POTENTIAL USE OF PIPER BETLE EXTRACT FOR THE MAINTENANCE OF ORAL HEALTH DURING ANTIBIOTIC THERAPY

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ABSTRACT
Antibiotic induces great ecological impact on normal flora of the human body. Suppression of growth on these commensal microorganisms may give rise to opportunistic infection especially to those who are immunocompromised. In the mouth, oral trash represents a common indication of an opportunistic infection by fungus of the genus Candida. The use of Piper betle preparations to control fungal infections is a common practice in the South East Asia. In this study the effect of a 5-day metronidazole therapy on the oral flora was assessed to see the effect of antibiotic treatment on the oral Candida. In vitro trials to test the antifungal effect of an aqueous preparation of Piper betle was then performed on several species of oral Candida. Results showed increase in the population of Candida from 34.2% before to 45.3% during the received of metronidazole. The enhanced proliferation of the fungus had remained high at 38.7% even though after 24 hours administration of the final dose of metronidazole. The P. betle preparation was found to exhibit promising fungistatic activity on all species of oral Candida tested. This was supported by the ability of P. betle extract to suppress candidal proliferation that reduces the specific growth rate of the cells and at the same time induces alteration to their morphological characteristics. Both effects may effectively control the flourish of the fungi during an antibiotic therapy. This outcome is expected to increase public awareness on the impact of antibiotic therapy on general health and the potential of using local plant preparation to maintain oral health.

Keywords: Antifungal, Fungistatic, Metronidazole, Growth inhibitory