

## ABSTRACT

### RELATION OF CHEST EXPANSION ABILITY AND RADIOLOGIC CRITERIA OF TUBERCULOSIS PATIENTS IN Dr. SOETOMO SURABAYA GENERAL HOSPITAL

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**Introduction:** Tuberculosis (TB) is still a global health problem. The case of TB incidence in Indonesia is the 2nd highest in the world, after India. Therefore, early detection is needed so that TB disease can be diagnosed and treated earlier. Many examinations can be performed in TB patients, including chest expansion and radiological examination. Both examinations may be used as early detection in patients with pulmonary TB in remote areas where the availability of medical equipment is still limited. Aim of this study is to know the relationship of chest expansion ability with radiological criteria of TB patients in Dr. Soetomo Surabaya General Hospital.

**Methods:** This observational analytical cross-sectional study was conducted on TB patients of Dr. Soetomo Surabaya General Hospital, from January to April 2017. Each subject measured the ability of chest expansion and assessed the radiological criteria. Statistical analysis using Spearman correlation test.

**Results:** The sample size was 97 patients. Most patients were found with a 21-26 year age group or 21%. The results of chest expansion examination on the *linea axillaris* the most is 1 cm with the number of 43 people or 44%. The results of chest expansion examination on the fourth *spatium intercosta* the most is 2 cm with 41 people or 42%. The results of chest expansion examination on the *processus xiphoideus* the most is 2 cm with 41 persons or 42%. Most patients were acquired with a moderate lesion of 65%. The results of analytical test is negative correlation between chest expansion examination and radiological criteria showed that if the chest expansion decreased, the more severe radiological criteria ( $r = -0.44$ ,  $p = 0.001$ ).

**Conclusion:** There is a relationship of chest expansion ability with radiologic criteria of TB patients at Dr. Soetomo Surabaya General Hospital.

**Keywords:** Chest expansion – radiologic criteria – Relation – Tuberculosis patients - Dr. Soetomo Surabaya General Hospital