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Analiza wpływu pacjentów na decyzje lekarzy rodzinnych dotyczące antybiotykoterapii

Summary

Antibiotic resistance is a major problem in contemporary medicine. Overprescribing of antibiotics and prescribing wide-spectrum antibiotics are major factors stimulating the increase of antibiotic resistance. The majority of antibacterials are prescribed in family practice and the leading cause for prescription are respiratory tract infections. The main objective of dissertation was to assess the ways patients pressure physician for antibiotic prescription, the frequency and significance of different patient pressure factors in terms of antibiotic prescribing in respiratory tract infections in the family doctors' offices.

Particular objectives included:

- analysis of frequency of antibiotic prescribing in respiratory tract infections and kinds of prescribed antibiotics, their accordance with the current guidelines
- analysis of correlation of clinical signs and symptoms with antibiotic prescribing, assessment which signs and symptoms are associated with prescribing as well as not prescribing antibiotics
- analysis of types of patient pressure factors to obtain antibiotic prescription, their frequency and analysis of their correlation with prescribing/not prescribing antibiotics
- -combined assessment of influence of clinical signs and symptoms and abnormalities in physical examination altogether with patient pressure factors on prescription decision.

The research was carried out in general practitioners' offices in the city of Białystok in 2007-2013. Fifty qualified family physicians and fifty family medicine trainees that were the observers of the consultations of patients with respiratory tract infections performed by family doctors, were enrolled into the study. In our study the method of direct observation was applied, with the observer recording the consultations of consecutive patients with respiratory tract infections in the form of a questionnaire. The questionnaire contained patient demographics, the order of consultation, clinical signs and symptoms, additional testing, likely diagnosis, information about prescribing or not prescribing an antibiotic and about the kind of prescribed antibiotic. Additionally, the questionnaire contained 10 patient pressure factors and subjective opinion of the trainee doctor whether the physician was pressured or

not for antibiotic prescription. Patient pressure factors were designed based on the existing literature. The results were analysed statistically with the use of Chi-square test, the combined influence of clinical signs and symptoms and patient pressure factors was analysed with the use of multivariate regression model method.

Altogether, 1456 consultations of patients with respiratory tract infections were observed by the family medicine trainees in Bialystok. The mean age of the patients was 30.5 years (age distribution 1 month to 91 years). The most common respiratory tract infection symptoms were cough reported by 1037 patients (71.2%), sore throat reported by 919 patients (63.1%) and rhinorrhoea reported by 787 patients (54.1%). Most common physical examination abnormalities were red throat in 556 patients (38.2%) and enlarged cervical and/or submandibular lymphatic nodes in 260 patients (17.9%). Generally, abnormalities in additional tests were noted in 76 patients (5.2% of all consultations)– solely the abnormal results of additional tests were filled in the questionnaire that implies the infrequent additional testing in diagnosing respiratory tract infections. Three most common diagnoses made by family physicians were the diagnosis of viral infection (common cold, influenza) in 538 patients (37%), pharyngitis/tonsillitis of presumably bacterial origin was second– it was diagnosed in 270 patients (18.6%), bronchitis was third– it was diagnosed in 143 patients (9,8% of all visits). Antibiotic was prescribed in as many as 54.3% of all respiratory tract infection consultations (in 790 patients). The most commonly prescribed antibiotic was amoxicillin, it was prescribed in 17.5% of all consultations (in 255 patients), followed by amoxicillin with clavulanic acid in 11,7% of consultations (in 170 patients), clarithromycin in 9.2% of consultations (in 134 patients) and cefuroxime– in 5.6% of consultations (81 patients). Penicillin V was prescribed solely in 0.5% of consultations– in 8 patients. Antibiotic was applied most frequently if the patient reported expectoration of purulent (thick green or yellow sputum) and the length of respiratory tract infection more than 7 days– an antibiotic was prescribed correspondingly in 83.1 and in 76.2% of cases. Among the analysed patient pressure factors candidate diagnosis was most frequently identified– in 308 patients (21.1%), the least common factor was direct request not to prescribe an antibiotic in the case of 89 consultations (5.5%). Starting self-medication with antibiotics by the patient increased the likelihood of antibiotic prescription the most– the doctor prescribed antibiotics in 78% of cases, with other effective types of pressure being direct request to prescribe, resulting in 70% of prescriptions, emphasizing the severity of illness, resulting in 67% of prescriptions, and candidate diagnosis, which resulted in prescription in 62% of cases. In the logistic regression

model the odds to prescribe an antibiotic were most increased by the presence of rales and crepitations in physical examination– it increased the odds nearly 27-fold, the presence of tonsillar exudates– nearly 15-fold and by the presence of wheezing and rhonchi– 13-fold. Solely three patient pressure factors were proven statistically significant in multivariate logistic regression model: starting self-medication with antibiotic by the patient increased the chance of receiving continuation of antibiotic therapy from the physician more than 4-fold, direct request to prescribe an antibiotic increased the chance of receiving it nearly 2-fold. Direct request not to prescribe an antibiotic decreased the chance of receiving it almost 3-fold with the other features constant.

Conclusions :

1. The prescription of antibiotics in respiratory tract infections is excessive.
2. The choice of antibiotics in respiratory tract infections is generally in accordance with the guidelines but the proportion of prescription of wide-spectrum antibiotics is too high.
3. Additional testing is performed very rarely in diagnosing respiratory tract infections.
4. Clinical signs and symptoms are often misinterpreted.
5. The process of antibiotic prescribing is very complex, patient pressure factors have a considerable impact on prescription decision.
6. The most important factor in antibiotic prescribing decision are: starting self-medication with antibiotics, direct request to prescribe an antibiotic as well as direct request not to prescribe an antibiotic.