Antibiotic Resistance Surveillance: Tracking the Global Threat

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INTRODUCTION

Different age groups may exhibit variations in antibiotic resistance rates due to differences in immune system strength, exposure to pathogens, and overall health status. In this meta-analysis of previously published literature, we aim to combine findings from various studies to examine antibiotic resistance trends. We hypothesize that less developed countries face higher resistance rates due to poor antibiotic quality, challenges to administration of the antibiotic, and limited medication availability.

BACKGROUND

Antibiotics are designed to eliminate infectious bacteria, but face challenge posed by antibiotic resistance. Resistance occurs when bacteria develop mechanisms to resist effects of medicine. A key factor contributing to this growing problem is the overuse or unnecessary prescription of antibiotics, which heightens the susceptibility to resistance. Furthermore, unrestricted use of antibiotics encourages the proliferation of bacteria that are resistant to treatments, repeatedly causing this resistance cycle to pose a significant threat to public health.

OBJECTIVES

Objective 1: Conduct a comprehensive systematic review of existing literature to gather data on antibiotic resistance profiles across various age groups in the United States, Africa, India, and the United Kingdom.

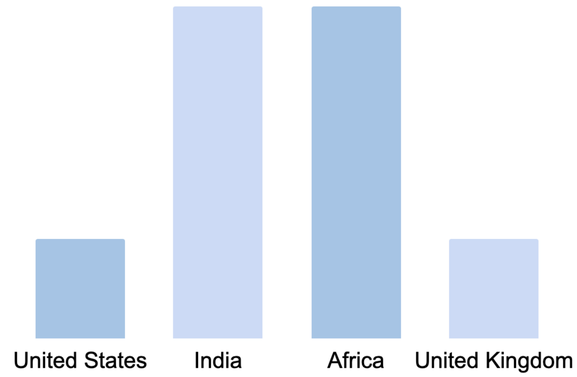
Objective 2: Analyze the collected data to identify significant variations and trends in antibiotic resistance susceptibility across different age groups within each selected country.

METHODOLOGY

Qualitative: Employ literature analysis to identify recurring themes and patterns in collected data regarding factors influencing antibiotic resistance

Quantitative: Analyze databases to quantify antibiotic prescriptions, treatment outcomes, and resistance rates

Figure 1: Proportional Display of Antibiotic Resistance Rates Throughout Selected Countries



RESEARCH QUESTIONS

Question 1: What are prevalent antibiotic resistance profiles within the United States, Africa, India, and the United Kingdom, as identified through a systematic review of existing literature and databases?

Question 2: How do the identified antibiotic resistance patterns vary across different age cohorts within each country, and what significant trends or disparities emerge from the analysis of collected data?

Question 3: What factors contribute to the observed variations in antibiotic resistance susceptibility among distinct age groups within the studied countries, and how do these factors interact with demographic, socio-economic, and healthcare-related variables?

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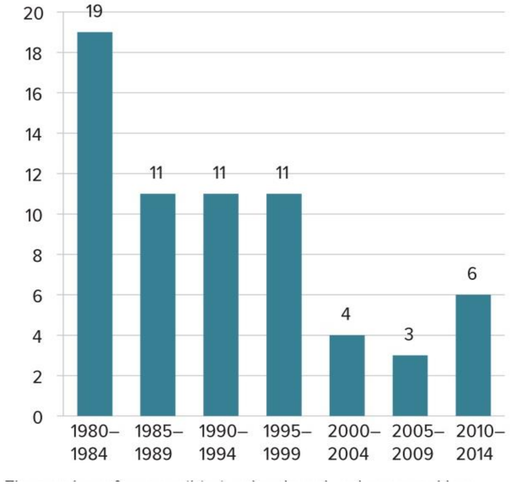
RESULTS

India and Africa exhibit some of the most alarming rates of antibiotic resistance worldwide, followed by the United States and United Kingdom. This underscores a pressing global health concern. Notably, less developed countries encounter increased susceptibility due to limited medication availability, further complicating the task of antibiotic administration. Additionally, the low quality of medications adds to the difficulties faced by these regions in fighting against the increase of antibiotic resistance.

CONCLUSIONS

In summary, this project has successfully achieved its objectives of conducting a comprehensive systematic review of existing literature to gather data on antibiotic profiles across various age groups in the United States, Africa, India, and United Kingdom. Through the analysis, the collected data has been examined to identify significant variations and trends in antibiotic resistance susceptibility across different age groups within each selected country. By fulfilling these objectives, this study contributes valuable insights into the complex challenges with antibiotic resistance.

Figure 2: Number of Antibacterial New Drug Application Approvals Versus Year Intervals in US (5)



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