

Assessing knowledge, attitudes and practices regarding *Mycobacterium tuberculosis* infection risk among Health Science students in a TB endemic setting

¹H van der Westhuizen, ¹JCB Kotze, ¹H Narotam, ²A von Delft, ¹B Willems, ³A Dramowski

¹ Faculty of Medicine and Health Sciences, Stellenbosch University, ² School of Public Health and Family Medicine, University of Cape Town, ³ Academic Unit for Infection Prevention and Control, Tygerberg Hospital and Stellenbosch University

Background

South African health care workers, including Health Science students (HSS), are at increased risk of contracting tuberculosis (TB) and require knowledge of TB infection prevention and control (IPC) measures.

Objective

To assess knowledge, attitudes and practices regarding TB infection risk among HSS.

Methods

Three hundred and twenty-seven HSS at Stellenbosch University participated in a cross-sectional interventional study, with pre- and post-intervention questionnaires. The intervention included personal accounts by medical professionals affected by TB and TB-IPC education.

Results

HSS overestimated their risk of developing TB, but underestimated drug-resistant tuberculosis (DR-TB) mortality. Reported practices at Tygerberg Hospital (TBH), Western Cape showed that 63% (114/182 respondents) interacted once a week or more with patients who had previously defaulted on TB treatment. Only 8% reported that N95 respirators were always available where needed (15/177 respondents). Natural and mechanical ventilation were reportedly not used in clinical areas (60%, 108/179 and 55%, 90/164 respondents, respectively). Additional DR TB-IPC measures including airborne precaution signs and isolation rooms were reportedly inadequately utilized. Pre-intervention knowledge of personal protective equipment use was poor, but improved by 20% post-intervention (0.575 vs 0.775 out of 1 [$p < 0.001$]).

Conclusion

HSS lack knowledge of TB control measures and report poor implementation of TB-IPC in their training institution. A structured educational intervention increased students' awareness of occupational TB infection risk and knowledge of TB-IPC measures. More opportunities for training in TB-IPC are urgently needed for HSS in TB-endemic settings. A similar intervention could be included in all Health Science curricula to protect students and future professionals.

Word count: 254

Keywords: TB; IPC; Health science student education; Occupational risk