Predictors of tuberculin reactivity in a cohort of NHS healthcare workers

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ABSTRACT

Background: Tuberculin skin testing by the Mantoux method is used in screening for tuberculosis (TB) in healthcare workers (HCWs) in the National Health Service (NHS). This test has several limitations and is also resource intensive, requiring several visits by the HCW, as well as OH practitioner time and expertise.

Aim and objectives: The aim of this study is to rationalise the tuberculosis screening process for the benefit of the HCW population by determining characteristics that can predict tuberculin reactivity. The objectives are to determine the characteristics of HCWs with positive tuberculin reactivity; the characteristics of those with negative tuberculin reactivity; and the degree of association between the characteristics and tuberculin reactivity.

Methods: The study is a retrospective and descriptive case note review. Data were extracted from the OH records of the HCWs who met the inclusion criteria. SPSS v.16 was used for data analysis. A p value of .05 was considered significant.

Results: The OH records of 246 HCWs were included in the study. The overall rate of positive tuberculin reactivity (induration of 6mm and more on Mantoux test) was 45.5%. Characteristics associated with positive tuberculin reactivity after adjusting for other characteristics in a logistic regression analysis were history of BCG vaccination - odds ratio (OR) 2.30; 95% confidence interval (CI) 1.14 - 4.66, stay/work in a high TB prevalence country (OR 7.52; CI 2.76 - 20.46) and history of previous tuberculin skin test (OR 2. 78; CI 1.25 - 6.19).

Conclusion: The predictors of positive tuberculin reactivity were history of BCG vaccination, stay/work in a high TB prevalence country, and history of previous tuberculin skin test.