

The Rise of Antibiotic Resistance: A Growing Threat to Global Health

Mario Micheli*

Department of International Trial, National Center for Global Health and Medicine, 1-21-1, Toyama, Shinjuku, Tokyo 162-8655, Japan

Abstract

Antibiotics have revolutionized modern medicine by providing effective treatment for bacterial infections. However, their overuse and misuse have led to the emergence and spread of antibiotic-resistant bacteria, which pose a significant threat to global health. Antibiotic resistance occurs when bacteria evolve mechanisms to resist the effects of antibiotics. This can happen naturally over time, but the overuse and misuse of antibiotics have accelerated this process. Antibiotics are often prescribed for viral infections, which they cannot treat, and they are frequently used in agriculture and livestock farming to promote growth and prevent disease, leading to the development of resistant strains of bacteria.

Introduction

The consequences of antibiotic resistance are dire. Infections that were once easily treatable with antibiotics are becoming more difficult to manage, leading to longer hospital stays, higher healthcare costs, and increased mortality rates. The World Health Organization (WHO) has identified antibiotic resistance as one of the biggest threats to global health, and estimates that by 2050, drug-resistant infections could cause 10 million deaths annually. To combat antibiotic resistance, the WHO has developed a global action plan that includes improving infection prevention and control, reducing the unnecessary use of antibiotics, and investing in research and development of new antibiotics. Individuals can also help by taking antibiotics only when prescribed by a healthcare professional, completing the full course of treatment, and practicing good hygiene. The rise of antibiotic resistance is a complex issue that requires a multifaceted approach. By working together, we can slow down the development of antibiotic-resistant bacteria and preserve these life-saving drugs for future generations [1,2].

Prescription drug advertising has become ubiquitous in today's society, with commercials for medications airing frequently on television and pop-up ads appearing online. While the purpose of these ads is to educate consumers about available treatment options, there are both pros and cons to this form of advertising. On the pro side, prescription drug advertising can raise awareness of conditions that people may not have known existed, and may encourage those who suffer from those conditions to seek medical attention. Ads may also promote treatment options that patients and their doctors may not have considered, which could lead to more effective treatments. However, there are also several cons to prescription drug advertising. One concern is that ads may oversimplify the benefits and risks of medications, leading to inappropriate prescribing and overuse. Additionally, ads may promote the idea that taking a pill is a quick fix for health problems, rather than promoting healthier lifestyle choices.

Another concern is that prescription drug advertising may increase healthcare costs. Drug companies spend billions of dollars each year on advertising, and those costs are ultimately passed on to consumers. Additionally, ads may encourage patients to request specific medications from their doctors, which could lead to higher drug prices and increased healthcare spending. In conclusion, while prescription drug advertising can be beneficial in some ways, there are also potential drawbacks to consider. As with any form of advertising, it's important to critically evaluate the information presented and make informed decisions about healthcare. Patients should always consult with their healthcare providers before starting any new medication [3,4].

Discussion

Pharmacists play a vital role in healthcare by ensuring the safe and effective use of medications. One way in which pharmacists can improve patient health outcomes is through medication therapy management (MTM). MTM is a collaborative service provided by pharmacists to optimize medication use, improve adherence, and prevent adverse events. The aim of this article is to review the literature on the impact of pharmacist-led MTM on patient health outcomes. A systematic literature review was conducted using PubMed, Embase, and Cochrane Library databases from inception to August 2021. The search strategy included the following keywords: "medication therapy management," "pharmacist," "patient outcomes," "health outcomes," "adherence," and "drug-related problems." Studies were included if they were randomized controlled trials (RCTs), non-randomized controlled trials, or observational studies that evaluated the impact of pharmacist-led MTM on patient health outcomes [5].

