DAYA HAMBAT EKSTRAK KULIT BUAH KAKAO
(Theobroma cacao) TERHADAP PERTUMBUHAN BAKTERI
Porphyromonas gingivalis DAN BAKTERI SUPRAGINGIVA

THE INHIBITION CACAO POD HUSK EXTRACT (Theobroma
cacao) TOWARD THE GROWTH OF Porphyromonas gingivalis
BACTERIA AND SUPRAGINGIVA BACTERIA

ABSTRACT

Background: Cacao (Theobroma cacao) is rich in polyphenol compounds,
polphenol oxidase, and endophytic fungi. Cacao pod husk is a waste product of
the cacao industry and present a serious disposal problem. Cacao pod husk also
contained polyphenol as a mixture of condensed or polymerized flavonoids.
Endophytic fungus in cacao pod husk may be producing polyphenol oxidase with
high bioactivity because cacao pod husk contained polyphenol as inducer for
fungus to produce this enzyme. In medicine, polyphenol oxidases are used for
prevention of bacterial adhesion. Purpose: The aim of this study was to find the
inhibition of cacao pod husk extract on the growth of Porphyromonas gingivalis
and supragingival bacteria. Method: This research was done in vitro experiment
using agar disc diffusion method. The extract was diluted into concentration of
100%, 50%, 25%, 12.5%, 6.25%, 3.12%, 1.56%, 0.78%, 0.39%, and 0.19%. In
this method, the cacao pod husk extract suspension was incorporated onto 5 mm
paper discs then gently placed on the seeded assay plates. The zone of inhibition
is measured after the incubation. The inhibitory zones were recorded in
millimeters and analyzed using One Way ANOVA test. Result: The result
showed that antibacterial activity of cacao pod husk extract was not active on
Porphyromonas gingivalis, but was active on supragingival bacteria with
Minimum Inhibitory Concentration (MIC) of 12.5% with average of inhibitory
zone 9.38 mm. Result of statistical test revealed that cacao pod husk extract had
significant differences of inhibitory zone from each concentration on
supragingival bacteria. The cacao pod husk extract was potential against
supragingival bacteria ranged from 0.5gr/500µL (100%) to 0.0625gr/500 µL
(12.5%). Conclusion: Cacao pod husk extract could not inhibit the growth of
Porphyromonas gingivalis, but could inhibit the growth of supragingiva bacteria
with MIC at 12.5%.

Keyword: cacao pod husk extract, inhibition, Porphyromonas gingivalis,
supragingiva bacteria