ABSTRACT

ANTIBACTERIAL ACTIVITY TEST OF COMBINATION OF CALABASH EXTRACT (*Lagenaria siceraria (*Molina) Standl.) AND MULTIFLORA HONEY AGAINST *Salmonella typhi* IN VITRO

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Typhoid fever is a systemic infectious disease characterized by fever and headache that lasts for approximately 3 weeks and is accompanied by symptoms of stomachache, enlarged spleen, and skin eruption caused by *Salmonella typhi* bacteria. The calabash (*Lagenaria siceraria* (Molina) Standl.) and multiflora honey are two natural ingredients that have been utilized by the community to treat typhoid (typhoid fever). Calabash and multiflora honey have been tested to have antibacterial properties, especially against the *Salmonella typhi* bacterium which is a major cause of typhoid fever. Calabash is thought to be able to inhibit the growth of *Salmonella typhi* in the presence of saponin compounds, steroids, and polyphenols. Meanwhile, multiflora honey is thought to be able to inhibit bacteria with its three systems there are acidity, osmotic pressure and substrate inhibitors (flavonoids). With the development of science and technology, combination therapy began to be applied for the treatment of diseases caused by bacterial infections. Interactions that will result from antibacterial combinations can be antagonistic, additive or synergic.

The aim of this study was to determine secondary metabolite compounds contained in calabash (*Lagenaria siceraria* (Molina) Standl.) and multiflora honey as well as the combined activity of both in inhibiting the growth of *Salmonella typhi* bacteria through *in vitro*. This research was an experimental laboratory study with a Completely Randomized Design (CRD) consisting of 5 variations of combination concentrations there were 100%:0% v/v, 75%:25% v/v, 50%:50% v/v, 25%:75% v/v, and 0%:100% v/v and chloramphenicol as positive control and distilled water as negative control using *disk diffusion* method with 4 repetitions. The results of this study indicate that the calabash extract contain secondary metabolites of saponins and polyphenols, while honey multiflora does not contain any secondary metabolite compounds. Antibacterial test results on a combination of calabash extract (*Lagenaria siceraria* (Molina) Standl.) and multiflora honey with a concentration of 100%:0% v/v, 75%:25% v/v, 50%:50% v/v , 25%:75% v/v, and 0%:100% v/v showed activity in inhibiting the growth of *Salmonella typhi* through *in vitro* with each inhibition zone diameter of 17.11; 18,31; 20.03; 19.18; and 20.13 mm in a row. The most active concentration of a combination of calabash extract (*Lagenaria siceraria* (Molina) Standl.) and multiflora honey in inhibiting the growth of *Salmonella typhi* was a concentration of 0%:100% v/v with inhibition zone diameter of 20.13 mm.

KeyWords: antibacterial; combination; calabash **(***Lagenaria siceraria* (Molina) Standl.), multiflora honey, *Salmonella typhi*, inhibitory zone.