

Effectiveness of Moringa Leaf Extract (*Moringa oleifera* L.) in Inhibiting the Growth of *Porphyromonas gingivalis* Bacteria

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ABSTRACT

Background: *Porphyromonas gingivalis* is a gram-negative bacterium that is dominant in plaque formation, especially in the early stages. Moringa leaf (*Moringa oleifera* L.) is one of the plants that has antibacterial effects which contain active compounds including flavonoid, alkaloid, tannin and saponin. The aim of this research to determine the effectiveness of moringa leaf extract in inhibiting the growth of *Porphyromonas gingivalis* bacteria. **Method:** The laboratory experimental study and used post test only control group design. This independent variable was moringa leaf extract with the 40% and 80% concentrations, moringa leaf flour with the 40% and 80% concentrations also used *Chlorhexidine digluconate* 0,2% as positive control, while the dependent variable was growth of *Porphyromonas gingivalis* bacteria. Moringa leaf extract was made by maceration technique. Test of data analysis using *Kruskal Wallis* test. **Results:** Moringa leaf extract with the 40% and 80% concentrations, were effective in inhibiting *Porphyromonas gingivalis* bacteria and moringa leaf flour with the 40% and 80% concentrations were not effective in inhibiting *Porphyromonas gingivalis* bacteria. Moringa leaf extract with the 80% concentration showed the greatest effectiveness in inhibiting the growth of *Porphyromonas gingivalis* bacteria than the other variables and *Chlorhexidine digluconate* 0.2% as positive control. **Conclusion:** The 40% and 80% concentrations of moringa leaf extract effectively inhibits the *Porphyromonas gingivalis* bacteria with the 80% concentration of moringa leaf extract as the greatest inhibitory growth of *Porphyromonas gingivalis* bacteria.

Keywords: Moringa leaf extract, *Porphyromonas gingivalis*, Inhibitory power