

# Knowledge, Attitude, and Practices Toward Tuberculosis Among Hospital Outpatients in Kabul, Afghanistan

Mohammad Yasir Essar<sup>1,2</sup>, Khalid Jan Rezayee<sup>3</sup>, Shoaib Ahmad<sup>4</sup>, Manar Ahmed Kamal<sup>5</sup>, Reshaduddin Nasery<sup>6</sup>, Tamim Jan Danishmand<sup>7</sup>, Michael Head<sup>2</sup> and Arash Nemat<sup>8\*</sup>

<sup>1</sup> Afghanistan National Charity Organization for Special Diseases, Kabul, Afghanistan, <sup>2</sup> Clinical Informatics Research Unit, Faculty of Medicine, University of Southampton, Southampton, United Kingdom, <sup>3</sup> Department of Medical Laboratory Technology, Kabul University of Medical Sciences, Kabul, Afghanistan, <sup>4</sup> District Head Quarter Teaching Hospital, Faisalabad, Pakistan, <sup>5</sup> Faculty of Medicine, Benha University, Benha, Egypt, <sup>6</sup> Surveillance Officer at Swedish Committee for Afghanistan, Parwan Management Office, Parwan, Afghanistan, <sup>7</sup> Surveillance Department, Ministry of Public Health, Kabul, Afghanistan, <sup>8</sup> Department of Microbiology, Kabul University of Medical Sciences, Kabul, Afghanistan

**Background:** Tuberculosis (TB) is a high-burden respiratory infectious disease. There was a sharp decline in the number of confirmed TB cases during the pandemic; this is likely to be influenced by the COVID-19 pandemic response, with under-reporting due to resource diversion. There are typically 13,000 tuberculosis-associated deaths in Afghanistan annually, with significant problems posed by drug-resistant TB.

**Method:** A cross-sectional descriptive study was conducted in Afghanistan on Kabul residents who visited the adult outpatient departments of public hospitals for any health-related reason from 1st January to 20th March 2022. The study scored their knowledge, attitude, and practices (KAP) toward tuberculosis. The sample size was calculated using Epi-Info, and the minimum sample size was 385. The sampling method is chosen the non-probability convenient sampling for data gathering. Data were analyzed using SPSS version 28, and we used the Mann-Whitney test, Chi-square or fisher extract test, spearman correlations, and binary logistic regression model.

**Results:** Of 829 participants, 450 (54.3%) were males and 379 (45.7) females. The median age was 28 years, and 63.3% were married. Most participants were unemployed (75.5%), but 54% had a monthly income >3,000 Afghanis, indicating the reliance on family. By TB knowledge score, 727 (87.7%) participants had good knowledge, and 800 (96.5%) participants had a positive attitude toward treatment and control. Only 2 participants reported poor practices regarding prevention. Regarding the binary logistic regression, young age, being a male, belonging to the "1,000–3,000" Afghani monthly income category, and having a positive attitude were significant predictors of good TB knowledge (*P*-value = 0.009, 0.000, 0.003, and 0.009), respectively. A positive attitude was expected to have good knowledge 6.035 times more than a negative attitude (95% CI: 1.572–23.167).

**Conclusion:** The study findings highlighted that outpatients in Kabul had good knowledge, attitude, and practice toward TB. More studies are needed to highlight KAP in different Afghan populations, including in other parts of the country.

Keywords: tuberculosis, healthcare system, Afghanistan, COVID-19, crisis

1

#### OPEN ACCESS

#### Edited by:

Syed Mohammed Basheeruddin Asdaq, University of Almaarefa, Saudi Arabia

#### Reviewed by:

Basheerahmed Abdulaziz Mannasaheb, Almaarefa University, Saudi Arabia Syed Rabbani, Qassim University, Saudi Arabia

## \*Correspondence:

Arash Nemat dr.arashnemat@yahoo.com

### Specialty section:

This article was submitted to Infectious Diseases - Surveillance, Prevention and Treatment, a section of the journal Frontiers in Public Health

> Received: 30 April 2022 Accepted: 20 June 2022 Published: 11 July 2022

#### Citation:

Essar MY, Rezayee KJ, Ahmad S, Kamal MA, Nasery R, Danishmand TJ, Head M and Nemat A (2022) Knowledge, Attitude, and Practices Toward Tuberculosis Among Hospital Outpatients in Kabul, Afghanistan. Front. Public Health 10:933005. doi: 10.3389/fpubh.2022.933005