



A Cross Sectional Study Evaluating the Knowledge, Practices and Attitude of The General Population on Antibiotic Use

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KEYWORDS

Antibiotics, health, knowledge, population, practices, resistance.

ABSTRACT:

Assessing knowledge, attitude, and practice (KAP) towards antibiotic use in the general population is indeed crucial in the fight against antibiotic resistance. This step-by-step guide provides a comprehensive framework for conducting such evaluations. By clearly defining objectives and conducting a thorough literature review, researchers can pinpoint gaps in understanding and design effective studies. The present study has been designed, development of a well-structured questionnaire, and careful sampling ensure the study's validity and representativeness. Data collection, analysis, and interpretation allow for meaningful insights into public perceptions and behaviors regarding antibiotics. Ultimately, the study should yield actionable recommendations for interventions and awareness campaigns, contributing to responsible antibiotic use. Ethical considerations, expert involvement, and follow-up assessments further enhance the study's credibility and impact. Sharing findings with relevant stakeholders ensures that the research contributes to informed decision-making and public health efforts in combatting antibiotic resistance.

Introduction

Antibiotics have transformed healthcare and saved countless lives, but their misuse and overuse have led to antibiotic resistance, a global threat. To combat this, a "One Health" approach is essential, promoting responsible antibiotic use in humans, animals, and the environment [1-3]. Behavioral factors and public awareness play a critical role, and international studies are being conducted to gauge knowledge levels and tailor awareness campaigns. It is imperative that we preserve the effectiveness of antibiotics for future generations by adopting responsible practices and fostering a collective commitment to combat antibiotic resistance. These global efforts to assess public knowledge and awareness of antibiotic use are pivotal in the fight against antibiotic resistance. The WHO Global Action Plan on Antibiotics demonstrates a comprehensive approach to tackling this critical issue, and the inclusion of public knowledge assessment underscores its importance. The utilization of questionnaire surveys, both on a global scale and within specific regions like Europe, offers a systematic

and cost-effective means of gathering data [4-6]. By embedding antibiotic use modules in national surveys, we ensure ongoing monitoring and gain valuable insights into the behavioral patterns that contribute to antibiotic misuse and overuse. Understanding the links between knowledge, awareness, and practices among the general population is key to designing effective interventions and educational campaigns. Ultimately, these efforts underscore the indispensable role of the general population in curbing antibiotic resistance and provide a solid foundation for informed decision-making and targeted initiatives in the ongoing battle against this global health threat [7-11]. Senegal addressing antibiotic misuse is indeed commendable and holds great potential for both the local and global fight against antibiotic resistance. The misunderstanding that antibiotics should be stopped once a person feels better is a common misconception, and the study's focus on this issue is pivotal in combatting misuse. What sets the research apart is its uniqueness in being the first of its kind in Senegal, making it a crucial source of insights into the specific



challenges and perceptions surrounding antibiotic use in this region. Furthermore, its contribution to global research on public awareness of antibiotic use is significant, as it can inform strategies not only in Senegal but also in other areas grappling with similar problems. The data collected through the Knowledge, Attitudes, and Practices (KAP) framework will offer a comprehensive understanding of the issue, allowing health authorities to make informed decisions and develop targeted awareness campaigns. Given the lack of previous studies focusing on Senegal, research will fill a critical gap, shedding light on the extent of antibiotic misuse in the country [12-15]. Overall, the work promises to be a vital tool in the ongoing battle against antibiotic resistance, with the potential to improve public health not just in Senegal but globally. By conducting a cross-sectional study that examines these components and associated factors, researchers and public health professionals can gain a comprehensive understanding of the current situation and develop evidence-based strategies to promote responsible antibiotic use. This approach is essential in mitigating ABR, a growing threat to global health.

