

Consumer perception of the use of antibiotic drugs in society: A descriptive study

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ABSTRACT

Introduction: The inappropriate use of antibiotics in the community remains a major public health concern, as it can lead to treatment failure, increased risk of side effects, and the emergence of antibiotic resistance. Consumer perception plays an important role in determining whether antibiotics are used correctly. This study aims to describe consumer perceptions regarding the use of antibiotic drugs in PK IV RT 003/RW 002, Tamalanrea District, Makassar City.

Methods: This descriptive study employed a survey approach using a structured questionnaire consisting of seven statements related to knowledge and perceptions of antibiotic use. A total of 44 respondents, selected through purposive sampling with inclusion criteria of being between 18 and 60 years old and having used antibiotics, participated in the study. Data were analyzed using a Likert scale scoring system and presented in percentage form to determine the perception category.

Results: The findings indicate that most respondents demonstrated good perceptions of antibiotic use, with an overall score of 73.91%. Respondents generally understood that antibiotics are used to treat bacterial infections, must be taken until finished, and that improper use can contribute to bacterial resistance. However, misconceptions were still found, particularly the belief that antibiotics can treat viral infections such as colds and flu.

Conclusion: Overall, consumer perceptions of antibiotic use fall into the good category. Nevertheless, certain misunderstandings persist. Continuous health education, including counseling and access to reliable health information platforms, is recommended to enhance community understanding and prevent the development of antibiotic resistance.

Keywords: Antibiotics, Consumers, Knowledge, Perception, Public.



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INTRODUCTION

Antibiotics are among the most essential therapeutic agents in modern medicine, playing a central role in combating infectious diseases caused by bacteria (Amelia, 2024). Their discovery and development have significantly reduced morbidity and mortality worldwide, and they remain one of the most frequently used classes of medications in both community and clinical settings. However, despite their critical importance, the inappropriate and irrational use of antibiotics continues to be a global public health concern (Akinmeye *et al.*, 2024). According to the World Health Organization (WHO), Southeast Asia is one of the regions with the highest burden of antibiotic resistance, with Indonesia ranked eighth among twenty-seven countries with the greatest prevalence of resistance. If this issue continues unchecked, antibiotic resistance is projected to become one of the leading causes of mortality by 2050. The implications of these trends underscore the urgency of understanding how communities perceive antibiotic use, as public perception is closely linked to medication behavior and health-seeking practices.

In many developing nations, the irrational use of antibiotics is prevalent, with studies showing that between 30% and 80% of hospitalized patients in low- and middle-income countries receive antibiotics often unnecessarily or without adherence to clinical guidelines. In Indonesia, the prevalence of antibiotic use ranges from 40% to 60%, indicating widespread overuse and misuse. Such misuse may include taking antibiotics without prescription, using leftover antibiotics, sharing antibiotics with others, and discontinuing antibiotic therapy prematurely once symptoms improve (Aweke, 2025). These behaviors accelerate the development of resistant bacterial strains, making infections harder and more costly to treat. In South Sulawesi, available data also indicate patterns of antibiotic distribution and consumption, reinforcing the need for targeted public health interventions (Dong *et al.*, 2024).

Public perception toward antibiotics plays a significant role in shaping antibiotic-related behaviors. Misconceptions, such as the belief that antibiotics cure viral infections like influenza or that it is safe to stop antibiotics once symptoms subside, remain common in various communities (Duan *et al.*, 2025). Cultural, educational, and socioeconomic factors also influence how individuals interpret health information and treatment recommendations (Engel *et al.*, 2024). Because perception influences decision-making, identifying community perceptions is a fundamental step in designing effective health education strategies, ensuring rational antibiotic use, and preventing long-term public health consequences, such as antimicrobial resistance (Hafez *et al.*, 2024). Despite the extensive dissemination of information regarding rational antibiotic use, inappropriate antibiotic consumption remains a persistent issue within many Indonesian communities, including residents of PK IV RT 003 / RW 002 in Tamalanrea District, Makassar City. Observations indicate that many individuals continue to use antibiotics without proper indication or medical consultation. Some community members still equate antibiotics with general-purpose “strong medicine,” assume that all infections require antibiotics, or discontinue therapy early once symptoms diminish. Moreover, self-medication practices and easy access to antibiotics without prescriptions further perpetuate these problems (Gagaoua, Gondret and Lebre, 2025).

