Abstract: Background and objectives: Methicillin resistant Staphylococcus aureus (MRSA), which first identified in Britain in 1961 is an important nosocomial pathogens that causes severe illness and death around the world and now is multidrug resistance that this is treating the resulting infections have challenged. Since MRSA is found endemic in many hospitals and health care workers are a potential source of Staphylococcus aureus, thus checking this person is necessary for prevent infection due it. And found a high performance method and yet fast and economical is important. The purpose of this study is evaluation Cephoxitin disk performance compared with the PCR method to detect methicillin resistant Staphylococcus aureus isolated from hospital staff in Gorgan.

Material and Methods: 80 Staphylococcus aureus isolates of nasal and hands of 333 hospital staff separated by usual methods such as manithol fermentation, coagulase and DNase. These isolates were evaluated from resistance gene (mec A) by PCR as gold standard method and resistance to 30 mcg cephoxitin disk as a marker to detect MRSA isolates by disk diffusion method and the results of disk diffusion methods were compared with PCR.

Results: In this study from 80 isolates of Staphylococcus aureus 15 cases (18.75%) contained mec A gene and were considered MRSA; And 7 cases (8.75%) showed resistance to cephoxitin disk, that all of this 7 cases contained resistant gen mec A.

Conclusion: Sensitivity and specificity of cephoxitin disk compared to PCR method is respectively 47% and 100%. Our results shows use of cephoxitin disk for detection of sensitive isolates is suitable but to detect resistant isolates is not enough.