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