The primary issue addressed in this study is the lack of accurate public understanding regarding the proper use of antibiotics, which leads to irrational medication practices and increases the risk of antibiotic resistance within the community (Haque *et al.*, 2024). Although several studies in Indonesia, such as those conducted in Brebes and other regions, have reported moderate levels of public perception and frequent misuse of antibiotics, including purchasing antibiotics without prescriptions and using them for non-bacterial illnesses, there is a scarcity of

research focusing on smaller, localized urban communities such as PK IV RT 003 / RW 002 in the Tamalanrea District, Makassar. Because each community has unique socioeconomic conditions, cultural beliefs, and access to healthcare services, findings from other regions cannot be directly applied to this area. This research gap highlights the need for a community-specific assessment to guide more effective health education and support antibiotic stewardship at the local level. The novelty of this study lies in its micro-community focus, providing localized insights into how residents of PK IV RT 003/RW 002 perceive and use antibiotics. Unlike broader national or regional studies, this research captures real behaviors, beliefs, and misconceptions within a specific neighborhood. Through a descriptive survey combined with community-based observations, the study offers valuable, context-rich data that can assist local health authorities, pharmacists, and educators in developing targeted interventions to promote rational antibiotic use.

RESEARCH METHODOLOGY

This research employed a descriptive survey method designed to obtain an overview of consumer perceptions regarding the use of antibiotic drugs. The descriptive approach was selected because it enables the researcher to objectively describe existing conditions in the community based on participants' responses to structured questions. Data for this study were gathered using a questionnaire consisting of seven statements related to the correct and incorrect use of antibiotics. The study was conducted in PK IV, RT 003 / RW 002, Tamalanrea District, Makassar City, from May to June 2025. This location was selected because preliminary observations indicated that many residents continued to use antibiotics inappropriately and possessed limited knowledge regarding their proper use.

The population of this study included all 50 households in the area. From this population, 44 respondents were selected as samples. The sample size was determined using the Slovin formula, with a 5% margin of error, to ensure adequate representation. The sampling technique applied was purposive sampling, meaning respondents were chosen based on specific criteria established beforehand. The inclusion criteria required respondents to be adults aged 18–60 years, have prior experience with antibiotics, be willing to participate, and be able to communicate and complete the questionnaire properly. Meanwhile, individuals working in healthcare particularly in pharmacy, were excluded to avoid bias in perception.

Data collection was conducted by distributing questionnaires directly to respondents after obtaining permission from the local community leader (RT). The researcher explained the study's purpose, requested consent, and accompanied respondents during the completion of the questionnaire to ensure clarity and accuracy. Completed questionnaires were checked for completeness before further processing. The instrument used in this study was a Likert-scale questionnaire, where responses were categorized into "Strongly Agree," "Agree," and "Disagree." Each response option was assigned a numerical score, adjusted according to whether the statement was positive or negative. After all data were collected, the researcher performed coding, tabulation, and analysis using the Likert percentage formula to determine the level of consumer perception. The results were then interpreted based on predetermined categories: percentages between 0–33% indicated a poor perception; 34–66% indicated a fair perception; and 67–100% indicated a good perception. In this study, the operational variable focused on consumer perception of antibiotic use, which was measured using a questionnaire on a Likert scale.

RESULT

This chapter presents the results obtained from distributing questionnaires to 44 respondents in the PK IV Rt 003/Rw 002 community of Tamalanrea District, Makassar City. The

data collected include respondent characteristics and their perceptions regarding the use of antibiotics. Each item in the questionnaire was analyzed using a Likert scale to determine the score, percentage, and classification of respondents' perceptions. The results are displayed in the form of descriptive tables that summarize respondent demographics, responses to each statement, and the overall perception of antibiotic use. These findings serve as the basis for interpreting the community's level of understanding and awareness regarding the proper use of antibiotics. The detailed results are presented in the following tables.

