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ASSESSMENT OF ANTIBIOTIC USE AND AWARENESS OF ANTIMICROBIAL RESISTANCE AMONG UNIVERSITY STUDENTS IN YOLA

***Musa Usman Babagari**
Department of Microbiology, Modibbo Adama University, Yola
musababagari@gmail.com
Corresponding Author: ***Musa Usman Babagari***

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ABSTRACT

Antimicrobial resistance (AMR) is becoming a serious health problem around the world, mainly due to inappropriate or misuse of antibiotics. This study assesses the level of use and awareness of antibiotics among undergraduate students at Modibbo Adama University, Yola. A total of 100 students participated in the study by completing an online questionnaire using Google Forms. Findings show that while many students (over 70%) have heard of the term "antibiotic resistance," a large number (x%) still have limited understanding of its meaning and causes. Many respondents mistakenly believe that antibiotics are effective against viral infections such as the flu. Additionally, self-medication with antibiotics remains common, with several students admitting to using antibiotics without a prescription or not completing their prescribed doses. Using antibiotics incorrectly and lacking proper knowledge can make bacteria stronger and more difficult to treat. The study therefore concludes that there is an urgent need for awareness campaigns and proper health education on antibiotic use within the university community.

KEYWORDS: *ASSESSMENT – ANTIBIOTIC – AWARENESS – ANTIMICROBIAL - RESISTANCE – YOLA*

INTRODUCTION

Antibiotics are among the greatest medical discoveries made in the 1900s. They are widely used to treat bacterial infections and have saved millions of lives (cite). However, the misuse of antibiotics have led to a serious global health issue known as antimicrobial resistance (AMR). AMR occurs when bacteria evolve and develop the ability to resist the effects of antibiotics, making infections harder to treat and increasing the risk of disease spread, severe illness, and death. According to the World Health Organization (WHO), AMR is among the top ten global public health threats facing humanity (WHO, 2020).

In Nigeria, as in many developing countries, antibiotics are often accessible without prescriptions, and self-medication is a common practice. These issues are exacerbated by limited public awareness, poor regulation, and limited access to reliable healthcare services. The Nigeria Centre for Disease Control (NCDC) identifies irrational use of antibiotics as one of the key drivers of AMR in the country (NCDC, 2022).

University students represent a crucial demographic in addressing this challenge. As part of the vague youth, their knowledge, attitudes, and practices regarding antibiotic use why university students, why youth Despite being exposed to education and technology, many students still lack a clear understanding of when and how to use antibiotics properly.

This research is about undergraduate students at Modibbo Adama University, Yola. It aims to assess their knowledge, usage patterns, and level of awareness regarding antibiotics and AMR. The findings will help identify gaps and guide health education efforts toward promoting responsible antibiotic use within the university community.

METHODOLOGY

This study employed a descriptive cross-sectional survey design to assess the knowledge, usage patterns, and awareness of antimicrobial resistance (AMR) among undergraduate students at Modibbo Adama

University, Yola. The cross-sectional approach was selected as it allows the collection of data from a population at a single point in time, making it suitable for identifying trends and attitudes related to antibiotic use and (AMR).

A structured questionnaire was developed using Google Forms and distributed electronically to undergraduate students across various faculties and departments. The questionnaire consisted of multiple-choice questions divided into four main sections: demographic information, knowledge of antibiotics, patterns of antibiotic usage, and awareness of AMR. The questions were designed in simple English to ensure clarity and ease of understanding for all respondents.

