INTRODUCTION

Urinary tract infection (UTI) remains the most common reason for outpatients to seek medical care and for inpatients to develop nosocomial infections. Nosocomial UTIs account for up to 40% of all hospital-acquired infections. The associated morbidity and mortality are the major drain on hospital resources **(Zotti *et al*., 2004)**.

Most cases of UTI are initially treated empirically **(Gales *et al*., 2000)**, for optimizing the treatment and finding updated recommendations for UTI treatment, physicians should know the etiology of UTI and the susceptibility pattern of UTI pathogen in their population **(Barisic *et al*., 2003)**.

Al-Haddad, (2005) concluded that urinary tract infection (UTI) is an extremely common clinical problem. The etiology of UTI and the antibiotic resistance of uropathogens have been changing over the past years, both in community and nosocomial infection **(Manges *et al*., 2006)**.

Females are however believed to be more affected than males except at the extremes of life; this is a result of shorter and wider urethra **(Duerden *et al*., 1990)**. This is not the case in men younger than 50 years of age, where UTIs are rare and generally secondary to urologic abnormalities **(Stamm and Hooton, 1993)**. The picture is somewhat different in older men, where increasing prostatic hypertrophy may obstruct urine flow and increase the risk of developing a UTI. In older people in general, UTIs are also the most common bacterial infections, and these infections are often asymptomatic.

In the community, approximately 5-10% of older men and 10-20% of older women have asymptomatic bacteriuria. In nursing homes, the incidence can be as high as 25-50% **(Nicolle, 2002)**.

Symptomatic UTI is also frequent and is a major indication for antibiotic prescription in this population as many as 40-50% of females report having at least one symptomatic UTI in their lives **(Kunin, 1994)**.

UTI may involve only the lower urinary tract or may involve both the upper and lower tract. The term cystitis has been used to describe lower UTI, which is characterized by a syndrome involving dysuria, frequency, urgency and occasionally suprapubic tenderness. However, the presence of symptoms dose not exclude upper tract infection, which is also often present **(Sobel and Kaye, 2000)**.

The most common cause of UTI is Gram-negative bacteria that belong to the family *Enterobacteriaceae*. Members of these families include *Escherichia coli*, *Klebsiella*, *Enterobacter*, and *Proteus*. Also the Gram-positive *Staphylococcus saprophyticus* plays a role in the bacterial panorama, especially among young women. *E. coli* dominates as causative agent in all patient groups. In un complicated UTIs, 80-90% are caused by *E. coli* **(Kunin, 1997)**. In complicated UTIs, *E. coli* is less prominent but still the major causative agent **(Nicolle, 2001)**.

Conventional drugs usually provide effective antibiotic therapy for bacterial infections but there is an increasing problem of antibiotic resistance and continuing need for new solutions **(Karen and Edzard, 2003)**. The use of plant extract to treat infections is an old practice in a large part of the world, especially in developing countries, where there is dependence on traditional medicine for a variety of diseases **(Gangoue-Pieboji *et al*., 2006)**. Numerous researches showed that the essential oils and plant extracts have potential in medical procedures and applications in the pharmaceutical, cosmetic and food industry **(Glisic *et al*., 2007)**.

AIM OF THE WORK

This work aimed to isolate and identify different bacterial isolates inhabiting and responsible for urinary tract infections in patients with different ages and sex and to investigate the most effective antibiotic against pathogenic bacteria, and also, to detect the antimicrobial activities of some medicinal plants extracts against resistant isolated bacteria and to investigate the effect of combination between minimum inhibition concentration (MIC) of antibiotic and plant extract on isolated bacteria. Also try to separate the effective compound in the most effective plant extract and show its antimicrobial activities on isolated bacteria.