Table 1. Recapitulation of consumer perception of antibiotic use

No	Item Pernyataan	Skor Total	Skor Maksimum	Persentase (%)	Kategori
1	Antibiotics are used to treat bacterial infections	97	132	73.48%	Good
2	Antibiotics must be finished	98	132	72.24%	Good
3	Antibiotics can be shared with others	105	132	80.00%	Good
4	Antibiotics can cure the flu and cold	85	132	64.39%	Fair
5	Stop taking antibiotics when you feel better	101	132	77.00%	Good
6	Antibiotics can only be obtained with a doctor's prescription	101	132	77.00%	Good
7	Incorrect antibiotic use can cause resistance	96	132	73.00%	Good
Total Score		683	924	73.91%	Good

The results of the study indicate that the overall consumer perception regarding the use of antibiotics in the PK IV Rt 003/Rw 002 community of Tamalanrea District falls into the "good" category, with a total score percentage of 73.91%. Most respondents demonstrated an appropriate understanding of key aspects of antibiotic use, including the purpose of antibiotics, the importance of completing treatment, the necessity of a doctor's prescription, and the risks of misuse that can lead to bacterial resistance. A detailed breakdown of each statement shows That High awareness of the purpose of antibiotics is present (73.48%). Respondents generally understood that antibiotics are intended explicitly for bacterial infections, indicating a good level of basic knowledge. Strong agreement on the importance of finishing antibiotics (72.24%). This reflects a good perception of correct antibiotic-taking behavior, which is essential to prevent treatment failure and resistance. A high rejection rate of antibiotic sharing (80%) is a very positive finding, indicating that most respondents understood that antibiotics should not be shared, as different infections may require different treatments. Misconception regarding flu and cold (64.39%). This item fell into the "fair" category. Some respondents still believed antibiotics can treat viral illnesses such as influenza and the common cold. This indicates the persistence of a common public misconception, namely, the importance of not stopping antibiotics prematurely (77%). Most respondents disagreed with stopping antibiotics early, indicating an understanding of the appropriate duration of treatment. Awareness that antibiotics require a prescription (77%). Respondents recognized that antibiotics are classified as prescription-only medicines and should not be obtained freely. Good understanding of antibiotic resistance (73%). Respondents acknowledged that improper antibiotic use may lead to resistance, demonstrating awareness of this critical global health issue. The majority of respondents demonstrated a good understanding (73.91%) of antibiotic use, although misconceptions about using antibiotics for viral infections persist. Continued community education is recommended to strengthen understanding and promote rational antibiotic use.

DISCUSSION

This study aimed to examine consumer perceptions regarding the use of antibiotic drugs among the community of PK IV RT 003/RW 002, Tamalanrea District, Makassar City. The

findings provide valuable insights into the community's understanding, attitudes, and decision-making processes regarding antibiotic use. Overall, the results indicate that consumers have a generally good perception of proper antibiotic usage, as reflected in the overall perception score of 73.91%, which falls into the "good" category. However, several misconceptions persist, indicating the need for continued education and awareness programs. The demographic characteristics of the respondents contribute significantly to the interpretation of the findings. The majority of respondents were female (59%) and within the age range of 18–30 years (57%). Younger adults often have wider access to health information through digital platforms, which may contribute to improved awareness. Additionally, most respondents had completed senior high school (73%), reflecting a relatively moderate level of formal education that may support better comprehension of health-related information, including the use of antibiotics (Hommels *et al.*, 2025).