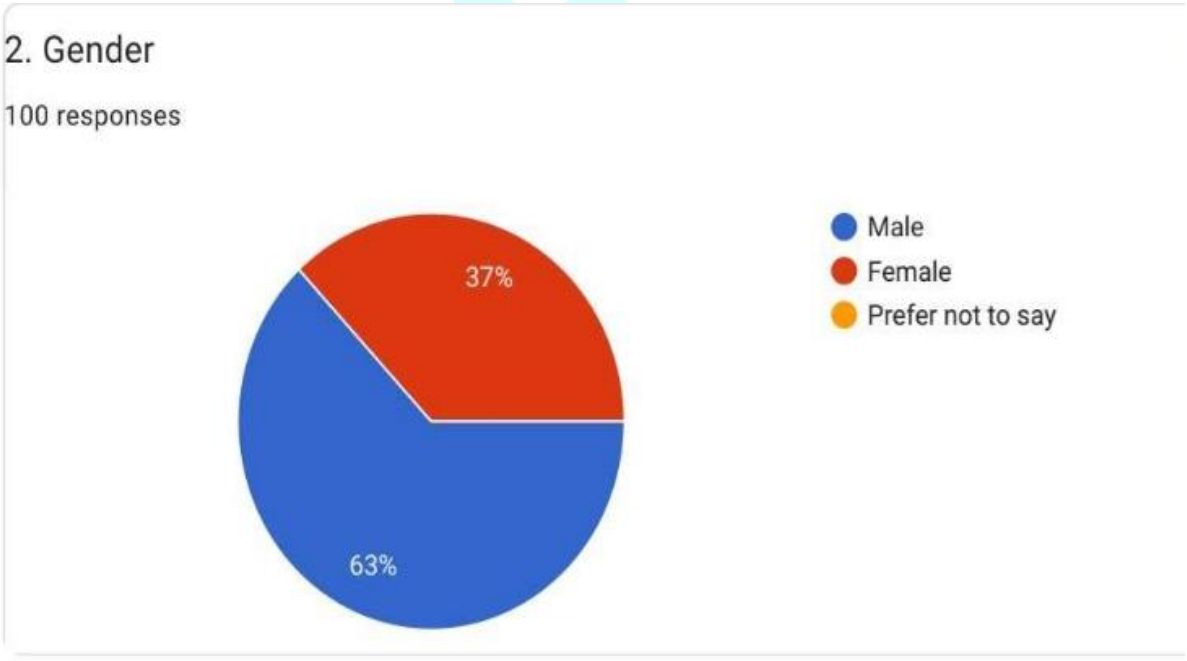
A total of 100 valid responses were collected during the survey period. The sample included students from different levels of study, ensuring a diverse representation of the university population. Participation in the survey was entirely voluntary, and informed consent was obtained from all respondents before filling out the form. This methodology was chosen to provide a quick and effective means, no personal identifiers such as names, registration numbers, or email addresses were collected.

The data obtained from the questionnaire was organized and analyzed using Google Sheets. Descriptive statistical tools such as frequencies, percentages, were used for the analysis. Data we're presented in charts.

RESULTS

The survey collected responses from 100 undergraduate students at Modibbo Adama University, Yola. The findings are presented below using charts and brief interpretations.

1. Demographics



Gender distribution: 63% Female, 37% Male (Figure 1)