Material and methods

This study comprehensively assesses the knowledge, attitudes, and practices (KAP) of the general population regarding antibiotic use. To achieve this goal, we designed a web-based survey administered through Google Forms, which allowed for the efficient collection of responses from a diverse group of participants. Our target audience was the general population, and we took great care to adapt and modify the questionnaire to be culturally relevant and suitable for the local community. Participation in the survey was entirely voluntary, and participants provided informed consent before completing the questionnaire. To uphold the principles of ethics and privacy, we assured respondents that all collected information would be kept anonymous and confidential. This includes a study with a sample size of 100 individuals,

distributed the survey through email and social media platforms like WhatsApp, ensuring a broad reach. The survey instrument was structured into four parts: demographic information, knowledge about antibiotics, attitudes toward antibiotics, and practices related to antibiotic use. This structure allowed for a comprehensive exploration of the factors influencing antibiotic use in the community. Data collected through Google Forms was subsequently analyzed using Microsoft Excel, with the frequency analysis to derive descriptive statistics and create graphs and charts to visually represent our findings.

Result

The study assessed antibiotic use among a sample of 100 respondents during a specified study period, and the demographic and characteristic breakdown of the participants revealed important insights into the study population. Gender distribution showed a slight majority of females (56%) compared to males (44%). The age distribution highlighted that the majority of participants (69%) fell within the 18-29 age range, indicating that younger individuals were predominant in the sample. In terms of occupation, students constituted the largest group at 64%, followed by private employees (24%), with a smaller representation of government employees (1%) and healthcare professionals (3%). Educational background varied, with postgraduates comprising the largest proportion (45%), followed by high school graduates (27%) and graduates (24%). Most participants were urban residents (71%), while the rest lived in rural areas (29%). Lastly, the marital status data indicated that the majority were single (78%), whereas 22% were married. This comprehensive demographic overview provides a valuable foundation for analyzing antibiotic usage patterns among distinct subgroups within the sample, shedding light on potential variations and factors influencing antibiotic use in different demographic categories.

Table 1: Demographic characteristics of participants (n=100)

Demographic details	frequency(n)	Percentage (%)
1. Age		
18	11	11%
19-29	69	69%
30-39	17	17%
40-49	2	2%
50-59	1	1%
2. Gender		
Male	56	56%
Female	44	44%
3. Education level		
Graduate	27	27%
High School	24	24%



Postgraduate	45	45%
Secondary	4	4%
4. Area of residence		
Rural	29	29%
Urban	71	71%
5. Marital status		
Married	22	22%
Single	78	78%
6. Occupation		
Business Professional	4	4%
Govt employee	1	1%
Housewife/househusband	4	4%
Private employee	24	24%
Student	67	67%