The data reveal that respondents largely understand the basic function of antibiotics. A total of 73.48% agreed that antibiotics are used to treat infections caused by bacteria. This indicates that a majority of the population is aware of the primary indication of antibiotics (Kadang and Megawati, 2024). Nevertheless, some respondents still demonstrated uncertainty, as seen in the presence of "disagree" responses. This highlights that although general awareness is present, knowledge gaps still exist. One of the strongest positive perceptions observed in the study is related to the principle that antibiotics must be taken until the prescribed dose is completed (Sharma *et al.*, 2024). This was supported by 72.24% of respondents, indicating a good level of understanding regarding adherence to prescribed antibiotic regimens. Completing an antibiotic course is essential for eliminating bacterial infections and preventing the development of antibiotic resistance (Kennedy *et al.*, 2025). However, the existence of respondents who disagreed demonstrates that misconceptions remain and may contribute to irrational antibiotic use in the community (Soleymani, Naghib and Mozafari, 2024). Another positive finding is the community's perception regarding sharing antibiotics (Riikonen, Timonen and Sikanen, 2024). A high percentage (80%) of respondents disagreed with sharing antibiotics with others, such as friends or family members (Kaladharan *et al.*, 2025).

This reflects a strong awareness of the risks associated with using antibiotics without proper diagnosis or individualized medical assessment. Sharing antibiotics can lead to misuse, improper dosing, and delayed appropriate treatment (Lee, Leong and Oey, 2024). However, a notable misconception is that antibiotics are used to treat viral infections, such as the flu and the common cold. A total of 64.39% of respondents agreed with this incorrect statement. This highlights a significant misunderstanding because antibiotics do not affect viruses (Marquez *et al.*, 2025). This misconception aligns with findings from previous studies, which show that the belief that antibiotics can cure viral illnesses remains widespread in many communities (Wijayanti *et al.*, 2025). The persistence of this belief may contribute to unnecessary antibiotic consumption, thus accelerating the development of resistance (Naughton, 2025). Respondents also demonstrated a good understanding of the risks associated with prematurely stopping antibiotic therapy. A strong majority (77%) disagreed with discontinuing antibiotics once symptoms improve, even if the medication is not finished (Mendes, Demattê Filho and Gameiro, 2024).

This understanding is essential because stopping antibiotics early can leave surviving bacteria, which may develop resistance and cause recurrent infections (Mota-Gutierrez *et al.*, 2025). Furthermore, the perception that antibiotics should be obtained only through a doctor's prescription was strongly supported (77%) by respondents. This is a positive indicator of rational antibiotic use, as non-prescription antibiotic purchases can lead to inappropriate selection, dosing

errors, and increased resistance. Despite this, antibiotics are still often purchased without prescriptions in many regions of Indonesia, indicating a disparity between knowledge and practice (Molia, Mattern and Fortané, 2025).

Regarding antibiotic resistance, 73% of respondents agreed that improper use of antibiotics can lead to bacterial resistance. This suggests a good level of awareness regarding the consequences of misuse. However, despite this awareness, misconceptions in other areas, such as the use of antibiotics for viral infections, suggest that knowledge may be fragmented rather than comprehensive. Overall, the findings indicate that while the community exhibits positive perceptions in several aspects of antibiotic use, critical misconceptions persist and may contribute to irrational practices. Education level and age distribution may influence these perceptions. However, external factors such as limited access to reliable health information, cultural practices, and self-medication habits may also play significant roles. Therefore, targeted health education programs are essential to address these gaps, emphasizing when antibiotics are necessary, the dangers of misuse, and the global threat of antibiotic resistance.

CONCLUSION

The findings of this study show that consumer perceptions regarding the use of antibiotics in the PK IV RT 003 / RW 002 community of Tamalanrea, Makassar City, fall within the “good” category, with an overall score of 73.91%. Most respondents demonstrated an appropriate understanding of antibiotic use, including the importance of completing the whole course, avoiding shared use, and recognizing the risks of misuse that can lead to antibiotic resistance. However, some misconceptions persist, particularly regarding the belief that antibiotics can cure viral infections such as flu and colds, indicating that awareness is present but not yet comprehensive. Based on these results, it is recommended that continuous and targeted health education programs be implemented to strengthen public understanding of rational antibiotic use. Educational activities led by healthcare professionals, supported by reliable digital health resources, can help correct misconceptions and prevent the use of inappropriate self-medication. Future researchers are encouraged to expand the scope of study, increase sample size, and include additional variables to obtain a deeper and more accurate representation of public perceptions and behaviors regarding antibiotic use.

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Conflict of Interest

There are no potential conflicts of interest relevant to this article.

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