

This study aims to investigate the levels of immunomodulatory markers like interleukin-6 (IL-6), tumor necrotizing factor- α (TNF- α), cell differentiation-4 (CD4) and CD8 levels in those patients with active tuberculosis (TB) disease in comparison with control group.

41 Adults diagnosed with TB were included in comparison to 32 healthy individuals at Babylon health center for pulmonary diseases and TB. Descriptive data for patients and control group were collected by well-trained researcher following a structured questionnaire. In parallel, peripheral blood collected to determine IL-6, TNF- α , CD4 and CD8. Then the assessment for the association between clinical and descriptive data and immunomodulatory markers levels was investigated statistically.

The majority of TB patients were males (56%) and 71% were resident in rural areas; 47% of them were living in middle socioeconomic state, moreover, 47% of TB cases had diabetes, furthermore, 51% had chronic obstructive pulmonary diseases, 12% had hypertension and 39% of them had chronic anemia with 47% smokers with no significant difference versus control. Following to that, there was highly increased in IL-6 and TNF- α levels in TB patients versus control ($P < 0.001$), with low CD4 level versus control ($P < 0.001$). While there was no significant change shown in CD8 levels versus control and this might highly be correlated with 30% of abnormal liver function tests among TB patients.

A high proportion of TB patients have low CD4 level mostly associated with active disease. Moreover, the increase of IL-6 and TNF- α levels suggests a inverse impact on CD4 level which closely associated with the outcome of the disease.