

A Periodical Survey of inpatient Antimicrobial use and Resistance in Ardabil Hospitals in 2021

Abstract

Background: The discovery of effective antibiotics parallel to the improvement of public health, and the discovery of vaccination in the 20th century are listed as the most important factors in reducing mortality from infectious diseases. Although antibiotic is a drug that has the potential to save the life of a person suffering from a serious infectious disease, but the occurrence of widespread resistance of infectious agents against it may make this ability severely limited and ineffective, and the lives of patients are at risk even against simple infectious diseases.

Aim: Our aim in this research is to determine the periodical prevalence of hospital consumption and resistance of antimicrobial drugs in patients admitted to Bo Ali, Dr. Fatemi and Alavi hospitals in Ardabil in 1400-1401. The results obtained from the study will help clinical doctors to prevent antimicrobial resistance by choosing the right antibiotics and prescribing them correctly.

Materials and Methods: This Periodical study was conducted on the clinical records of hospitalized patients who met the inclusion criteria in the target hospitals for a course of antibiotic usage that includes 4 weeks for each hospital. Information related to age, sex, type of antimicrobial drug, antibiotic resistance, dose of prescribed drug, main diagnosis and type of indication were extracted from current files and then interpreted with SPSS software. In the interpretation of the data, descriptive statistics and central indicators were used, and the extracted information was displayed in tables.

Results: A total of 181 patients (40 infants, 52 children and 89 adults) were examined, of which 53.6% of the studied population were men (97 people) and 46.4% were women (84 people). The most prescribed antibiotics in neonates were vancomycin (35.3%) and meropenem (16.1%), in children ceftriaxone (18.2%) and vancomycin (17.3%), and in adults cefazolin (22.8%) and clindamycin (14.3%). The results of the analysis showed that the most common reason for receiving antibiotics in infants is prophylaxis in premature infants (92.5%), pneumonia in children (21.1%) and prophylaxis of gynecological and obstetric infections in adults (22.4%).

Conclusion: The results of this study indicate a high percentage of antibiotics and experimental treatments in hospital treatment centers. Among the antibiotics used, cephalosporins and carbapenems were the most common drugs used, and due to their widespread and broad-spectrum use, special attention should be paid in terms of drug resistance to these antibiotics. The results of this research can be used to improve the quality of treatment in hospitals, reduce antimicrobial resistance, and consequently reduce the death rate caused by antimicrobial resistance.

Key words: Antibiotic, Antibiotic resistance, antimicrobial, Ardabil, periodical prevalence