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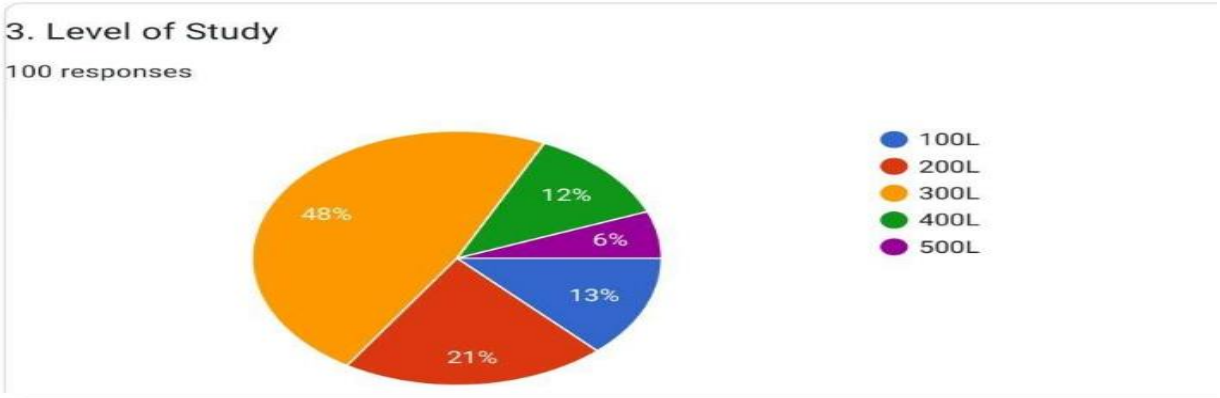
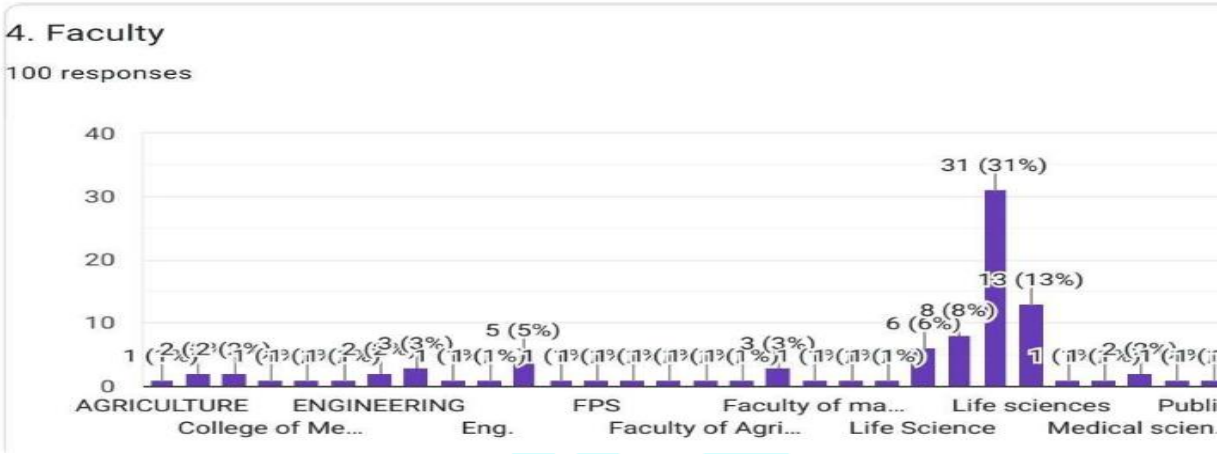
This shows a higher participation rate among female students, suggesting either greater engagement or awareness of the topic.

Faculty and Level: Students were from different levels and faculties, providing a well-balanced representation of the university population.

