

Relationship between degree of chest x-ray characteristic and sputum smear examination of pulmonary tuberculosis patient at PKU Muhammadiyah hospital

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**Abstract**

**Background:** Tuberculosis is a infectious disease that has highly prevalent in Indonesia. Pulmonary TB patients are diagnosed in 2013 was 241.452.952 people. The main symptoms of pulmonary TB are cough more than 2 weeks, shortness of breath, weight loss, sweating night of inactivity, fever without obvious cause more than 1 month. Diagnosis of TB can be established based on the history of symptoms and signs, clinical examination, radiology and laboratory. The sensitivity and specificity of the microscopic examination of sputum for suspected cases suffering from pulmonary tuberculosis around 22-80% and > 96% and Positive Predictive Value reaches 50-80%. To assist the diagnosis of pulmonary TB can use Thorax X-ray examination because it has sufficient sensitivity and specificity as high as 70-80% and 60-70%.

**Methods:** This research use Cross-sectional study carried out on 54 samples with a minimum age of 15 years old, and had the sputum smear examination and X-ray Thorax. Data analyzed using chi square test to determine the relationship of the degree of X-ray characteristic of the thorax with sputum smear examination.

**Results:** There is a relationship between an X-ray characteristic of thorax radiology pulmonary TB patients with sputum smear examination, but there is no relationship between the degree of lesion characteristic radiology X-ray of the thorax with sputum smear examination. This can be caused by many factors, including the results of examination of sputum taking part sputum unrepresentative, the amount or volume of sputum inadequate, their subjective in interpreting laboratory examination of sputum. In addition to these factors can also be caused by patients with pulmonary TB positive radiological characteristic yet of the results of smear negative or smear has also found that there are also positive which shows a characteristic radiology negative.

**Conclusion:** Chest X-ray Radiological examination can't be used to see the degree of severity of clinical visits through sputum smear examination. Thorax X-rays can be used as an investigation to assist the diagnosis of pulmonary TB patients in addition to sputum smear examination.

**Keywords:** degree of thoracic lesions X-rays, sputum smear examination, pulmonary tuberculosis.