

Contemporary Approaches to Mitigating Antibacterial Drug Resistance

Part of the Advances in Medical Technologies and Clinical Practice Book Series

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Description:

In infectious disease management, antibacterial agents have long been viewed as pivotal tools in the relentless battle against microorganisms. However, the escalating threat of antibacterial drug resistance has emerged as a formidable challenge to global health. **Contemporary Approaches to Mitigating Antibacterial Drug Resistance** delves into the heart of this critical issue, exploring the mechanisms, consequences, and innovative strategies to counteract the surge of resistance, a phenomenon becoming increasingly pervasive and threatening worldwide.

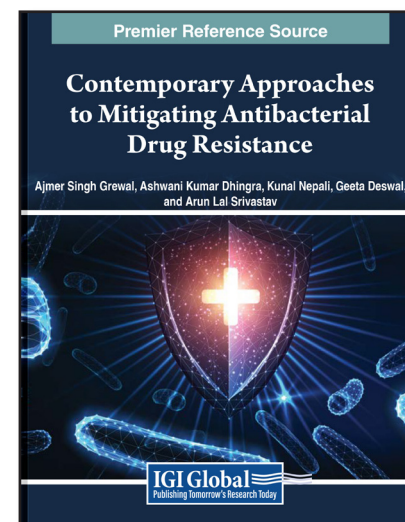
Antibacterial drug resistance, a pressing public health concern, transcends geographical boundaries. In regions where antibiotic accessibility and overuse prevail, resistance rates soar, giving rise to the ominous "superbugs." This book unravels the intricacies of drug resistance, examining its impact on infectious disease management, healthcare economics, and societal well-being.

The exploration begins with a foundational understanding of antibacterial drug resistance, navigating through the intricate mechanisms that drive its rapid proliferation. Environmental and genetic factors, often overlooked, are dissected for their roles in fostering resistance. The book explores the interplay of antibacterial drugs with microbial diversity, shedding light on the indirect repercussions on human and environmental ecosystems.

The primary audience, encompassing undergraduate and postgraduate students, medical practitioners, academicians, and researchers, will find in-depth insights into emerging therapeutic targets and recent advances in drug development. The secondary audience, including authorities in antibacterial drug resistance and institutional libraries, will discover a valuable resource addressing the multifaceted dimensions of this global menace.

The book surveys various strategies, from beta-lactamase inhibitors to nanotechnology-based approaches. It spotlights the potential of natural products, algal derivatives, and lantibiotics, offering a glimpse into the diverse arsenal humanity can harness against antibacterial resistance. Computational biology, bibliometric analyses, and even the intersection with the COVID-19 virus are explored, providing a holistic perspective.

The urgency of a coordinated global response, as the World Health Organization advocates, reverberates through these pages. As the world grapples with the increasing threat of antibacterial drug resistance, this book is an indispensable guide, offering a roadmap towards a future where these "wonder drugs" remain effective guardians in our fight against infectious diseases.



ISBN: 9798369315408

Pages: 363

Copyright: 2024

Release Date: April, 2024

Hardcover: \$360.00

E-Book: \$360.00

**Hardcover +
E-Book:** \$435.00

Topics Covered:

- Antibacterial Drug Resistance
- Beta-lactamase Inhibitors
- Computational Biology
- COVID-19 Interplay
- Drug Development
- Environmental Impact
- Epidemiology
- Global Health
- Infectious Diseases
- Microbial Biodiversity
- Multi-Drug Resistance
- Nanotechnology
- Natural Products
- Superbugs
- Therapeutic Targets

Subject: Medicine & Healthcare

Classification: Edited Reference

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(Research Recommended)

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