ABSTRACT

*Porphyromonas gingivalis* is an anaerobic bacterium Gram negative, non-spore forming and non-motile. *Cocccobacilli-shaped* bacteria with a length of 0.5 to 2 µm. *Porphyromonas gingivalis* can metabolize amino acids and produces a number of metabolites or end products, where these metabolites are toxic to human gingival tissue. Besides an effect on the development of periodontal disease. And if periodontal disease is left alone so one of the manifestations that can occur is that bad breath (*halitosis*). According to some studies that have been conducted, turmeric (*Curcuma xanthorrhiza Roxb.*) Contain various antibacterial substances such as flavonoids, saponins and xanthorrizol which can inhibit the growth of bacteria.

The purpose of this study was to determine the effectiveness of the effect of turmeric extract (*Curcuma xanthorrhiza Roxb.*) Against the bacteria that cause bad breath *Porphyromonas gingivalis*. This type of research is experimental laboratory. *Porphyromonas gingivalis* research object is taken from pure isolates in the laboratory of Microbiology Medicine Faculty, Hasanuddin University. *Porphyromonas gingivalis* cultures planted in 3 petri dish and then the reacted concentration of turmeric extract 25%, 50%, 75%, 100% and a positive control 30µg/ml doxycycline and petri dishes were incubated at 37°C for 24 hours. Then measured inhibition zone around the paper disks. Obtained at a concentration of 25% can inhibit the growth of *Porphyromonas gingivalis* with a mean that is 5.86 mm. ANOVA test showed no significant differences between the different concentrations of ginger extract (*Curcuma xanthorrhiza Roxb.*) On the growth of *P gingivalis orphyromonas* with significant value (P <0.05). where as significant differences LSD obtained if than with all the concentration of ginger. This study shows the concentration of 25% was able to cause effects on *Porphyromonas gingivalis* and also the greater the concentration used, the greater the inhibition zone against bacteria.

**Keywords:** Halitosis, bacteria *Porphyromonas gingivalis*, extracts of turmeric (*Curcuma xanthorrhiza Roxb.*), Antibacterial effect.