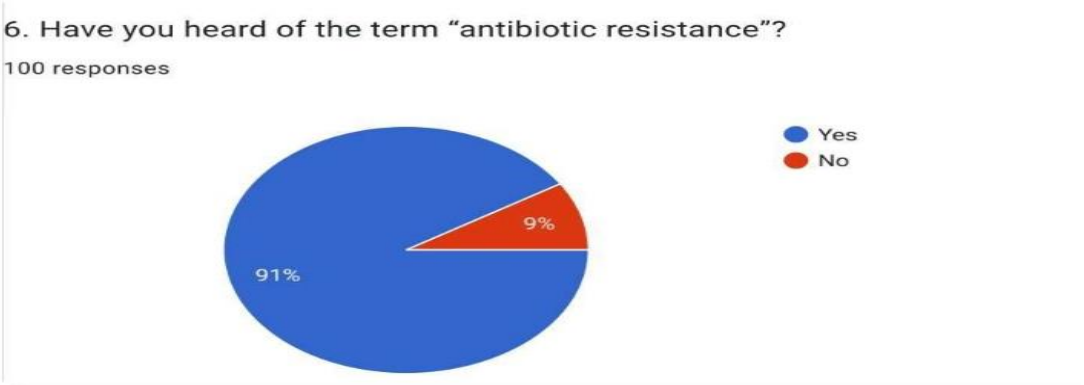


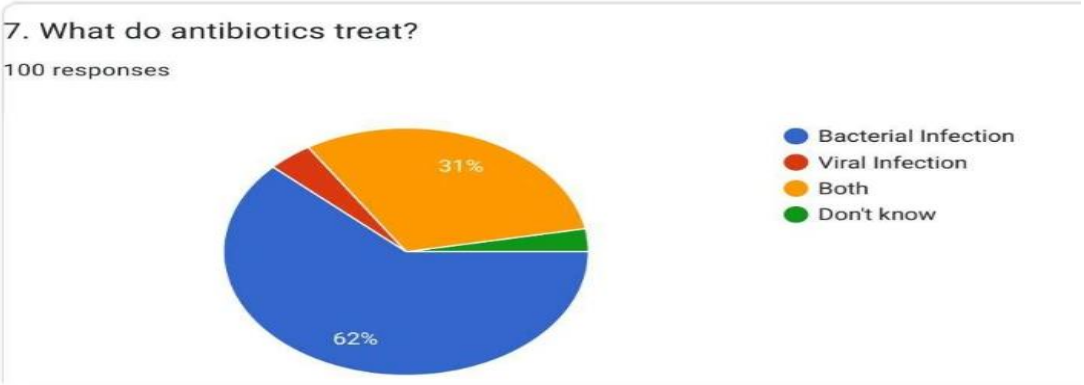


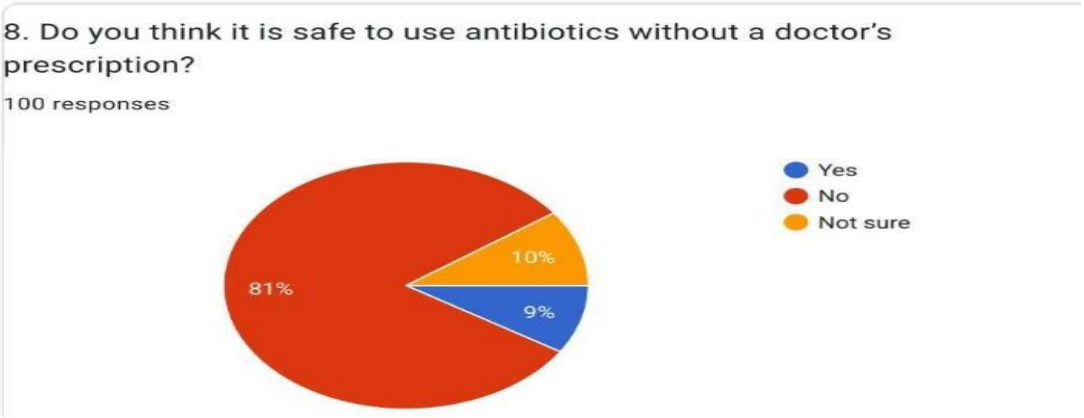
2. Knowledge and Awareness of Antibiotics

91% have heard of “antibiotic resistance”

62% mistakenly believe antibiotics treat viral infections81% know it’s not safe to use antibiotics without a prescription







