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# PREVALENCE OF ORAL CANDIDIASIS ON PULMONARY TUBERCULOSIS PATIENTS AT TB POLYCLINIC RSUD Dr. SOETOMO IN 2017

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**ABSTRACT : The proportion of tuberculosis patients in Indonesia by 2015 has increased to 14%. Data from a study conducted by the Department of Microbiology, Mahatma Gandhi Medical College & Research Institute, Pondicherry suggests that as many as 40% of tuberculosis sufferers have candida co-infection. Pulmonary tuberculosis is a bacterial infection of Mycobacterium tuberculosis that causes the formation of granulomas in infected lung tissue. Under immunocompromised conditions, *Candida* spp as common opportunistic microflora may turn into pathogens and invade tissue causing Oral Candidiasis. Conducted examination on the subject of research to see the clinical signs of oral candidiasis. The diagnosis of oral candidiasis is confirmed using direct mycology and culture checks. The data are presented descriptively in percentage form. From the 15 study subjects, there were 5 patients (33.3%) with oral candidiasis. Oral candidiasis is present in pulmonary tuberculosis patients using anti tuberculosis drug both category I and category II.**

***Key words :*** Pulmonary tuberculosis, oral candidiasis, anti-tuberculosis drugs, communicable disease.

## INTRODUCTION

Patients with pulmonary tuberculosis (TB) in the world in 2015 reached 10.4 million people. Indonesia became the second country after India which is the largest contributor to the number of new cases of TB patients with a total of 60% cases (World Health Organization, 2016). Tuberculosis is an infection of the *Mycobacterium tuberculosis* that causes granuloma formation in infected tissue. The lungs become one of the most frequently infected (Huber *et al*, 2015). Tuberculosis differs among infectious diseases that are transmitted almost exclusively through the air (Turner and Bothamley, 2015).

In immunocompromised conditions, *Candida* spp as a normal flora can turn into a pathogen and invade the tissue (Nugraha *et al*, 2017; Nugraha *et al*, 2018a). Candida that invades the oral cavity can cause oral candidiasis, which is a white lesion in the oral cavity with burning, sensitive, and halitosis-like symptoms (Nugraha *et al*, 2018b). Predisposing factors for oral candidiasis include broad-spectrum antibiotic therapy, xerostomia, immune dysfunction (secondary systemic diseases such as diabetes or use of immunosuppressant drugs) and use of dentures and HIV/AIDS (Laskaris, 2006; Dangi, Soni and Namdeo, 2010; Mensana *et al*, 2018; Nugraha *et al*, 2019). Data from a study conducted by the Department of Microbiology, Mahatma Gandhi Medical College & Research Institute, Pondicherry suggested that as many as 40% of TB sufferers are Candida co-infected, the most common type of *Candida* spp is *Candida albicans* with a percentage 50% (Kali *et al*, 2013). Most superficial Candida infections only affect the mucosal surface at the site of infection, but their invasive nature can cause invasive candidiasis or severe systemic hematogenous candidiasis characterized by spread of Candida to almost the entire body with a tendency to make abscesses on vital organs. Systemic infections are more serious with a high mortality rate (Dabas, 2011; Moyes *et al*, 2015).

## MATERIALS AND METHODS

The study was conducted using a observational descriptive with cross sectional study. The sample of this study were all patients with pulmonary tuberculosis who suffered from oral candidiasis and met the criteria for samples at the TB Policlinic, RSUD Dr. Soetomol during the end of July 2017 until the beginning of October 2017.