



In vitro Antimicrobial Activity of *Salvadora persica* (Miswak) and of *Syzygium aromaticum* (Clove) Extracts against Dental Plaque Pathogens

Document Type : Original research

Authors

Suhayla Hamad Shareef ¹ Chiman Hameed Saeed ² Pshtiwan Dhahir Majeed ³¹ Department of Biology, College of Education, Salahaddin University-Erbil, Erbil, Kurdistan Region, Iraq² Department of Medical Laboratory Technology, Erbil Technical Health & Medical College, Erbil Polytechnic University, Erbil, Kurdistan Region, Iraq³ Department of Nursing, Erbil Medical Technical Institute, Erbil Polytechnic University, Erbil, Kurdistan Region, Iraq

10.32894/kjms.2022.136715.1044

Abstract

Objective: Some periodontal bacteria on tooth plaque were shown to be sensitive to extracts from *Syzygium aromaticum* and *Salvadora persica*. Our study was an assessment of the antimicrobial effect of *Syzygium aromaticum* and *Salvadora persica* extracts against dental plaque pathogens.

Materials and Methods: Thirty-five 35 oral swabs were taken from the patients who had the dental plaque and isolated microorganisms were identified by standard bacteriological methods. *Syzygium aromaticum* and *Salvadora persica* extracts were tested against dental plaque microorganisms on Muller Hinton agar, antimicrobial activity of the two extracts was done by paper disks-diffusion technique at 50% concentration and characterized by inhibition zones.

Results: Forty-six (46) microorganisms were isolated from 35 dental plaque samples, 18 isolates were *Staphylococcus aureus*, 3 isolates were *Staphylococcus epidermidis*, 6 isolates were *Streptococcus mutans*, 12 isolates were *Streptococcus viridans*, 1 isolate each of *Pseudomonas aeruginosa*, *Proteus spp.*, *Bacillus spp.*, 2 isolates were *Actinobacillus actinomycetemcomitans* and 2 isolates were *Candida albicans*. The zones of inhibition for two different extracts were measured. According to the findings, *Syzygium aromaticum* and *Salvadora persica* have antibacterial and antifungal effects against gram-positive and gram-negative bacteria, as well as fungi.

Conclusion: Our study has shown that *Syzygium aromaticum* and *Salvadora persica* extracts have antimicrobial efficacy and concluded that the extracts have shown a greater effect on oral microorganisms and are recommended to be used for treatment and prevention against oral hygiene.

Keywords

Antimicrobial activity,, ,,;dental plaque,, ,,;Candida albicans,, ,,;Syzygium aromaticum,, ,,;Salvadora persica

Main Subjects

Microbiology



Articles in Press, Accepted Manuscript Available Online from 28 November 2022

Files

XML

Share

Export Citation

Statistics

Article View: 26

Home
About Journal
Editorial Board
Submit Manuscript
Contact Us
Glossary
Sitemap

News

Newsletter Subscription

Subscribe to the journal newsletter and receive the latest news and updates

Enter your Email