Background and objectives: Nosocomial infection is a major cause of morbidity and mortality in the hospitals. ICU hospitalized patients are at great risk of acquiring nosocomial infection. The prevalence rates of these infections in ICUs are 5-10 times greater than other wards. Bacterial agents are the most frequent cause of nosocomial infections in ICUs. The aim of this study was to determine the prevalence of infective bacterial agents among six ICUs of Shahid Beheshti University Hospitals (sbmu) in Tehran, Iran.

Material and methods: Different samples from hand, nose, mobiles of ICU staffs, bed, tables, medical devices and clinical specimens (including, tracheal aspirate, urine, blood and wound swabs) were collected from six ICU in Tehran. Culture on selective media, and biochemical identification tests were done according to standard methods.

Results: Out of 1542 clinical (10%) and environmental (90%) samples, 120 isolates were obtained from different clinical specimens, including tracheal aspirate, urine, blood and wound. The most frequent infection was pneumonia. Different bacterial agents were isolated from these specimens, including Acinetobacter (41.66%), Pseudomonas aeruginosa (15%), Staphylococcus aureus (16.66%), Klebsiella pneumonia (9.16%), Enterococcus (6.66%), Coagulase-negative Staphylococci (4.16%), Proteus (2.5%) and Citrobacter (0.83%). In environmental samples Acinetobacter (24.4%), Staphylococcus aureus (10.1%) had the highest prevalence rate after Coagulase-negative Staphylococci (30.31%). The remaining 15% of the isolates were included Entrococcus spp., Klebsiella spp, Pseudomonas spp, E.coli, Bacillus spp., and streptococcus spp respectively.

Conclusion: In the present study we have followed the resident bacterial flora, carriers of infectious bacteria, and their diversities among different ICUs. Our results showed direct correlation between clinical and environmental isolates. Comparison of the two groups showed that Acinetobacter, Staphylococcus aureus, Pseudomonas, Klebsiella, and Enterococcus are major causative agents of nosocomial infections in ICUs of sbmu hospitals.

Key Words: ICU, tracheal aspirate, Nosocomial Infection.

Presentation: Poster