

**P-142****Anti-Bacterial Activity of Cinnamon Oil on Oral Pathogens**

Zamirah Zainal Abidin<sup>1,\*</sup>, Shahida Mohd Said<sup>1,2</sup>, Fadzilah Adibah Abdul Majid<sup>3</sup>, Wan Aida Wan Mustapha<sup>4</sup> and Ibrahim Jantan<sup>2</sup>

<sup>1</sup>Faculty of Dentistry, Universiti Kebangsaan Malaysia, 50300 Kuala Lumpur; <sup>2</sup>Faculty of Pharmacy, UKM; <sup>3</sup>Faculty of Chemical Engineering, Universiti Teknologi Malaysia, Skudai; <sup>4</sup>Faculty of Science and Technology, UKM, Bangi; E-mail: zamirah@dental.ukm.my

The study aimed to determine the in-vitro anti-bacterial effect of cinnamon (*Cinnamomum zeylanicum* Blume) oil on pathogenic oral bacteria. Essential oil from cinnamon tree bark was extracted using steam distillation technique and analysed using gas chromatography (GC) and gas chromatography – mass spectrometry (GC-MS). Broth microdilution test was used to determine the Minimal Inhibitory Concentration (MIC) of oil against major oral pathogens in caries and periodontal diseases viz. *Streptococcus mutans*, *S. mitis*, *S.salivarius*, *Enterococcus faecalis*, *Porphyromonas gingivalis* and *Fusobacterium nucleatum*. Bacterial cell membrane modification following exposure to the oil was also observed using scanning electron microscopic (SEM). Through the GC/GC-MS analysis, Eugenol was identified as the major component of cinnamon oil (82.5% relative amount). Both, cinnamon oil and eugenol showed antibacterial activity against the tested bacteria (MIC 0.21 - 0.63 mg/mL and 0.8 – 0.15 mg/mL respectively). Membrane cell changes were observed following 2h exposure to the oil. This finding suggests cinnamon bark oil as a potential therapeutic agent in preventing bacterial-related oral diseases.

**Keywords:** Antibacterial, periodontal, *Cinammomun zeylanicum*.

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