

KEBERADAAN DNA *MYCOBACTERIUM LEPRAE* PADA SUMBER AIR BERSIH DAN LINGKUNGAN FISIK RUMAH PENDUDUK DENGAN KEJADIAN KUSTA DI KECAMATAN JENGGAWAH KABUPATEN JEMBER

ELLYKE

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LEPROSY

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ABSTRACT

The Existence of *Mycobacterium leprae* DNA in the Water and the Physical Environment of Houses with the Incidence of Leprosy in Jenggawah Subdistrict, Jember District

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. The prevalence rate of leprosy in Jenggawah subdistrict is the highest among others in Jember District (6,71/10.000). Although the prevalence of leprosy has decreased due to treatment, but new cases continue to grow. The aim of this research was to analyze the relationship between the existence of *M. leprae* DNA in the water and the physical environment of houses with the incidence of leprosy in Jenggawah Subdistrict, Jember District. The design of the research used in this study was case control. The independent variable in this study is the existence of *M. leprae* DNA in clean water and the physical environment of the home, while the dependent variable was the incidence of leprosy. The number of cases in the study as many as 12 people and control as many as 24 people. Data analysis using Fisher's Exact test to determine the relationship of independent variables with the incidence of leprosy. The results using the technology molecular biology with PCR technique showed that *M. leprae* DNA exist in 2,8% of the water samples. Fisher Exact test results showed $p > 0.05$, meaning there is no significant relationship between the existence of *M. leprae* DNA in clean water and the incidence of leprosy in Jenggawah Subdistrict, Jember District. Fisher's Exact Test also showed that there was no relationship between ventilation, lighting, residential density, temperature, humidity, excreta disposal facilities, waste water disposal facilities, and garbage disposal facilities with the incidence of leprosy ($p > 0.05$). Thus can be concluded that water can be a transmission medium for *M. leprae* besides air. Serology widely to detect subclinical leprosy patients need to be done for early detection of new leprosy patients. In addition, the increase in public knowledge about leprosy and the concept of healthy homes also needs to be done.

Keywords: leprosy, M. leprae DNA, physical environment of houses