

Evaluation of Drug Use Pattern in Pediatric Outpatient Clinics in a Tertiary Teaching Hospital Using WHO drug-prescribing Indicators

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Abstract

Objectives: The main aim of the study is to assess the physicians' adherence to World Health Organization (WHO) prescribing indicators in pediatric outpatient clinics, and to identify areas in need for intervention regarding the rational use of medicines among pediatric outpatients in Jordan.

Method: This is a descriptive observational cross-sectional study which was conducted at outpatient pediatric clinic at Jordan university hospital (JUH). During the study period, prescriptions were collected from the 10th of October to the 12th of December 2021. For the overall prescriptions, the following drug prescribing indicators were assessed: 1) the average number of drugs per encounter, 2) the percentage of drugs prescribed by generic name, 3) the percentage of encounters with an antibiotic prescribed, 4) the percentage of encounter with an injection prescribed, and 4) the percentage of drugs prescribed for essential drugs list. In addition, we assessed factors associated with irrational drug use patterns.

Result: During the study period, a total of 1,011 prescriptions for pediatric patients were assessed retrospectively. More than half of the encounters were for male patients (n= 595, 58.9%), and the median age of patients was 8 years (IQR = 7.9). The average number of drugs prescribed per encounter was 1.8 ± 1.3 which is considered within the WHO standard, and all of the prescribed drugs were prescribed using their generic name (100%). However, all the other three standards were lower than the WHO standards, where only 47.7% of the drugs were from the Essential Drug List (EDL) of the JUH. Moreover, among all the encounters, antibiotics were prescribed in encounters (19.5%), while injectable medicine were prescribed in encounters (9.5%).

When comparing the different pediatric clinics regarding the five core prescribing indicators, respiratory clinics showed the highest percentage of encounters with antibiotics prescribed (50.8%) compared to all other clinics ($P < 0.001$). The most commonly prescribed antibiotic was amoxicillin (n= 72, 35.1%) either alone or in combination with clavulanic acid, followed by azithromycin (n= 69, 33.7%). On the other hand, endocrine clinics showed the highest percentages of prescribing injectable medicines (44.8%) compared to the different clinics ($P < 0.001$). Regarding the prescribed injectable medicine, insulin was considered the most commonly prescribed injectable drug (n= 34, 31.5%), followed by botulinum toxin and vaccines (n= 20, 18.5% for both). XIII

Conclusion: This study revealed some adequate prescribing habits were practiced in this study with a frequent prescription of generics among pediatric patients, and a lower prescription of antibiotics, and injectables prescribed. However, essential medicines were the least prescribed among children. Fortunately, polypharmacy was not a common practice among prescribers. Findings of this study shed light on the need to establish national strategies to improve prescribing practices of essential medicines such as continuing education programs for prescribers, periodic audits of prescriptions and developing local guidelines to improve prescription patterns of essential drugs in pediatric population.

Keywords: World Health Organization; irrational drug use; pediatrics; drug prescribing indicators, outpatient; Jordan