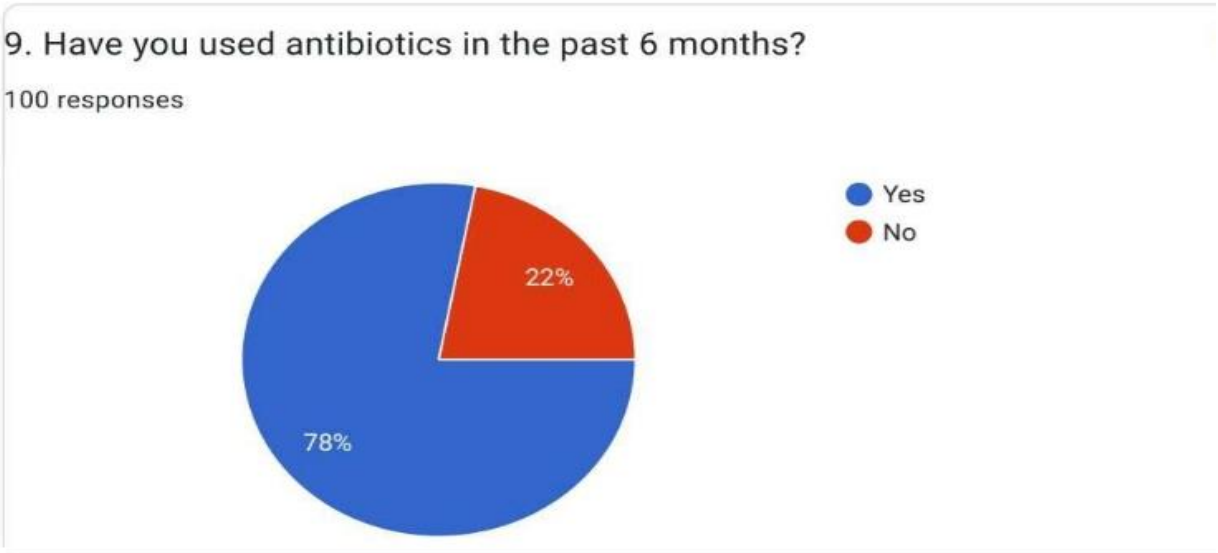
While general awareness of AMR is high, misconceptions about the use of antibiotics for viral infections remain significant.

