The Social Determinants Underlying Tuberculosis Diagnostic Delay: A Qualitative Study

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**Introduction**

Early detection and diagnosis of TB remains a major global priority for tuberculosis control efforts. Low case detection and delays in treatment initiation contribute to increased community transmission of TB, severity of individual infection, and risk of mortality. We aimed to investigate the social determinants contributing to diagnostic delay in Lima and Callao, Peru. We compared data collected from persons diagnosed with TB, their family members, and health care personnel working in the National TB Program to gain an individual, community, and health system level understanding of this phenomenon.

**Methods**

Design: A qualitative research study using semi-structured interviews for persons diagnosed with TB (aged = 18 years) and their family members and focus groups for health care personnel.

**Procedures:** Data were collected from 19 districts of Lima and Callao, Peru. Semi-structured interviews with persons diagnosed with TB (n=105) and their family members (n=61) focused on health-seeking behaviors and community perceptions of TB. Focus groups (n=7) were conducted with health-care personnel working in the National TB Program.

**Analysis:** Data from the interviews and focus groups were transcribed and then analyzed using a grounded theory approach. First, interviews and focus groups were reviewed to identify emerging themes and concepts. A list of codes was then created to organize information provided by participants. A fully coded analysis of all transcripts was completed and used to create a conceptual framework of factors contributing to diagnostic delay.

**Results**

The median number of days between onset of symptoms and the clinic visit that led to the first positive diagnostic sputum sample in the National TB Program was 57. As their first health-seeking behavior, persons diagnosed with TB were significantly more likely to self-medicate with pharmaceutical medicines and/or natural medicines than consult formal health care providers (65% vs 35%; z=4.35, p<0.001).Interview and focus group data were separated conceptually into five categories that directly or indirectly contributed to diagnostic delay of TB disease.

**Conclusions**

Diagnostic delays were frequent and prolonged and our research findings have implications for TB control efforts in Perú and other resource-constrained settings. The development and/or improvement of policies that address and help reduce diagnostic delays are urgently needed.

We found that persons diagnosed with TB, their family members, and healthcare providers stated that when individuals reach a threshold of symptom severity, they address their health with the least time-consuming, most economically feasible, and well-known healthcare option available to them. TB case-finding strategies should therefore, be targeted at the most widely used of these options, demonstrated as self-medication in our research. Additionally, more material and human resources are needed in health clinics to conduct these strategies and address the multilevel social determinants of health identified in this study.