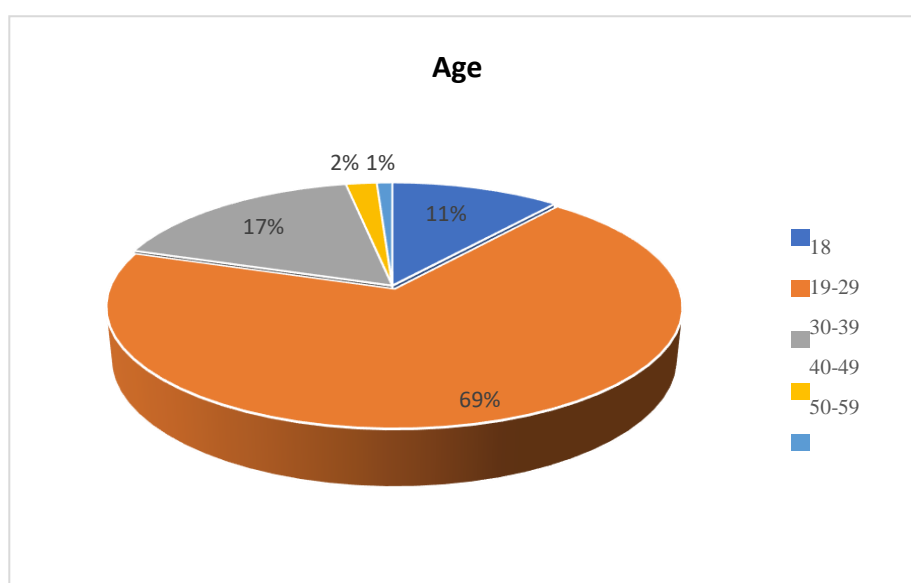


Figure1.1: Age group wise distribution of participants

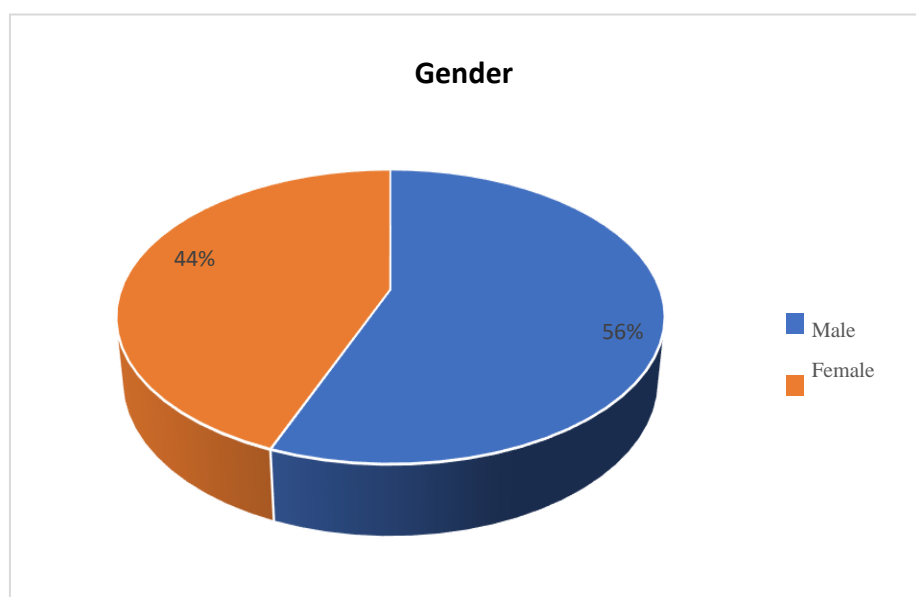


Figure1.2: Gender-wise distribution of participants



Education level

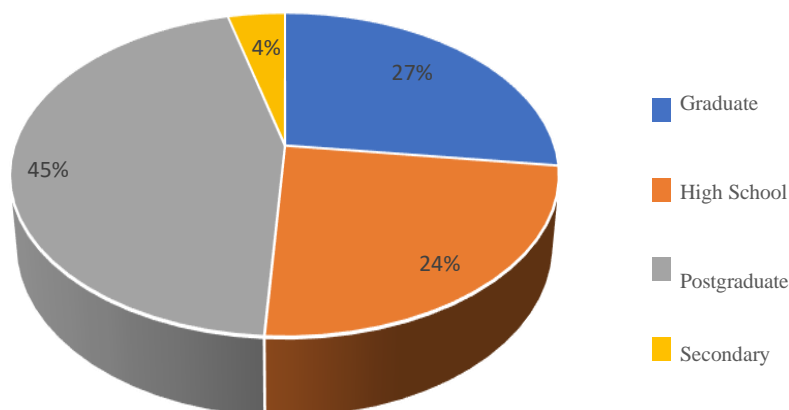


Figure1.3: Educational level wise distribution of participants

Area of Residence

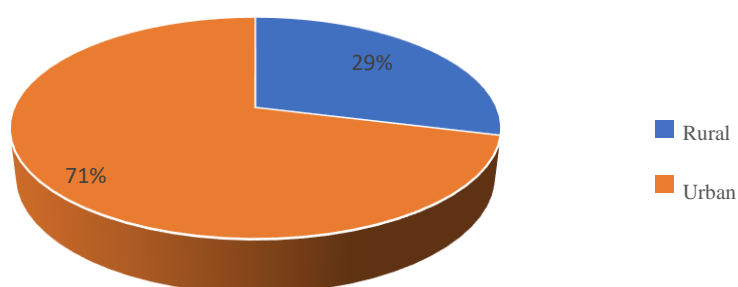


Figure1.4: Area wise distribution of participants

Occupation

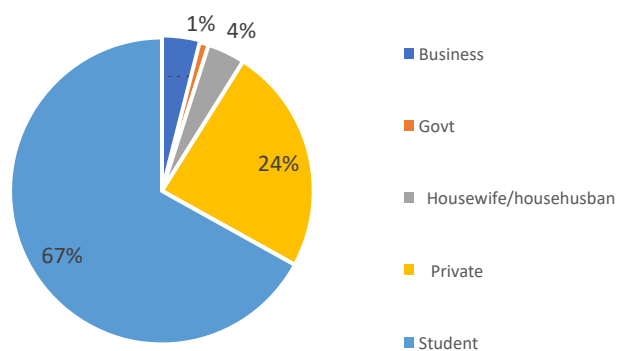


Figure 1.5: Occupation wise distribution of participants

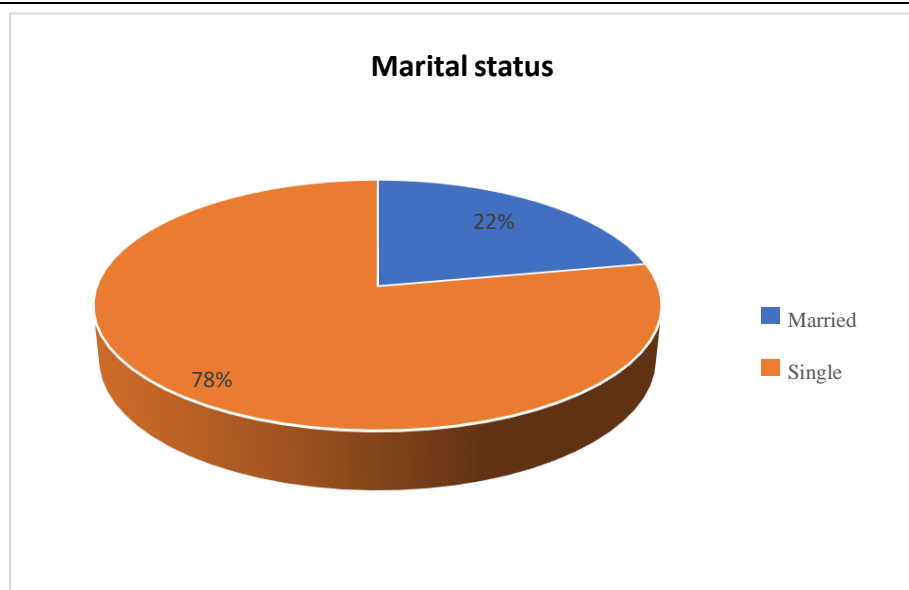


Figure1.6: Marital status wise distribution of participants

A. Descriptive statistics survey result of knowledge, Attitude and practices towards antibiotics use in general population

Statement	Frequency(n)	Percentage (%)
1. Which medications do you use more frequently?		
a) Analgesics/Anti inflammatory	30	30%
b) Antibiotics	41	41%
c) Antidepressants	3	3%
d) Anti-Allergic drugs	11	11%
e) I do not use any medication	15	15%
2. In your opinion, what are antibiotics used for?		
a) Viral infection	29	29%
b) Bacterial infection	55	55%
c) other reasons	16	16%
3. Do you always consult your physician before taking antibiotics?		
a) yes	91	91%
b) no	9	9%
4. How many times have you consumed antibiotics during last 6 months?		
a) Never	22	22%
b) Once	47	47%
c) 2-5 times	27	27%
d) More than 5 times	4	4%
5. How many times has another adult in your household received antibiotics during the last 6 months?		
a) Never	19	19%
b) Once	32	32%
c) 2- 5 times	20	20%
d) More than five times	13	13%
e) There are no adults in the household	16	16%
6. How many times has another child in your household received a antibiotic during the last 6 months?		
a) Never	24	24%



