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Study of vitamin C levels in relationship to stress hormone response and acute phase reaction in patients with newly diagnosed pulmonary tuberculosis

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CHAPTER 3: THE STUDY

3.1 Objectives of the study

The primary objectives of the study were to measure plasma vitamin C levels, stress hormone levels and acute phase reactant levels in patients with newly diagnosed active pulmonary tuberculosis and to determine any relationship of these vitamin C levels with stress hormones and acute phase responses

3.2 Hypothesis

Patients with active pulmonary tuberculosis have low plasma vitamin C, which may further be decreased with cigarette smoking. The low plasma vitamin C may impair stress hormone (cortisol and catecholamines) and acute phase responses in tuberculosis infection.

3.3 Rationale

Plasma vitamin C levels have been documented to be decreased in patients with pulmonary tuberculosis. Vitamin C has a role in steroidogenesis and catecholamine synthesis. Could the decreased levels of vitamin C in tuberculosis patients be associated with decreased or impaired stress hormone and acute phase response?