Exhaustive Extraction of Verbascum sinuatum a Member of Palestinian Flora- and Its Biological Activity

Students:
Batool Masoud

Supervisor:
Prof. Mahmoud Abu-hadid

Co- Supervisor:
Dr. Nidal Jaradat

Abstract:
Background:
A wide proportion of the populations throughout the world use traditional medicine mainly medicinal plants in the treatment of infectious and other diseases, including Palestinians. This focus the attention on the possibility of the presence of antimicrobial compounds in the extracts of plants. Thus they may offer a new source of antibacterial agents in facing up the growing antibiotic resistance among human pathogens.

Objective:
To test the antimicrobial activity of the aqueous extract ofverbascum sinuatum(which is common in Palestine) against common human pathogens, which arecandida albicansand bacteria (three gram positive:Bacillus subtilis, Staphylococcus aureusandstaphylococcus epidermidis.And two gram negative:Eschrichia coliandPseudomonas aeruginosa).

Methods:
Well diffusion method was used in screening antimicrobial activity for the plant extracts in which the diameters of inhibition zones were measured, and serial dilution method was used for measuring the MIC for each microorganism.

Results:
In well diffusion method, the plant's aqueous extract has antimicrobial activity to all the organisms except forPseudomonas aeruginosaandcandida albicans,with variable diameters of inhibition zone. The largest forStaphylococcus aureus18 mm (39.13% of the zone of Imipenem the positive control antibiotics), then forBacillus subtilis14 mm (30.43%), 12 mm (37.5%) forstaphylococcus epidermidis, and the least forEschrichia coli11 mm (41.66%). The organic extract exhibited activity againstBacillus subtilisandEschrichia coliwas 12 mm (26.08%) and 18 mm (50%) inhibition zones respectively. In the serial dilution method, the aqueous extract exhibited inhibition for all the test