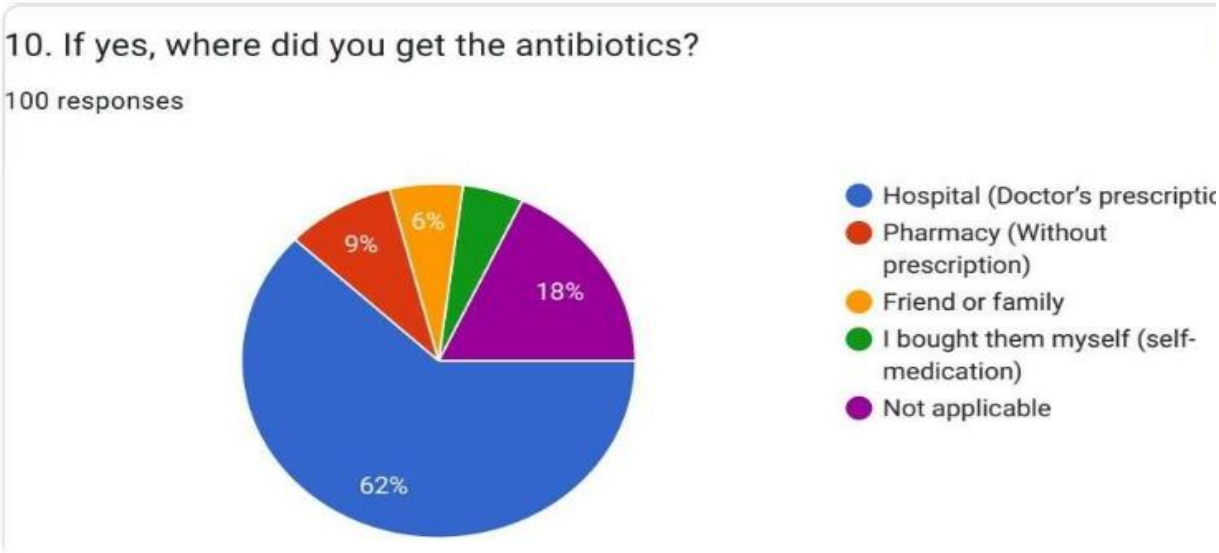
3. Usage Behavior

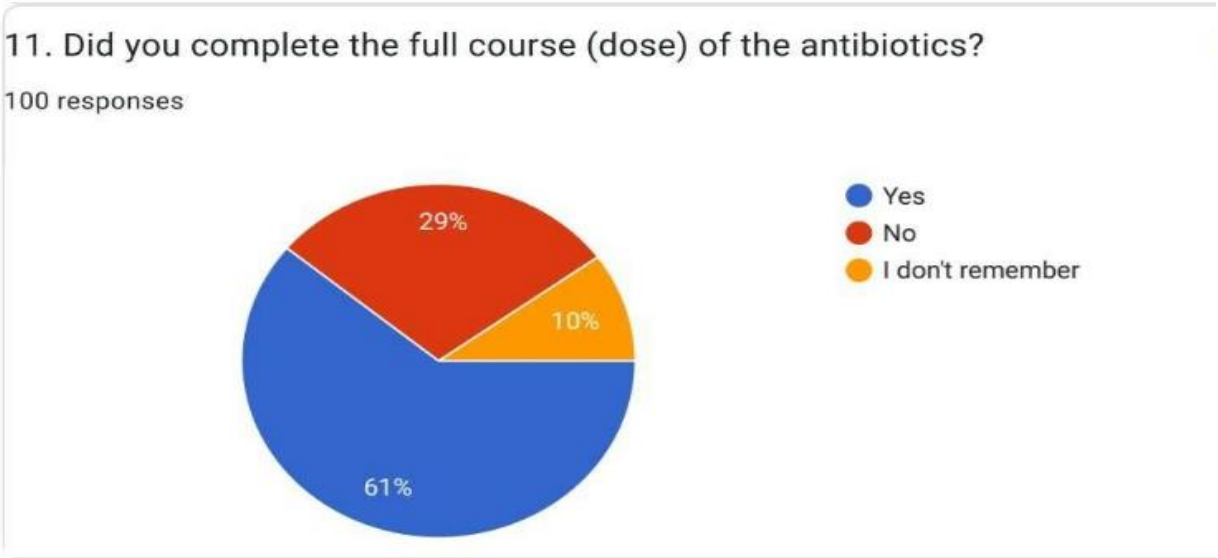
22% used antibiotics in the last 6 months

62% obtained antibiotics through self-medication

Only 10% of students reported completing their full prescribed antibiotic course.







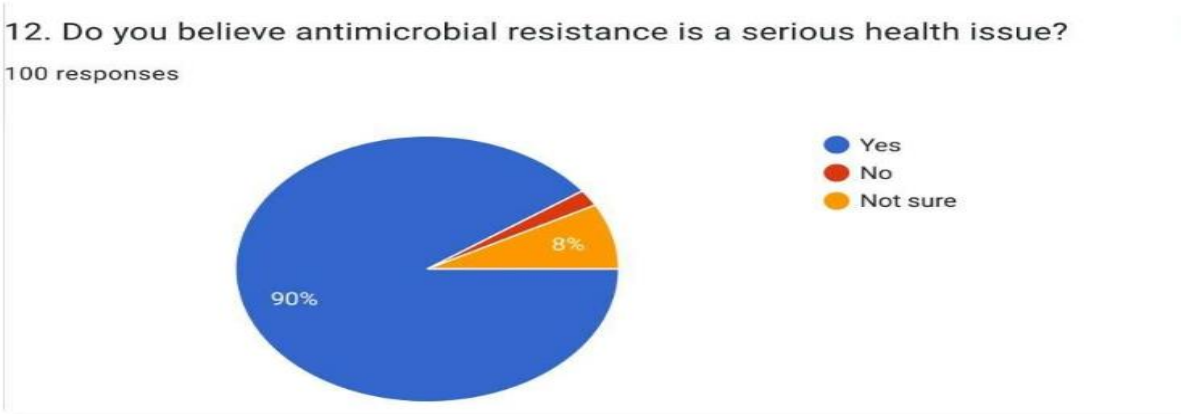
These results indicate risky behavior, especially the high rate of self-medication and non-compliance with prescribed doses, which are major drivers of AMR.

