

Understanding Antibiotic Use and Antimicrobial Resistance: A Study of Knowledge, Attitude and Practice Among Bingham University Students

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ABSTRACT

Background: Antibiotics play a crucial role in treating bacterial infections; however, the misuse and overuse of these drugs have accelerated the rise of antimicrobial resistance (AMR), posing a global public health threat. However, the problem was not the antibiotics themselves as they remained one of the most effective weapons against diseases; in fact, the problem lied in the drugs' use, Overusing antibiotics or using them irrationally can easily result not only in the emergence of resistant bacterial strains but also in adverse reactions and can also result in an economical burden on the national health system. Antimicrobial Resistance can result from many factors, such as poor public knowledge and attitude towards antibiotics, easy access to antibiotics in many places and lack of awareness policies on appropriate antibiotic usage. University students, as emerging leaders and potential health influencers, represent a critical population in shaping future antibiotic stewardship. Yet, their knowledge, attitudes, and practices (KAP) regarding antibiotic use and Antimicrobial Resistance remain under-explored in many Nigerian institutions, including Bingham University.

Aim: This study aimed to assess the knowledge, attitude, and practice of Bingham University students toward antibiotic use and antimicrobial resistance, and to identify key gaps that may contribute to the spread of AMR within this population.

Methodology: A descriptive cross-sectional survey was conducted among 416 students selected using a multistage sampling from various faculties within Bingham University. Data were collected using a structured self-administered questionnaire divided into four sections: demographics, knowledge, attitude, and practice. The responses were analyzed using descriptive statistics and presented in frequency tables, percentages, and pie charts.

Results: The study found 55% of students had good antibiotic knowledge while 45% showed poor understanding; 62% displayed positive attitudes versus 38% with negative attitudes; and 54% practiced safe antibiotic use compared to 46% engaging in risky behaviors. Health students significantly outperformed non-health peers in knowledge (82% vs 28%), attitudes (78% vs 47%), and practices (69% vs 39%) (all $p < 0.001$). Students aged 21-25 scored significantly higher across all measures (knowledge:66%, attitudes:70%, practices:58%) than younger peers (all $p < 0.05$), while gender and academic level showed no significant associations.

Conclusion: The study concludes that although students possess a basic awareness of antibiotic use and AMR, misconceptions and unsafe practices are prevalent. It recommends curriculum integration of AMR education, student-led health campaigns, and stricter university-level regulation of antibiotic access to improve antibiotic stewardship and reduce resistance.

