Latent tuberculosis infections in new entrant health care workers in a teaching hospital

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ABSTRACT

**Background:** Latent tuberculosis infection (LTBI) is increasingly becoming an important public health problem. Currently there is still a paucity of knowledge about the rates of LTBI in Health Care Workers (HCW) in the UK, especially New Entrant Health Care Workers (NEHCW). This is particularly relevant in London because of the increasing rates of Tuberculosis Incidence. The Interferon Gamma release assays (IGRAs) offer alternatives to tuberculin skin tests for diagnosing LTBI.

**Objective:** This study evaluated the prevalence of LTBI workers in a London teaching hospital using the QuantiFERON TB Gold in tube test. The study also identified the risk factors associated with the diagnosis of LTBI, and evaluated the outcome of the screening process and treatment of healthcare workers diagnosed with LTBI.

**Methods:** A total 246 new entrant workers, with risk factors for TB, were screened during the pre-employment process. The IGRA test and Chest X ray was used to ascertain the diagnosis of LTBI.

**Results:** The prevalence of LTBI was 16.7%. A total of 17.9% of the study population had a positive IGRA test. There were significant associations between the diagnosis of LTBI and arrival from low prevalence country, previous BCG scar, and history of TB or recent contact with open TB. Compliance to the 3 month treatment regime was 95%. 41% of those who received treatment reported side effects. The diagnosis of LTBI could still be effectively achieved if only those with positive IGRA tests were offered Chest X rays. Age, sex, duration of previous work in the healthcare sector and previous work in the health sector did not have a significant association with the diagnosis of LTBI.

**Conclusion:** Effective diagnosis of LTBI can be achieved using the IGRA test, but further studies would be needed to evaluate the cost effectiveness and the predictive value of the IGRA tests.