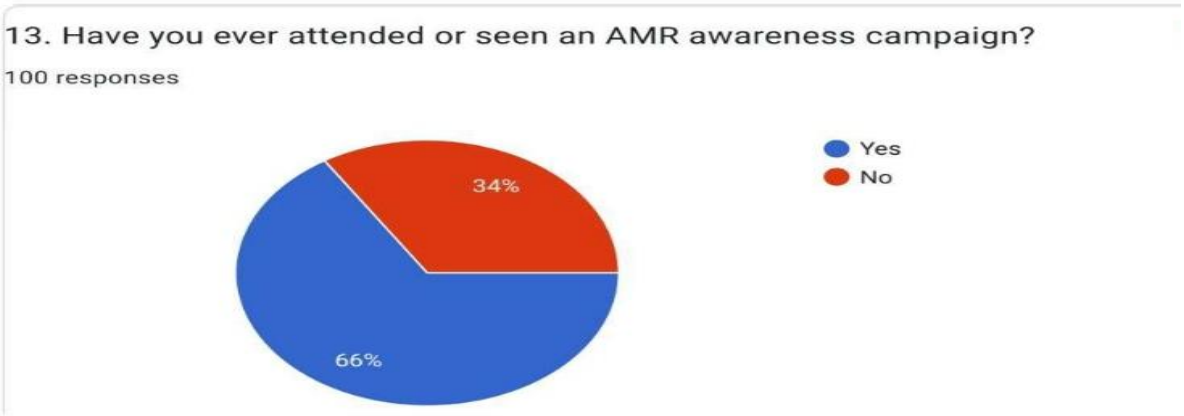
4. AMR Awareness and Engagement

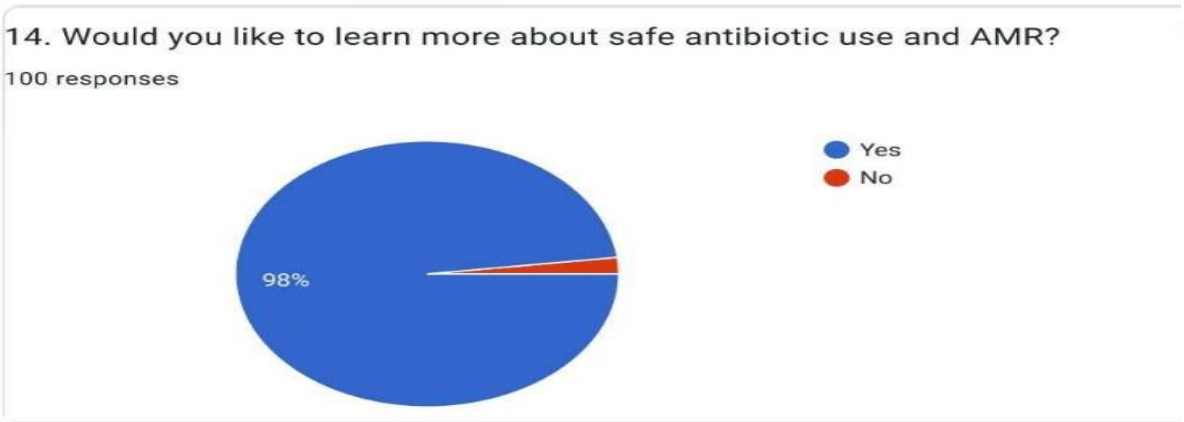
90% agree AMR is a serious health threat

66% have never attended an AMR awareness campaign

98% are interested in learning more about AMR







There is a strong willingness to learn, which presents an opportunity for targeted educational programs on AMR within the university.

Summary Interpretation:

The survey shows that while students are aware of the term “antibiotic resistance,” there is a knowledge gap regarding proper antibiotic use. Self-medication and incomplete dosage are common. The high interest in learning more about AMR can guide future health promotion strategies on campus.

DISCUSSION

The findings from this study reveal a concerning disconnect between awareness of antimicrobial resistance (AMR) and appropriate antibiotic use among undergraduate students at Modibbo Adama University, Yola. Although many students are familiar with the term "antibiotic resistance," a significant portion demonstrate misconceptions about the appropriate use of antibiotics, particularly their effectiveness against viral

infections. This highlights a critical knowledge gap regarding the function and proper application of these medications.

