

THE JUDICIOUS USE OF ANTIBIOTICS

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Abstract

The rise of antibiotic resistance poses a significant threat to global public health. To combat this issue, it is crucial to adopt judicious antibiotic use practices. This doctoral-level essay explores the importance of using antibiotics judiciously, including the implications of misuse and overuse, the role of healthcare providers in promoting responsible prescribing, and potential strategies to optimize antibiotic use. By addressing these key points, this essay aims to contribute to the ongoing dialogue surrounding antibiotic stewardship and the preservation of antibiotic effectiveness.

Keywords: antibiotics, antibiotic resistance, judicious use, healthcare providers, stewardship

Introduction

The discovery of antibiotics revolutionized the field of medicine and has saved countless lives since their introduction. However, the overreliance and misuse of antibiotics have led to the development of antibiotic-resistant bacteria, making infections harder to treat and posing a serious threat to public health. In recent years, antibiotic resistance has emerged as a global crisis, necessitating urgent action to preserve the effectiveness of these life-saving drugs.

The judicious use of antibiotics is crucial to combat antibiotic resistance, preserve the effectiveness of these life-saving medications, and ensure optimal patient outcomes. Here are some key principles and strategies for the judicious use of antibiotics:

Principles of Judicious Antibiotic Use:

Evidence-Based Prescribing:

Prescribe antibiotics based on clinical guidelines, microbial culture results, and patient-specific factors to ensure appropriate treatment and avoid unnecessary antibiotic use.

Diagnostic Testing:

Use diagnostic tests, such as cultures and sensitivity tests, to identify the causative pathogen, guide antibiotic selection, and tailor treatment to the specific infectious agent.

Empirical Therapy:

When starting antibiotic treatment before definitive diagnosis, choose antibiotics based on the most likely pathogens, local resistance patterns, and patient factors to provide effective coverage while minimizing broad-spectrum use.

Narrow Spectrum Antibiotics:

Preferentially prescribe narrow-spectrum antibiotics targeting specific pathogens when appropriate to minimize collateral damage to beneficial bacteria and reduce the risk of resistance development.

Duration of Therapy:

Prescribe antibiotics for the shortest effective duration necessary to treat the infection, following guidelines for optimal treatment courses and considering clinical response, pathogen type, and patient factors.

Strategies for Promoting Judicious Antibiotic Use:

Antimicrobial Stewardship Programs:

Establish antimicrobial stewardship programs in healthcare settings to coordinate efforts, monitor antibiotic use, educate healthcare providers, and optimize prescribing practices to combat antibiotic resistance.

Education and Training:

Provide healthcare professionals with ongoing education on antibiotic prescribing guidelines, antimicrobial resistance, the importance of culture-driven therapy, and strategies for judicious antibiotic use.

Multidisciplinary Collaboration:

Foster collaboration among healthcare teams, including physicians, pharmacists, nurses, and microbiologists, to promote evidence-based prescribing, monitor antibiotic use, and implement stewardship interventions.

Antibiotic Review and De-escalation:

Periodically review antibiotic therapy, reassess the need for continued treatment, and de-escalate to narrow-spectrum agents or discontinue antibiotics when no longer necessary to prevent unnecessary exposure and reduce resistance.

Patient Education:

Educate patients on the appropriate use of antibiotics, adherence to prescribed regimens, the importance of completing the full course of treatment, and the consequences of misuse to promote responsible antibiotic use.

Surveillance and Monitoring:

Implement surveillance systems to track antibiotic use, resistance patterns, and healthcare-associated infections, enabling data-driven interventions, identifying trends, and evaluating the impact of stewardship efforts.

Public Health Initiatives:

Global Action on Antimicrobial Resistance:

Support international efforts to address antimicrobial resistance through policy development, research collaborations, and advocacy for sustainable use of antibiotics across healthcare, agriculture, and environmental sectors.

One Health Approach:

Adopt a One Health approach that recognizes the interconnectedness of human health, animal health, and the environment to address antimicrobial resistance comprehensively and promote responsible antibiotic use in all sectors.

By adhering to these principles, implementing strategies to promote judicious antibiotic use, and engaging in collaborative efforts at both individual and population levels, healthcare providers, policymakers, and communities can work towards preserving the effectiveness of antibiotics, combating antimicrobial resistance, and ensuring sustainable healthcare practices for current and future generations.

Methodology

This doctoral-level essay is based on a comprehensive review of the existing literature on antibiotic use, resistance, and stewardship. A range of reputable sources, including peer-reviewed journals, government reports, and academic publications, were consulted to provide a thorough analysis of the topic. The methodology involved synthesizing information from these sources to present a coherent and evidence-based discussion on the judicious use of antibiotics.

Findings

The misuse and overuse of antibiotics are significant contributors to the rise of antibiotic resistance. Inappropriate prescribing practices, patient demand for antibiotics, and agricultural use of antibiotics in animal husbandry are all factors driving the development of resistant bacteria. Healthcare providers play a critical role in promoting judicious antibiotic use by adhering to evidence-based guidelines, educating patients about the proper use of antibiotics, and advocating for antibiotic stewardship programs in healthcare settings.

Discussion

Antibiotic stewardship programs have been established to promote the responsible use of antibiotics and mitigate the further development of antibiotic resistance. These programs aim to optimize antibiotic prescribing practices, improve patient outcomes, and reduce healthcare costs associated with antibiotic-resistant infections. Key components of successful stewardship programs include antibiotic surveillance, prescriber education, and the establishment of antibiotic use policies within healthcare institutions.

In addition to healthcare providers, patients also have a role to play in promoting judicious antibiotic use. By being informed consumers of healthcare services, patients can engage in discussions with their providers about the necessity of antibiotics, adhere to treatment regimens as prescribed, and practice good hygiene to prevent infections. Public awareness campaigns and educational initiatives can also help raise awareness about the importance of antibiotic stewardship and the implications of antibiotic resistance.

Conclusion

The judicious use of antibiotics is essential to preserving the efficacy of these life-saving drugs and combating the growing threat of antibiotic resistance. Healthcare providers, patients, policymakers, and other stakeholders must work together to promote responsible antibiotic use, educate the public about the dangers of antibiotic resistance, and advocate for the implementation of antibiotic stewardship programs. By adopting a multifaceted approach to antibiotic stewardship, we can help ensure that antibiotics remain effective for future generations.

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