

**Incidence and resistance pattern Of bacteria
associated with urinary track infection in
Pakistan**



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MAHVISH KABIR

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Session: 2015-2017

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Lahore, Pakistan**



In the name of

ALLAH,

The most Compassionate,

The most Merciful

RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, “**Incidence and Resistance Pattern in Bacteria Associated with Urinary Track Infections in Pakistan**” has been carried out and completed by Mahvish Kabir, ID: 15001254005. The quantum and the quality of the work contained in this thesis are adequate for the award of degree of MS.

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DEDICATION

I dedicate this thesis to Dr. Muhammad Sohail Afzal. He is the sole motivation behind this research.

And

I also dedicate this piece of research work to my helper at home, mother and husband (Bilal Haider) for their unconditional support, prayers and patience.

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ABBREVIATIONS

pH	Potential of Hydrogen
Spp	Specie
UTI	Urinary tract Infection
R	Resistance
S	Susceptible
CPS	Capsular poly saccharide
LPS	Lipopoly Saccharide

ABSTRACT

Urinary track infection is one of the most common types of infection in Pakistan. Poor knowledge about personal hygiene, lack of awareness about diet and unavailability of clean drinking water are major reasons of this infection. Varieties of infectious agents are responsible for UTI incidence but in present study *E. coli* and *K. pneumoniae* were main causative agents of infection in majority of cases. This high prevalence of *E. coli* and *Klebsiella* in UTI patients is because of its resistance towards different antibiotics. These strains contain β -lactamase enzyme which provides resistance to β -lactam antibiotics. Prevalence and incidence of these bacteria is different in different regions of the world. In present study bacterial resistance and susceptibility has been determined in UTI produced by *E. coli* and *Klebsiella* species against different antibiotics.

CHAPTER 1: INTRODUCTION

1.1 Infection

Infection is a malfunctioning of body function due to attack of microorganism and its multiplication inside host. These organisms react with the host tissues; as a result of this infection the organism or body organ are affected. Infection is transferred through the microorganisms which are main disease causing agents. Virus, Bacteria and fungi are most common Infection causing agents (Signore and Glaudemans, 2011). Our body is equipped with a natural mechanism which tries to kill these invaders and guard the body from infection. This defense system is our immune system. When our immune system is unable to stop or remove these infectious agents from multiplication in body infections are produced and the organism got a disease. Based on the type and degree of disease particular medications are recommended e.g Antibiotics, Antiviral, Antifungal drugs for the treatment and cure of the infections (Umeh and Berkowitz, 2009).