Republic of Yemen

University of Science & Technology

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Antibacterial Study of the Crude Extract of *Peganum harmaula* against the Most Common Urinary Tract Bacterial Infections

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ABSTRACT

Herbal medicines play an important role in treating any ailment. They consider a natural source with low cost and are available, and active against many infections without side effects compared with synthetic antibiotics. *P. harmala* is one of these herbal medicines used widely in many societies for its activity that varied from antimicrobial to antidepressant effects. In the present study, *P. harmala* extract from different parts of this plant was examined in the most common bacteria-infected humans, especially the urinary tract. Gram-positive and Gram-negative bacteria either sensitive or resistant were isolated freshly from patients with UTIs and subcultures in special media. Different concentration of plant extract was examined compared with synthetic antibiotics. MIC of plant extract was detected by using the nutrient broth method. The outcomes of this study showed that extract of *P. harmala* especially seeds possessed antibacterial activity against most of the tested bacteria, especially against resisting E.coli. This worthwhile antibacterial activity of this plant may be referred to as the presence of a high concentration of alkaloids. MIC against *E.coli* is increased with increasing the fraction of extract. It is concluded that P. harmala is considered a potential source of an antimicrobial agent against the most common pathogenic bacteria that infected the human urinary tract compared with synthetic antibiotics. Additionally, its antimicrobial uses may be accompanied by few side effects compared with that of synthetic antibiotics.

Keywords: *Peganum harmaula*, Antibacterial activity, MIC, Common UTI bacterial infections.