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A comparative evaluation of antimicrobial activity of the ethanolic extract of *Cinnamomumzeylanicum* and NaOCl against oral pathogens and against swabs taken from nonvital teeth - An in vitro study

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Abstract:Background:The aim of this study is to evaluate the antimicrobial activity of Cinnamon Ethanolic Extract (CEE) against clinical isolates of oral pathogens (*Enterococcus Faecalis*, *Candida Albicans*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and *Streptococcus mutans*), and against swabs taken from nonvital teeth, with comparison of NaOCl.

Material and method:Ethanolic extract of *Cinnamomumzeylanicum* was prepared using Soxhlet apparatus. Agar disk diffusion method was used to determine the zone of inhibition of 25% CEE and 5.25% NaOCl. The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were measured using broth dilution method.

Results:The 25% CEE was effective against all microorganisms with MIC values of 390 µg/ml against *Staph. aureus*, 781 µg/ml against each of *E. faecalis*, *C. albicans* and *Strep. mutans*, and 1562 µg/ml against *P. aeruginosa*, while the MBC values were 781 µg/ml against *Staph. aureus*, 1562 µg/ml against each of *E. faecalis*, *C. albicans* and *Strep. mutans*, and 1562 µg/ml against *P. aeruginosa*. CEE produced wider zones of inhibition than NaOCl against *C. albicans* and anaerobic swabs, while NaOCl produced wider zones against the other microorganisms.

Conclusion: The antimicrobial activity of 25% CEE is comparable to 5.25% NaOCl against oral and endodontic pathogens.

Key words: Cinnamon, antimicrobial, *Enterococcus Faecalis*.