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Antibiotic prescribing review: rational or irrational therapy?

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Background and Aims: Backgrounds and aims: Resistance to antibiotics is a major public-health concern and antibiotic use is being ever more recognized as the main discriminatory pressure driving this resistance. Our aim was to assess outpatient use of antibiotics in our teaching hospitals in various parts of Tehran and its association with resistance.
Methods: As part of novel and ongoing assessment, 600 outpatient antibiotic prescriptions between December 2011 and May 2012 were reviewed in our teaching hospitals, located in the North, South, East and West of capital city, Tehran. All prescriptions were scrutinized in order to evaluate the antibiotic prescribing. The medical doctors from all grades were asked to note the chief compliant and the most likelihood diagnosis on each prescription. In order to avoid any bias the medical teams were not aware of the data gathering. Information such as diagnosis, type of antibiotics, doses, directions, patient's age and sex and ultimately the total quantities of antibiotics were recorded. Our data was then compared against major antibiotic guidelines. SPSS18 was used to analyse our findings.
Results: The most common prescribed antibiotics are third generation antibiotics such Cefixim (49%), Penicillins (including Amoxicillin, Ampicillin and Co-Amoxiclav) (43%) and Macrolides (in particular Azithromycin) (38%). 61% of prescriptions are combinational (equal or more than 2) therapies. The most common diagnosis was upper respiratory tract infections (URTI) with pharyngitis and common cold with 28% and 25% respectively. The directions of 58% of selected antibiotics were acceptable. Parenteral administrations remain the most common route of administration with 52% of the reviewed prescriptions. Based on Cochrane reviews the antibiotic prescribing was unjustified in 33% of the cases.
Conclusions: The prescribing habit, correct diagnosis and the use of antibiotics need instant consideration. These data can provide useful information for assessing public-health policy that aims to reduce antibiotic use and resistance levels.

Keywords: Antibiotic prescribing; Resistance; Review