THE EFFECT OF CINNAMOMUM BURMANNII WATER EXTRACTION AGAINST STAPHYLOCOCCUS AUREUS, ENTEROBACTER SPP., PSEUDOMONAS AERUGINOSA, AND CANDIDA ALBICANS: IN VITRO STUDY

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ABSTRACT

Indonesian cinnamon (Cinnamomum burmannii) is a native plant of Indonesia that has a lot of potential. The most consumed part is the bark. This study aims to examine the antimicrobial effect of Cinnamomum burmannii bark extract on various types of pathogenic microbes, namely Staphylococcus aureus, Enterobacter spp., Pseudomonas aeruginosa, and Candida albicans. An experimental study using a water extract (infusion) of Cinnamomum burmannii bark and a microbial test obtained from the Faculty of Pharmacy, Widy Mandala Catholic University, Surabaya. The antimicrobial effect test was carried out by the microdilution method in 96-well microplate to determine the Minimum Inhibitory Level (MIC) and implantation on solid media to determine the Minimum Kill Rate (KBM). The MIC and KBM against Staphylococcus aureus were 625-1,250 ppm and 1,250-2,500 ppm, respectively. MIC and KBM for Enterobacter spp., Pseudomonas aeruginosa, and Candida albicans were not found at the highest concentrations tested at 10,000 ppm. Cinnamomum burmannii extract can be used as a potential ingredient with antimicrobial effects, especially against Gram-positive bacteria. Future studies should pay attention to the quality of simplicia, particle size, and the most effective extraction methods extracting antimicrobial substances from simplicia.

KEYWORDS

Antibacterial activity; water extraction of Cinnamomum burmannii; Staphylococcus aureus; Pseudomonas aeruginosa; Enterobacter spp.; Candida albicans

FULL TEXT:

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Ferry Y (2013). Prospek pengembangan kayu manis (Cinnamomum burmanii) di Indonesia. Sirinov 1, 11-20


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