Keywords: Blood stream infection, Antimicrobial susceptibility pattern, Mashhad

Introduction: Bloodstream infection (BSI) remains one of the most important causes of morbidity and mortality globally. The aim of the present study was to determine the bacterial profile of bloodstream infections and their antibiotic susceptibility pattern.

Materials and Methods: A total of 10356 samples from clinically suspected cases of bacteremia were studied at Imam Reza Hospital for a period of two years from December 2015 to January 2017. Antimicrobial resistance testing was performed and analyzed by Kirby Bauer technique on Mueller-Hinton agar plates using ten antibiotics according to their respective break points. CLSI (2015) guidelines were followed to determine the zone diameters consistent with the Zone Size Interpretative Chart. Also, the minimum inhibitory concentration (MIC) was determined for vancomycin by MIC test strips.

Results: In this study 4061 (39.2%) culture positive were isolated. Staphylococcus aureus 408 (10%), Escherichia coli 377 (9.3%), Acinetobacter spp. 344 (8.5%), Staphylococcus haemolyticus 301 (7.1%), Enterobacter 288 (7.1%) and Enterococcus spp. 276 (6.8%) were the most dominant isolates. High resistance was seen to cefazolin (90.4%), Cefotaxime (75.4%), erythromycin (74.4%) and ceftriaxone (70%). resistance was lowest for linezolid (1.6%), colistin (5.3%) and minocycline (7.1%).

Conclusion: Prevalence of bacterial isolates in blood was high. It also reveals isolated bacteria species developed multi drug resistance to most of the antibiotics tested, which highlights for periodic surveillance of etiologic agent, antibiotic susceptibility to prevent further emergence and spread of resistant bacterial pathogens.