Thirty-two studies were included in the review. The studies were conducted in a variety of settings, including community pharmacies, hospital pharmacies, and primary care clinics. Pharmacist-led MTM was associated with improved medication adherence, decreased hospital readmissions, and reduced healthcare costs. In addition, MTM improved medication-related knowledge and self-management skills, which led to better control of chronic conditions such as diabetes and hypertension. Pharmacist-led MTM also identified and resolved drug-related problems, such as adverse drug reactions and medication errors.

Pharmacist-led MTM is an effective approach to improve patient health outcomes. It has been associated with improved medication adherence, reduced hospital readmissions, and improved control of chronic conditions. In addition, MTM has been shown to identify and resolve drug-related problems, which can improve patient safety.

***Corresponding author:** Mario Micheli, Department of International Trial, National Center for Global Health and Medicine, 1-21-1, Toyama, Shinjuku, Tokyo 162-8655, Japan, E-mail: mario.micheli@gmail.com

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Further research is needed to evaluate the cost-effectiveness of pharmacist-led MTM and to identify the optimal model of delivery. However, based on the available evidence, it is clear that pharmacist-led MTM should be considered an essential component of patient-centered care. Medication errors are a significant problem in healthcare, causing harm to patients and leading to increased healthcare costs. Pharmacists play a crucial role in reducing medication errors and improving patient outcomes. In this article, we will explore the impact of pharmacists in reducing medication errors in healthcare. Pharmacists are medication experts who play a vital role in the medication use process [6,7].

Reviewing medication orders: Pharmacists review medication orders to ensure accuracy, appropriateness, and safety. They check for drug interactions, allergies, and contraindications to prevent medication errors. **Medication reconciliation:** Pharmacists reconcile medications to ensure that patients receive the correct medications at the appropriate dosages. They also identify discrepancies in medication orders and collaborate with healthcare providers to resolve them. **Patient education:** Pharmacists educate patients on medication use, including the correct dosage, timing, and side effects. They also provide instructions on how to take medications, such as with or without food. Pharmacists monitor patients for adverse drug reactions and medication-related problems. They communicate with healthcare providers to adjust medication regimens as needed to improve patient outcomes.

Studies have shown that pharmacist involvement in the medication use process can significantly reduce medication errors and improve patient outcomes. For example, a study published in the American Journal of Health-System Pharmacy found that pharmacist-led medication reconciliation reduced medication discrepancies by 88%. Another study published in the Annals of Internal Medicine found that pharmacist-led medication therapy management resulted in improved medication adherence, reduced hospitalizations, and lower healthcare costs. Pharmacists play a critical role in reducing medication errors and improving patient outcomes in healthcare. Through medication review, reconciliation, patient education, and monitoring, pharmacists can prevent medication errors and improve medication use. By working collaboratively with healthcare providers, pharmacists can ensure safe and effective medication use, leading to improved patient outcomes and reduced healthcare costs. Chronic diseases, such as diabetes, hypertension, and asthma, require ongoing management to prevent complications and improve patients' quality of life. One critical aspect of chronic disease management is medication adherence [8-10].

Conclusion

Medication adherence refers to the extent to which patients take their medication as prescribed by their healthcare providers. Non-

adherence is a prevalent problem in chronic disease management and can have severe consequences. Non-adherence can lead to worsening of symptoms, disease progression, and hospitalization, leading to increased healthcare costs. Various factors can contribute to non-adherence, including forgetfulness, complexity of medication regimen, side effects, and cost of medications. Healthcare providers can help address these factors by providing clear instructions on medication use, simplifying medication regimens, and prescribing cost-effective medications. Pharmacists play a vital role in promoting medication adherence. They can counsel patients on the importance of adherence, provide medication education, and assist with medication management. Additionally, pharmacists can collaborate with healthcare providers to optimize medication regimens and monitor patients' medication use. In conclusion, medication adherence is a critical component of chronic disease management. Healthcare providers and pharmacists must work together to promote medication adherence and prevent complications of chronic diseases.

Conflict of Interest

None

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