b) Once	6	6%
c) 2-5 times	11	11%
d) More than 5 times	3	3%
e) There are no other child in the household	38	38%
7. Why did you end up using antibiotics last 6 months?		
a) My family physician prescribed them	35	35%
b) A specialist physician prescribed them	20	20%
c) I used an old prescription I had at home	15	15%
d) It was recommended my family or friends	10	10%
e) Others	20	20%

Table 2: Knowledge towards antibiotics use among in general population. (N = 100)

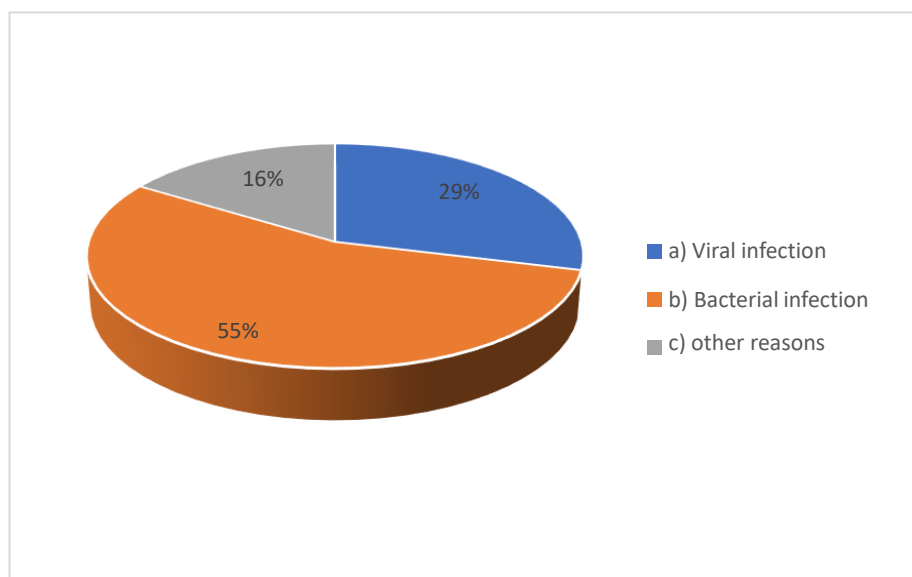


Figure-1.1 Pie-chart showing what are the antibiotics used for

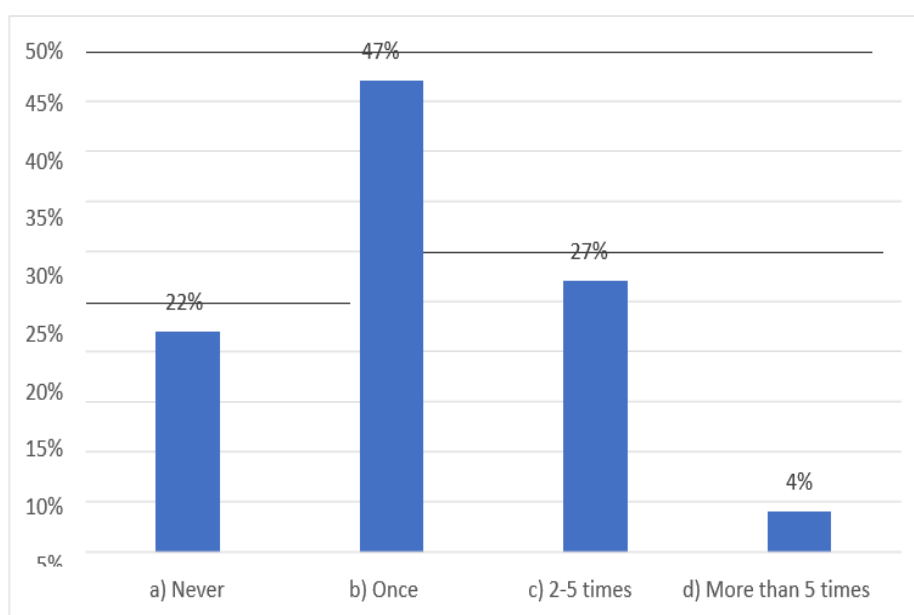


Figure-1.2. Graph showing how many times have you consumed antibiotics during last 6 months

