable (e.g. poor, underserved, malnourished, HIV/AIDS, diabetics). When more poor people move or migrate into developed countries like the USA, an increase of TB incidence is inevitable. Although the overall rate of TB in USA has declined substantially since 1992, the rate of decrease among foreign-born persons has been much smaller than that for U.S. born persons. Around 65.44% of TB cases occurred in foreign-born persons [3].

As per the Revised National Tuberculosis Control Program (RNTCP), being implemented in different forms since 1980s in India, a person having cough for two weeks of more has to test sputum through microscopy for tubercular bacilli to rule out tuberculosis infection. If the test is positive, the person is put on Directly Observed Treatment Short Course (DOTS) without any delay to avoid further droplet spread of TB in the community. If TB patients are not treated, 50% infected population die, 25% patients self-cure and 25% patients remain sick and infect 10-15 persons per year per person [5]. Among many factors those influenced delay (time from the onset of symptoms and diagnosis and treatment) were caste, poverty, residence (urban or rural), accessibility and knowledge about tuberculosis. Important social barrier was stigma attached to tuberculosis. Among different covariates; caste and duration of cough were found to be significantly associated with stigma [6]. TB related stigma is a deeply rooted socio-cultural vague concept and cannot be easily assessed [7]. In a study in India stigma had significant relationship with care. Higher level of stigma (score 25 - 36) was prevalent in 61.2% respondents compared with 38.8% in low stigma groups (score 11 - 24). Among high stigma group 74.5% respondents had delayed access (27 days to 135 days) to sputum examination compared with 21.5% in early access group (0 - 26 days). Association between delay in seeking services and level of stigma was highly significant (OR: 0.17 and $p < 0.01$) [6]. In the United States and Europe, the most marginalized sectors of society are more likely to seek treatment or diagnostic test or interrupt TB treatment. Among them important categories include foreign-born, migrants, refugees, undocumented persons and workers, the unemployed, the homeless, the mentally ill, and persons who use illegal drugs [8]. In developing countries, rural, older and less-educated individuals are more likely to delay sputum test or default treatment [9].

Stigma was assessed using 11 itemized schedules by Eva Margaritia in 2010 in United States to look at the effect of stigma on health-care seeking behaviors for tuberculosis. This exploratory research was a study of tuberculosis (TB) and health-related stigma which examined the experiences and perspectives on the disease from the vantage point of the persons affected by tuberculosis. Stigma associated with TB has been identified as a major barrier to health care access and to quality of life in TB management [10].

The consequences of stigma can lead to expulsion from a job to rejection from the household and vary between women and men. The illness destroys a woman's ability to marry, abandoned if she is married due to the fear that it will spread to the children, and blamed for acquiring the disease. In the case of men, they might lose their jobs due to the disease, and might experience some social or self-isolation, however, it has been proven unlikely that a man with tuberculosis will be abandoned by his wife or family, and that the consequences for women are more drastic. The factor of support is important for an individual to seek out treatment for tuberculosis; however, this point correlates directly with that of an individual's social standing in the household, and his/her ability to seek treatment from the RNTCP. The ability to make decisions for health and utilization of health services is not the same for everyone. Women are often at a disadvantage when they contract tuberculosis due to the lack of autonomy and power to seek services treatment services [11,12].

In their studies, the stigma was identified as an important force to influence delay in seeking sputum examination services for the diagnosis of TB and similar findings was observed in other studies by Van Re et al, 2007 and Eva Margaratia 2010 [6,7,10]. As per the RNTCP norms, if a person has cough for two weeks or more, is supposed to test sputum to exclude TB infection. But due to stigma, people hasten to have access to diagnostic sputum examination from either government or private healthcare facilities.

Stigma is a factor that causes delay this seeking of services across all countries. Additional assessment studies in diverse contexts and geographical boundaries are needed so that form and extent of stigma including causes of stigma may be explored that influences delay in seeking care. Research will be relevant to find out predictors of stigma, level of stigma, effects of stigma in delay from public facilities of developing country like India and developed country like USA; where in one country burden of TB is very high (India) compared with a developed country where the burden is very low (USA).

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