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Antibacterial and antifungal Activity of Iranian propolis Against *Staphylococcus aureus* and *Candida albicans*

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Propolis samples from west North region of Iran were studied for their antibacterial (against *Staphylococcus aureus*) and antifungal (against *Candida albicans*) activities. In this research, yield of extracts and their pH values were measured .Antibacterial and antifungal activities of Ethanol –Extracted Propolis (EEP) were investigated by petri dish bioassay method. Dilutions of EEP in agar with serial concentrations ranging from 0.04- 10% (W-V) were prepared and antimicrobial activities were determined as minimal inhibitory concentrations (MIC) . all samples were active against the fungal and bacterial test stains. MIC values for different propolis samples against *Staphylococcus aureus* were , respectively 4,3 and 1.5%(w/v)and against *Candida albicans* were , respectively 2, 4 and 3%(w/v).

Keywords: Propolis, antibacterial, antifungal, *Staphylococcus aureus*, *Candida albicans*

Hematological Effects of *Echinacea purpurea* in rat and mouse

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Echinacea extracts are widely used in western countries as "immune-stimulating" agents. Even though the evidence to stimulate certain components of the nonspecific immune system (phagocytosis, macrophages, and production of cytokines) stems from in vitro experiments or studies after parenteral application, the commercially available *Echinacea* preparations used as drugs or supplements are for oral use. The aim of the study was to evaluate the effects of oral application of this herb on the blood picture in rat and mouse. For this purpose, 60 Rats and 60 mice were used. The animals of each species were divided randomly into three groups. Group 1 and 2 of each species were given 1% and 5% dried powdered *Echinacea purpurea* for 15 days, respectively. Groups 3 of rats and mice were used as controls groups. All animals were sacrificed on day 16 and blood samples were collected in test tubes. All samples were analysed and the results were assessed statistically using ANOVA. The results showed significant increases in the number of neutrophils and monocytes between test groups compared to control groups ($P<0.05$). There was no significant differences between test groups in any species ($P<0.05$). The significant elevation in populations of these two kind white blood cells, in normal animals, suggests a prophylactic role for this herb.

Keywords: *Echinacea purpurea*, Rat, Monocyte, Neutrophil