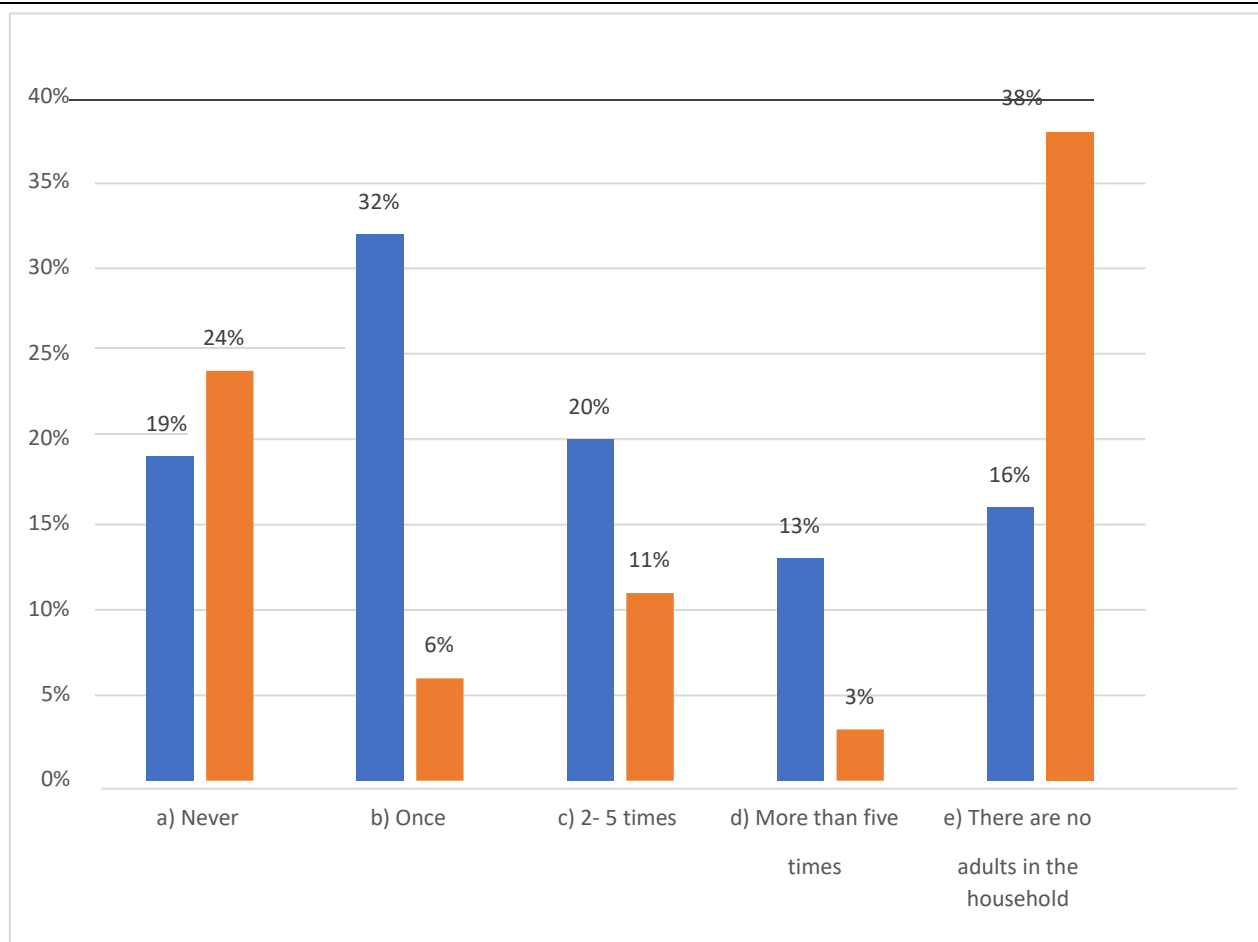


Figure-1.3. How many times has another adult/ child in your household received antibiotics during the last 6 months

