

254. ANTIMICROBIAL RESISTANCE - THE MILLENNIUM III CHALLENGE

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Introduction: Antimicrobial resistance has been declared a crisis by the World Health Organization, the Centers for Disease Control and Prevention and other relevant organizations. Resistance to antimicrobials presents a major challenge in health care as resistant bacteria dramatically decrease the chances of effectively treating infections and increase the risk of complications.

Materials and methods: This paper analysis and describes the major aspects of this topic published during the half-century: the global situation of antibiotic resistance, its major causes and consequences, solutions and conclusions. The study is based on 93 literary sources of foreign authors (France, Bulgaria, USA Germany, Hungary, Italy, Poland, Belgium, Norway etc.) and international organizations.

Discussion results: The discovery of antimicrobial agent was one of the greatest achievements of the twentieth century. Paul Ehrlich discovered the first antibiotic Salvarsanin 1910, used to treat syphilis, followed by Alexander Fleming with the "epochal discovery" of penicillin in 1928. These were the starting points for discovering classes of antibiotics present today. Causes for antibiotic resistance are complex and include human behavior at many levels of society: overuse, abuse or misuse, due to incorrect diagnosis. Increased globalization also causes the spread of drug resistance. Antimicrobial resistance knows no national borders, and affects all countries regardless of their economic status. Resistance can spread quickly across different bacterial species, from bacteria in animals to those in humans. The consequences affect everybody in the world.

Conclusion: Improving the use of antibiotics is an important patient safety and public health issue as well as a national priority. Solutions to antimicrobial resistance: implementing the National Strategy for combating antibiotic-resistant bacteria; stronger regulation aimed at limiting non-prescription use in humans and in farm animals; rational use infection control in the healthcare setting; rapid diagnostics of resistance bacteria; communications campaigns co-ordinated with the broader awareness efforts described above

Key Words: antimicrobial resistance