

COMPARATIVE EVALUATION OF ANTI-MICROBIAL EFFICACY OF GREEN TEA EXTRACT AND CHLORHEXIDINE MOUTHWASH ON RED COMPLEX, ORANGE COMPLEX AND GREEN COMPLEX PERIODONTAL PATHOGENS – AN IN-VITRO STUDY.

ABSTRACT:

INTRODUCTION: Green tea is a popular beverage nowadays and intake of green tea polyphenols has shown preventive effect against cancer and cardiovascular disease in experimental and epidemiologic studies. Many people have been switching their morning routines from coffee to green tea to take advantage of its multiple health benefits.

AIM AND OBJECTIVES: To comparatively evaluate the antimicrobial efficacy of green tea extract with Chlorhex (0.2% chlorhexidine mouthwash) on gram negative periodontal pathogens of *P.gingivali*, *P.Intermedia* and *Aggregatibacter Actinomycetemcomitans*.

Materials and method: A total of 18 samples (6 groups with 3 pathogenic strains) were included in the study. There were 3 groups of organisms, tested on 6 different reagents: 5mg/ml Green tea extract, 10mg/ml Green tea extract, 15mg/ml Green tea extract, 20mg/ml Green tea extract, 0.2% Chlorhexidine Mouthwash and Distilled water. Each sample was repeated 3 times to obtain a mean value. The diameter of zones of inhibition was measured for all the wells using a Digital Vernier Calipers. The mean score of zones of inhibition were calculated for each solution respectively.

Results: 0.2% Chlorhexidine mouthwash showed greatest zone of inhibition against all periodontal pathogens. Green tea at a concentration of 5mg showed antibacterial activity against *P. Gingivalis*, *P. Intermedia* and *A. Actinomycetemcomitans* while at a concentration of 10mg and 15mg antibacterial activity was seen against *P. Gingivalis*, and *P. Intermedia*. *A.*

Actinomyces comitans was resistant to 10mg, 15mg and 20mg concentration.

Conclusion: Based on the results obtained from the present research it can be concluded that green tea extract, does indeed possess antimicrobial activity against the periodontal pathogens *P.gingivalis*, *P.intermedia* and *A.actinomyces comitans*.

Keywords: Green Tea, Red Complex, Green Complex, Orange Complex, Chlorhexidine