Comparative Antibacterial Activity of Noni Fruit versus Ciprofloxacin against Salmonalla Typhi in vitro

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Abstract

Typhoid fever is an acute systemic infectious disease caused by *Salmonella typhi.* Typhoid fever is still a global health problem, especially in developing countries like Indonesia. Indonesia has still showed the high prevalence of typhoid fever. At present, the herbal medicine, noni fruit (*Morinda citrifolia*) is being frequently used. Noni fruit showed a quite good prospect to be developed in Indonesia. Many studies found that noni fruit consisted of antibacterial compounds such as *Ascubin, L. asperuloside, Alizarin, Antraquinon*. The purpose of this study was to compare the antibacterial effect of noni extracts and Ciprofloxacin against the growth of *Salmonella typhi* in vitro. The research was conducted at the Laboratory of Medical Microbiology, School of Medicine, University of Airlangga, in November 2011. First, the noni fruit was dried and then extracted. The extract was diluted serially giving some concentrations as follows : 100%, 50%, 25%, 12,5%, then they were tested to *Salmonella typhi* by the diffusion method on *Muller Hinton Agar*, and also to Ciprofloxacin 30 µg as a control. This experiment was replicated three times. The diameter of the inhibition zones shown by the extract and Ciprofloxacin were compared. The diameter of inhibition zones obtained from noni extracts with ~~a~~ concentration 100% to *Salmonella typhi* ranged 9 - 16 mm (mean 13,33 mm), but those with the other concentrations (50%, 25% and 12,5%) showed no inhibition zone (0 mm). However, Ciprofloxacin showed bigger diameter of inhibition zone than the noni extract, with the average 31,67 mm.

Keywords: noni fruit, *Morinda citrifolia*, *Salmonella typhi*, Ciprofloxacin, diffusion method