### Congress: The First International Congress of Medical Bacteriology

**Title:** Prevalence of Extended Spectrum Beta Lactamase and CTX-M-I of Escherichia coli in urine samples in Khoy, Tabriz and Tehran, Iran

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**Abstract:**

**Introduction and objectives:** The most common cause of resistance to Extended Spectrum Cephalosporins in Escherichia coli (E.coli) is the production of Extended Spectrum Beta Lactamases (ESBLs). In the last years, CTX-M enzymes have become the most prevalent ESBLs in worldwide. The prevalence of ESBL types largely remain unknown in many parts of the Iran. This study was made to find the prevalence of ESBL-producing E.coli and molecular detection of CTX-M-I in Khoy, Tabriz and Tehran.

**Materials and methods:** In present study 1300 urine samples collected between November 2009 and April 2010, from different hospitals in Khoy, Tabriz and Tehran. E.coli isolates were detected by standard biochemical tests. Susceptibility to antimicrobial agent was tested to 10 antibiotics by the disk agar diffusion (DAD) methods. ESBL production was screened by phenotypic test that including disk diffusion agar and combined disk. Screened isolates were investigated by PCR assay for detect CTX- M-I gene.

**Results:** The Prevalence of ESBL producing strains was 128(64%) out of 200 isolates in Tehran, 82(43.6%) out of 188 isolates in Tabriz and 56(29.8%) out of 188 isolates in Khoy. PCR used for the detection of CTX- M-I gene, showed that 99(77.34%) in Tehran, 69(84.1%) in Tabriz and 49(87.5%) ESBL producing isolates in Khoy contained such gene.

**Conclusion:** The present study shows ESBL producing E.coli varied in throughout Iran. Our findings underscore the need to further investigate the epidemiology of ESBL producing E.coli and molecular detection of ESBLs in the Iran. CTX-M-producing isolates are increasing among E. coli strains and indicates the need for adequate laboratory detection for choosing appropriate drugs.

**Key words:** E.coli, Extended Spectrum Beta Lactamase, CTX-M-I, Antimicrobial resistance.

**Presentation:** Poster