

ABSTRACT

The incidence of typhoid fever in Indonesia is high and alarming (148.7 per 100,000 persons/year). More than 90% of the world morbidity by typhoid occurs in Asia alone. Lemon fruit (*Citrus limon*) is known to have antimicrobial effect. This research's aim is to find the potency of antimicrobial effect of lemon fruit (*Citrus limon*) extract towards *Salmonella typhi*.

This research was categorized as true experimental method. *Salmonella typhi* specimens were obtained from Microbiology Laboratory Faculty of Medicine Universitas Airlangga, Surabaya. Lemon fruit extract (*Citrus limon*) was prepared with concentration as follows: 100.000 ppm, 50.000 ppm, 25.000 ppm, 12.500 ppm, 6.250 ppm, 3.125 ppm, 1.562 ppm, 781 ppm, dan 390 ppm. Dilution test with *Mueller-Hinton broth* medium were done to determine the minimum inhibitory concentration (MIC). After 24 hours of incubation, isolated bacteria inside the tube was planted back in *MacConkey agar plate* medium to determine the minimum bactericidal concentration (MBC). Replication of this experiment were conducted 3 times according to Federer's formula.

Minimum inhibitory concentration (MIC) of lemon fruit extract (*Citrus limon*) to *Salmonella typhi* was determined at 3.125 ppm. Meanwhile, minimum bactericidal concentration (MBC) of lemon fruit extract (*Citrus limon*) to *Salmonella typhi* was determined at 6.250 ppm.

Further research is needed to determine the therapeutic effects and side effects of lemon fruit (*Citrus limon*) extract against *Salmonella typhi in vivo*. Similar studies with a wider range of bacteria is also needed to know the antibacterial spectrum of the lemon fruit (*Citrus limon*) extract.

Keywords: *Salmonella typhi*, *Citrus limon*, lemon, antimicrobial