Table 3: Practices towards antibiotics use among in general population. (N = 100)

Practices questions	Percentage of subject who gave yes response	Percentage of subject who gave no response
1. Do you take any antibiotics?	28%	72%
2. Is anyone in your household taking antibiotics at the moment?	55%	45%
3. Do you check the dose before taking the antibiotic?	94%	6%
4. Did you use antibiotics left over from your last prescription?	41%	59%
5. Have a pharmacist given you have antibiotics without a prescription?	65%	35%
6. Did you take antibiotic that were prescribed for a different person in your family?	70%	30%
7. Do you take antibiotics at the times/ frequency as recommended by the doctor?	90%	10%
8 do you complete the course of antibiotics as prescribed?	90%	10%
9. Doctors often explain clearly to you the instructions for the use of antibiotics?	89%	11%
10. you buy antibiotics, the pharmacists take their time to inform you how antibiotic should be used?	82%	18%

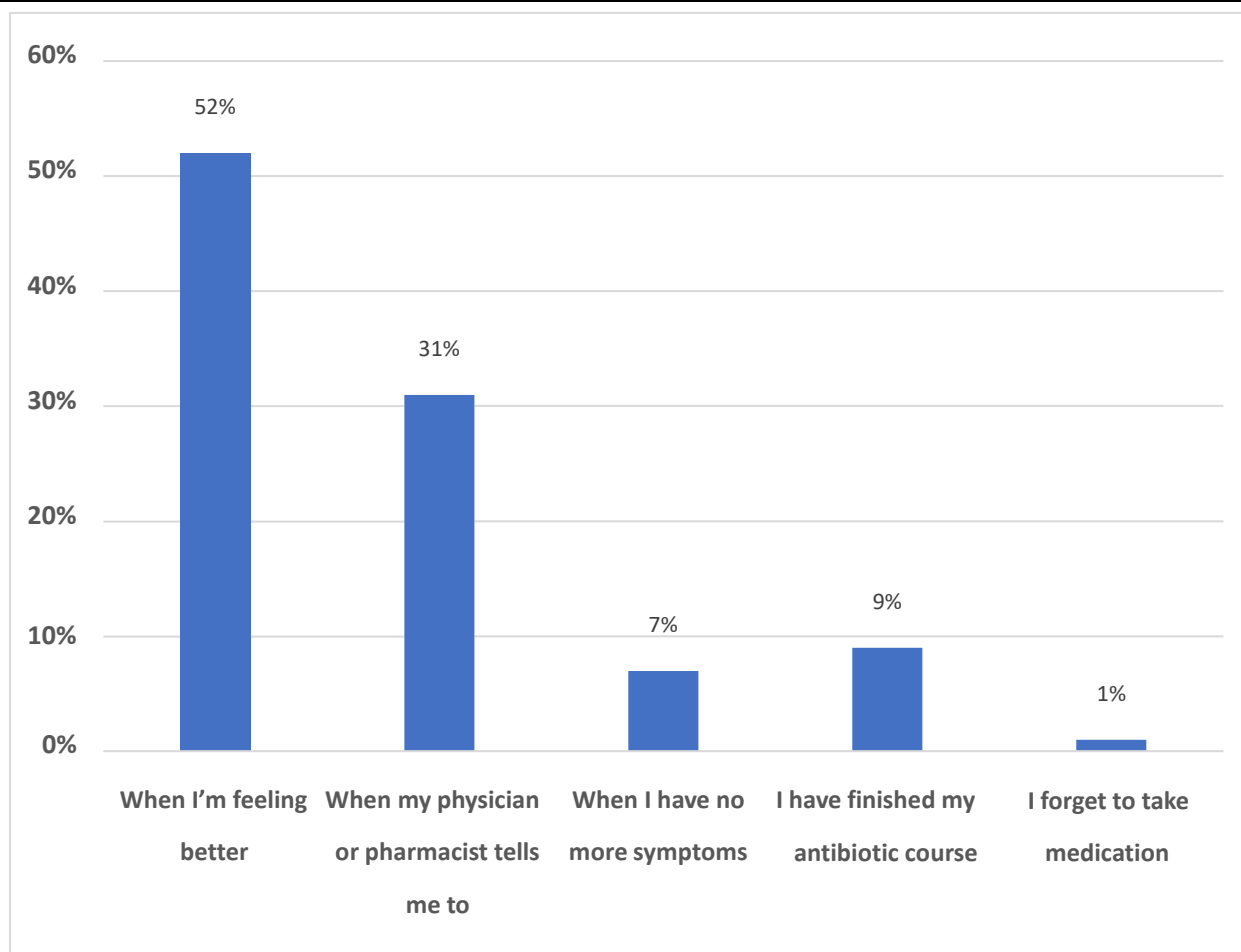


Figure 3.1: Graph showing When do you stop taking the antibiotic therapy prescribed by your doctor

Table 4: Attitudes towards antibiotics use among in general population. (N = 100)

Attitudes questions	Percentage (%) of subject who gave yesresponse	Percentage (%) of subject who gave no response
1. Do you know if you get any Adverse effects during a course of antibiotics treatment you immediately inform your doctor/ pharmacist?	80%	20%
2. Did the antibiotic work successfully?	92%	8%
3. Did you face any side effect?	22%	78%
4. Do you check the expiry date of the antibiotic before using it?	92%	8%
5. Do the pharmacists give a different brand of antibiotics than what written in the prescription?	48%	52%

Discussion

Overall, this study sheds light on the critical issues surrounding antibiotic use and knowledge about antibiotics and antibiotic resistance within the surveyed community. It underscores the prevalence of antibiotic use, often without proper medical consultation, and the concerning beliefs held by a significant portion of the population regarding self-prescription and sharing antibiotics. The study emphasizes the necessity of educating the public about the importance of obtaining

