ABSTRACT

Effectivity of Celery Extract (*Apium graveolens* L. var secalinum Alef) Against the Growth of *Streptococcus mutans* Bacteriaas Alternative Mouthwash

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Introduction :*Streptococcus mutans* is the most important bacteria in the process of dental caries and also Gram positive bacteria bakteri that has ability to produce bad odor. Various measures have been taken to maintain oral health, one of them is using mouthwash. *Chlorhexidine gluconate* has became the gold standard since 1940 because it's effectiveness and has a broad antimicrobial spectrum. However, the long-term use of *chlorhexidine gluconate* is not recommended because of possible side effects that can occur later on. Based on this, the author wanted to show an alternative solution by utilizing celery extract (Apium graveolens L. var secalinum Alef) containing flavonoids, saponins, and tannins which are antibacterial compounds.

Methods : This research is designed as an experimental laboratory with dilution method to determine Minimum Inhibition Concentration (MIC) and Minimum Bactericidal Concentration (MBC). This study using 6 tubes and 2 control tubes with concentrations of 100%, 50%, 25%, 12.5%, 6.25%, and 3.125%.

Results : The Minimal Inhibition Concentration (MIC) is 3.125%, while for Minimum Bactericidal Concentration (MBC) there is no result. This result might be related to the use of crude extract and minimal amount of active compound in this sample. Besides, the amount of active compound can be degraded by exposure of light, heat, and pH.

Conclusion : Based on the result, celery extract (*Apium graveolens* L. var secalinumAlef)
able to inhibit the growth of Streptococcus mutans bacteria but can not kill the bacteria.

Keywords :***Celery Extract (Apium graveolens L.* var secalinum Alef*) – Streptococcus mutans – dilution method***