This misunderstanding reflects a broader challenge in public health education, where awareness of AMR does not necessarily translate into accurate understanding of its causes and consequences. Such misconceptions are dangerous, as they may lead individuals to misuse antibiotics for illnesses like the common cold or flu—conditions caused by viruses. This misuse not only fails to treat the actual illness but also contributes to the growing problem of antibiotic-resistant bacteria.

The prevalence of self-medication and incomplete antibiotic use further underscores the issue. The tendency to obtain antibiotics without prescriptions—likely influenced by easy over-the-counter access and weak enforcement of pharmaceutical regulations—suggests systemic challenges in healthcare accessibility and policy implementation. Moreover, failure to complete prescribed antibiotic courses leaves bacteria partially treated, providing an opportunity for them to survive, adapt, and develop resistance.

Despite these negative practices, the study also reveals a promising opportunity for change. Most participants expressed a willingness to learn more about AMR and acknowledged it as a serious health concern. However, the fact that a large proportion of students had never attended any AMR awareness campaign suggests a lack of adequate outreach or poorly targeted programs.

These findings are consistent with similar studies in other Nigerian universities and developing countries, where student populations often exhibit moderate awareness but poor antibiotic practices. According to World Health Organization (WHO) guidelines, effective AMR containment requires more than awareness—it demands behavior change, policy enforcement, and active community engagement. University campuses, as centers for training future professionals, are ideal platforms for initiating these changes.

Ultimately, while AMR awareness among students at Modibbo Adama University is relatively high, the persistent misconceptions and risky practices indicate a significant gap between knowledge and behavior. There is a pressing need for structured AMR education and sensitization campaigns on campus. These should aim to improve understanding of when antibiotics are appropriate, discourage self-medication, and promote adherence to full treatment regimens. By equipping students with accurate information and promoting responsible health behaviors, the university can play a key role in combating the spread of antimicrobial resistance in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This study concludes that although awareness of AMR among undergraduate students at Modibbo Adama University, Yola, is relatively high, significant gaps remain in accurate knowledge and safe antibiotic practices. Many students still hold the misconception that antibiotics can treat viral infections, and a large number engage in self-medication and fail to complete prescribed antibiotic courses. These behaviors contribute directly to the growing global health threat posed by AMR. The results highlight an urgent need for improved education and engagement on this issue. University students are future leaders, health professionals, and educators. As such, empowering them with accurate knowledge. Therefore, strengthening their understanding of AMR is vital not only for their personal health choices but also for their potential to influence others in the community.

It is therefore recommended that:

1. Organize Regular Educational Campaigns: The university, in collaboration with health bodies, should conduct seminars, workshops, and health talks to increase students' knowledge of AMR and responsible antibiotic use.

2. Integrate AMR Topics into Curricula: Health-related departments should include AMR education in their programs to build a deeper understanding among students.

3. Promote Responsible Drug Access: Awareness should be raised about the risks of over-the-counter antibiotics and the importance of prescriptions.

4. Encourage Peer-Led Initiatives: Students should be empowered to lead awareness efforts through clubs, health advocacy groups, and online platforms.

5. Monitor and Evaluate Impact: Feedback and surveys should be conducted regularly to assess changes in students' knowledge and behavior.

By implementing these recommendations, Modibbo Adama University can take a proactive role in addressing AMR, promoting responsible antibiotic use, and contributing to global efforts in safeguarding public health.

TRANSPARANCY DECLARATION: None to declare.

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AUTHOR BIOGRAPHY

Musa Usman Babagari is a 300-level student of Microbiology at Modibbo Adama University, Yola. He serves as the Team Lead and President of the AMR Club MAU Yola and is the Founder of the Better Youth Association. He is passionate about youth development, drug abuse prevention, antimicrobial resistance, and public health a