antibiotics through valid prescriptions and completing the full course to combat antibiotic resistance effectively [16-19]. Moreover, it underscores the crucial role that healthcare providers can play in disseminating this information, although there is room for improvement in their communication with patients. The findings also reveal gaps in understanding when it comes to which medical conditions require antibiotics and the general lack of awareness about the dangers of antibiotic resistance. While the study provides valuable



insights, it acknowledges its limitations, such as the potential bias in the sample and the use of closed-ended questions, which should be considered when interpreting the results. This research underscores the need for targeted educational campaigns and interventions to address these misconceptions and enhance public knowledge in the fight against antibiotic resistance.

Conclusion

The study's findings shed light on significant concerns regarding antibiotic knowledge and usage within the general population. Alarming, a substantial portion of the public harbours incorrect beliefs about antibiotics, which can potentially lead to their misuse, carrying grave consequences for individuals and society as a whole. Despite this, the study also reveals a high level of awareness regarding antibiotics, indicating that people may recognize their existence but lack comprehensive understanding [20-21]. A particularly troubling revelation is the accessibility of nonprescription antibiotics, a practice fraught with risks, including antibiotic resistance and treatment failures. These issues impact individual health and pose a broader public health threat. To mitigate these challenges, the study underscores the urgent need for coordinated actions at national and regional levels, emphasizing responsible antibiotic use, and advocating for proper education and counseling for the general population. Ultimately, a multifaceted approach is essential to combat the escalating problem of antibiotic resistance and ensure the effective use of these critical medical tools.

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