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Title: Prospective study of nosocomial spread of tuberculosis

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Body: In view of large number of Tuberculosis cases and shortage of beds in India, the hospitalized TB patients are not isolated or quarantined. The non-TB patients in the same ward do feel concerned about acquiring TB, though it is generally believed that the hospitalized TB patients on treatment quickly become non-infectious and a prolonged close contact is necessary for spread of TB. We evaluated this belief by a prospective study. The non-TB patients admitted in the hospital ward having sputum positive pulmonary TB patients on nearby beds, were evaluated. Also frequent visitors to the ward, such as friends or relatives of these patients were evaluated. Those with history of TB or contact with a TB case in past were excluded. Also persons with HIV, diabetes and other immuno-compromising states were excluded. Those with negative Tuberculin Skin Test (TST) with 1 TU tuberculin i.e. induration of less than 10 mm, were followed up. A repeat Tuberculin test was performed after 3 months to allow time for tuberculin conversion and also to avoid booster effect of repeat TST. Out of 70 patients, 58 were TST negative. Out of these, 53 followed up. 9/53 (16.98%) had turned TST positive after 3 months. Duration of stay in the wards as well as number of TB patients in the ward during their hospital stay was found to have proportionately increased the risk of transmission (P <0.001). Out of 117 visitors, 98 were TST negative. Out of these, 61 followed up. 4/61 (6.56%) had turned TST positive after 3 months. This study indicates that there is a small but definite risk of nosocomial spread of TB. Isolating TB patients in a separate ward and restricting frequent visitors may help.