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ABSTRACT

The Effect of Ephedra Foeminea Extract as an Antimicrobial and Antifungal Agent

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Drugs derived from natural sources play a significant role in the prevention and treatment of human diseases. In many developing countries, traditional medicine is an essential part of primary healthcare systems (Abdallah, 2011). Due to the emergence of drug-resistant bacteria, it is essential to investigate new drugs with lesser resistance especially ones that can be derived from natural resources like plants. Ephedra is likely one of the oldest medicinal plants that are still currently in use. Antimicrobial and antifungal activities of some ephedra species have been noticed in recent years (ZHANG Ben-Mei et al,2018). The aim of the study is to observe and understand the effects of E. foeminea extracts as antimicrobial and antifungal agents. It is an experimental study; four different types of bacteria including, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *MRSA*, and *Escherichia coli* as well as two different types of fungi including, *Klebsiella pneumoniae* and *Candida albicans* were used as test microorganisms. Maceration extraction technique (William P. Jones,2012) for the dried stem of E. foeminea will be used by methanol / water 90/10 for 2 days (Ali Parsaeimehr et el,2010). Three concentrations of the extract will be used on 30 plates for each type of microorganism in the laboratories of the University of Palestine. Antimicrobial activity will be tested by using plate methods in which a variable diameter of a growth inhibition zone in most types of bacteria will appear. The MIC values may also be evaluated using the broth serial dilution method according to standard methods (CLSI, 2012).