ANTIBACTERIAL ACTIVITY OF SELECTED SPICES AGAINST MULTI-DRUG RESISTANT URINARY TRACT MICROFLORA

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Abstract

Now a days, Urinary tract infections (UTIs) are one of the important bacterial infections seen in hospitals. In this study, the pathogens were isolated from urine samples of urinary tract infected patients. The antibacterial property of ethanol extract of selected spices was tested against the urinary tract pathogens. *Allium sativum* ethanol extract greatly inhibited the growth of all urinary tract pathogens. Antibacterial assay of selected commercial antibiotics showed that isolated organisms were found to be resistant against the antibiotics. It can be concluded that *Allium sativum* extracts revealed effective antimicrobial compounds against resistant UTI pathogens

Key words: *Allium sativum*, antibacterial, UTI pathogens etc.

Introduction

Urinary tract infection (UTI) is a collective term that describes any infection involving parts of the urinary tract, namely the kidney, ureter, bladder and urethra. Urinary tract infections (UTIs) are responsible for nearly 10 million doctor visits each year. One in five women will have at least one UTI in her lifetime. It is a familiar contamination among men and women but the frequency is quite elevated in women due to their physiology. It is a common source of infection in children and infants and is the most common bacterial infection in children < 2 years of age, both in the community and hospital setting (Hanna-Wakim *et al*., 2015). In the urinary tract infection, bacteria get into the urinary tract (the bladder), multiply and adherence to the uroepithelium. The result is redness, swelling and pain in the urinary tract (https://www.kidney.org/sites/default/files/uti.pdf). Frequent use of several antibiotics has been made bacteria to develop resistance in their population which have become a burning predicament. However, with the increased resistance among uropathogens and changes in the prevalence of UTI-causing organisms, new guidelines have emerged (Tan and Chlebicki, 2016). As a result there is an urgent need to find the alternative of chemotherapeutic drugs in diseases treatment particularly those of plants origin which are easily available and have considerably less side effects (Khulbe and Sati, 2009). Spices are important natural products, which have been used since ancient times and until now. Spices have been used for not only flavor and aroma of the foods but also to provide antimicrobial properties (Nanasombat *et al.,* 2002). Some of the natural compounds found in various spices possess antimicrobial (Indu *et al.,* 2006). Grohs and Kunz (2000) observed that spices mixtures were able to inhibit the growth of various meats spoiling microorganism. The