

Abstract

Introduction: Medicines are of particular importance as a strategic commodity in all countries, and a significant portion of health expenditures in developed and developing countries are allocated to the procurement, distribution, and consumption of medicines. Irrational use of medicines has become a global problem that is seen in both developed and developing countries. Irrational prescription of medicines reduces the quality of treatment, increases the risk of side effects, compromises patient safety, prolongs the disease, imposes additional costs, and wastes resources. It also leads to increased drug resistance and higher treatment costs. Antibiotics, which act by inhibiting or destroying pathogenic bacteria, contribute to the emergence of resistant bacteria if used incorrectly, especially with inappropriate prescription. Research shows that the number of medicines prescribed per prescription by Iranian doctors exceeds the standards of the World Health Organization, and antibiotics have the largest share among prescribed medicines in Iran.

Given the importance of this issue and the warnings of the World Health Organization about the threat of antibiotic resistance, and despite experts' claims that antibiotics account for more than one-third of all prescribed drugs in Iran, no comprehensive study has been conducted on antibiotic prescribing in Iranian outpatient clinics. This study was designed to investigate the status of antibiotic prescribing in outpatient clinics in Iran.

Methods This study was conducted as a sequential explanatory mixed-method study in two stages. In the first stage, a quantitative study was conducted to assess the current status of antibiotic prescribing in outpatient clinics. In the second stage, using the results of the quantitative stage, a qualitative study was conducted to identify strategies for improving antibiotic prescribing. In this stage, interviews were conducted with clinical experts, including officials from the Food and Drug Administration, Health Insurance, Social Security Insurance, and other experienced individuals, about the challenges and strategies for reducing irrational antibiotic prescribing.

Results

Quantitative Findings

- Problems with antibiotic prescription: excessive and irrational prescription, arbitrary use by patients, and disregard for the type of infection and antibiotic resistance.
- Antibiotic resistance: excessive use of antibiotics has reduced the effectiveness of drugs, the need for stronger and more expensive drugs, and concerns about the emergence of resistant microbes.
- Prescription errors: incorrect choice of drug, dose, or course of treatment, ignoring drug interactions, prescribing unnecessary or expensive drugs, and incomplete recording of prescription information.
- Factors related to physicians: lack of awareness about correct prescription, high workload, lack of time for detailed examination, resistance to changing treatment procedures, and sometimes profiteering.

- Factors related to pharmacies: selling antibiotics without a prescription, lack of adequate counseling to patients, problems with drug distribution and pricing, and the impact of profiteering.

- Factors related to patients: Unreasonable expectations for receiving antibiotics, ignorance of the side effects of self-administration, incorrect beliefs about treatment, failure to follow doctor's orders, and changing doctors if there is no rapid improvement.

- Structural factors: Lack of adequate supervision of prescription and consumption, weakness in the family doctor referral system, lack of continuous education for doctors, lack of a system for accurate monitoring of drug consumption, problems in the pharmaceutical system and distribution, inconsistency between parts of the health system, conflict of interest, weakness of public culture, economic and social problems in accessing drugs, and disregard for laws.

Solutions

- Conducting diagnostic tests before prescribing antibiotics.

- Monitoring and restricting antibiotic prescription by doctors.

- Continuous education of doctors about correct prescription.

- Establishing stricter laws for prescribing and selling antibiotics.

Conclusion: Irrational prescription of antibiotics in Iran is influenced by multiple factors, including structural weaknesses in the health system, patient expectations, and lack of effective supervision. Solving this challenge requires interdisciplinary collaboration, continuous education, and strict enforcement of regulations to reduce antibiotic resistance and improve the quality of health services.

Keywords: Antibiotics, prescribing, outpatient, irrational antibiotic prescribing, qualitative research, Food and Drug Administration management dashboard system



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By

Seyed Kazem Abghary

Supervisor

Dr.Vahid Yazdi

Advisors

Dr.Reza Goudarzi

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