ABSTRACT

FORMULATION OF HANDSANITIZER GEL WITH 70% ETHANOL EXTRACT OF Betel Leaf (Piper betle Linn) AS ANTISEPTIC

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Hands have a complex surface structure that is an ideal place for the growth of microorganisms. Green betel leaf extract contains saponins, flavonoids, polyphenols and essential oils that function as antiseptics. This study aims to determine the optimal results and physical characteristics of hand sanitizer gel 70% ethanol extract of green betel leaf (*Piper betle Linn*) which is used as an antiseptic.

The results showed that green betel leaf extract (*Piper betle Linn*) could be used as a physically stable gel preparation. This is evidenced by the results of the physical properties test which include shape, color, odor, homogeneity, pH, dispersion, and dry time of the three formulas, namely the *Carbopol* formula 1.1%, the *Carbopol* formula 1.2%, and the *Carbopol* formula 1.3. % has the same and stable results. Based on the results of the research, the green betel leaf extract gel (*Piper betle Linn*) with variations in *Carbopol* concentration had no effect on the organoleptic test and homogeneity test. Based on the one-way Anova test, there are average differences in pH and dry time of the three formulas that affect the physical characteristics of the gel preparation. Then based on the Kruskal-Wallis Test there is an average difference in the dispersion of the three formulas. Then a post hoc test was carried out. The conclusion was that Formula 1, formula 2, and formula 3 had significant differences. In other words, the formulation of the green dun betle extract gel (*Piper betle Linn*) affects the pH, dispersion, and dry time of the preparation.

Keywords: Antiseptic, Green betel leaf extract, Carbopol