POTENSI METABOLIT HASIL FERMENTASI INFUSA DAUN COKLAT (Theobroma cacao) OLEH KONSORSIUM Acetobacter-Saccharomyces TERHADAP PERTUMBUHAN BAKTERI A.actinomycetemcomitans

THE POTENTIAL OF FERMENTATION METABOLITES THE INFUSA OF COCOA LEAVES (Theobroma cacao) BY Acetobacter-Saccharomyces CONSORTIUM TO A. actinomycetemcomitans GROWTH

ABSTRACT

Background. Periodontal disease were suffered by many people and reached 50% of the total adult population. National survey data of oral health from SKRT (Survei Kesehatan Rumah Tangga) in 2004 inform that the prevalence of periodontal disease in Indonesia reaches 96.58%. Periodontitis is a periodontal disease that most often due to the widespread inflammation that begins the process of the gingival tissue. Periodontal disease is caused by specific bacteria, periodonto-pathogen bacteria such as Actinobacillus actinomycetemcomitans. The form of natural antioxidant compound in cocoa leaves such as phenolic compound (tocopherol, flavonoids, phenolic acid and tanin).The fermentation of cocoa leaves by consortium Acetobacter-Saccharomyces can increasing organic acid and phenolic compound in the fermentation system. Purpose. This study aims to know the potential of fermentation metabolites of the cocoa leaves fermenting by consortium Acetobacter-Saccharomyces in inhibiting the colonization of A.actinomycetemcomitans. Method. This research conducted in vitro by serial dilution method and calculation of the colony. This study used a sample of A.actinomycetemcomitans stock. This sample divided into 3 groups and given different treatments. Group 1 was given fermentation metabolites of cocoa leaves 2,2 g/ml, Group 2 is given fermentation metabolites of cocoa leaves 4,4 g/ml and group 3 is given fermentation metabolites of cocoa leaves 8,8 g/ml. Fermentation metabolites of the cocoa leaves fermenting by Acetobacter-Saccharomyces consortium in each group is performed serial dilution. In this serial dilution process, each group of fermentation metabolites diluted four times, for 50% until 6,125%. After that, the colony were cross-checked and re-planted on Luria Bertani Agar. Result. From the calculation of the colony fermentation metabolites have the same effect to inhibit A.actinomycetemcomitans growth. Fermentation metabolites minimum concentration to inhibit A.actinomycetemcomitans growth is contains of 0,05% organic acid and 3,5 ppb of selenium. Conclusion. It can be concluded that fermentation metabolites of the cocoa leaves fermenting by Acetobacter-Saccharomyces consortium was able to inhibit A.actinomycetemcomitans growth.

Key words: Cocoa leaves, A.actinomycetemcomitans, Fermentation, Acetobacter-Sacharomyces