PICTURE AND ATTITUDE TOWARDS SELF-MEDICATIONS OF ANTIBIOTIC USE IN THE COMMUNITY IN DOPALAK VILLAGE

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ABSTRACT

This study has a general objective to determine the level of knowledge and attitude of antibiotic use through self-medication (self-treatment) in residents of Dopalak Village, Paleleh District, Buol Regency. The method in this study uses a quantitative approach based on positivity (concrete data) with analytical observation with a descriptive research design. The study was conducted by collecting data using a questionnaire on the level of knowledge and attitudes. Based on the results of the study, a description of the level of knowledge of the Dopalak Village community regarding antibiotic self-medication was obtained, namely with the category of less being the most, namely 24 people (55.81%) and enough as many as 17 people (39.54%), while in the attitude category, residents of Dopalak Village in the use of antibiotics found that as many as 26 people (60.47%) were in the less category and 15 people (34.88%) in the enough category.

Keywords: Knowledge, Attitude, Image

INTRODUCTION

Self-medication is a form of health care practice carried out by individuals independently. This activity involves the voluntary selection and consumption of medicines to treat health complaints or symptoms of illness without the supervision of medical personnel. Although some types of medicines are considered to have minimal risk and are effective in treating serious health disorders, unsupervised use still has the potential to trigger unwanted side effects (Ani & Kusumawati, 2020).

Based on the report of the Central Statistics Agency, the trend of self-medication in Indonesia has increased significantly. In 2019, around 71.46% of the population consumed medicine independently, a figure that continued to increase to 72.19% in 2020. However, in Buol Regency, this percentage was

lower, namely 61.45%. This phenomenon is worrying because the lack of public understanding of the principles of drug use risks causing therapeutic errors. Zulkarni (2020) warned that excessive self-medication practices have the potential to encourage irrational drug consumption patterns at the community level (BPS, 2021).

Antibiotics, as one of the modern medicines, are often misused in self-medication practices. In developing countries like Indonesia, antibiotics are easily obtained without a doctor's prescription, encouraging reckless use. In

Submit: Augst 26th, 202 Accepted: Agust 27th, 2024 Published: March 20th, 2025

fact, this drug is only effective against bacterial infections. Data from the Ministry of Health (2020) revealed that 40-62% of antibiotic use in Indonesia is not according to indications, such as for diseases that do not actually require it (Ministry of Health, 2021).

The knowledge aspect plays a crucial role in shaping public health perceptions and behaviors. A comprehensive understanding of drugs is the basis for forming attitudes and therapeutic decisions. Low public awareness of the principles of antibiotic use, for example, contributes to the rise of bacterial resistance. Many people mistakenly consider antibiotics as a mandatory solution for viral infections such as flu or colds, whereas this actually accelerates the rate of drug resistance (Djunarko & Hendrawati, 2021).

The World Health Organization (WHO) 2020 report on Antimicrobial Resistance: Global Report on Surveillance revealed that the Southeast Asia region dominates global antibiotic resistance cases. As much as 30-80% of antibiotic use in this region is not in accordance with medical indications. Indonesia itself is ranked 8th out of 27 countries with the highest burden of antimicrobial resistance based on a 2009 WHO survey (Purnomo, 2020).

Antibiotic control policies in developing countries are considered inadequate to prevent misuse. Although Indonesia has issued General Guidelines for Antibiotic Use since 2011, its implementation is still hampered by easy public access to obtain antibiotics without a prescription at pharmacies. Djawaria (2020) emphasized that this relaxed regulation triggers excessive or inappropriate antibiotic consumption (Djawarnia et al., 2020).

Data from the Indonesian Ministry of Health (2020) shows risky drug storage practices at the household level. As many as 35.9% of households store prescription drugs, and 30.1% of them store antibiotics—with 83.3% obtaining them without a prescription. Central Sulawesi Province is one of the areas with the highest proportion. This phenomenon reflects an irrational self-medication pattern and has the potential to trigger resistance (Ministry of Health, 2021).

The 2020 Basic Health Research (Riskesdas) confirmed that pharmacies (25.5%) and drug stores/shops (40.5%) were the main sources of household drug acquisition. In addition, 48.1% of households kept unfinished prescription drugs, while 34.4% deliberately hoarded drugs as supplies. Storage of leftover drugs is more common in rural areas and the lowest economic groups, indicating a disparity in health literacy (Ministry of Health, 2021).

Distribution pattern of antibiotic use without a doctor's prescription based on information sources. The results of the study showed that families occupied the main position as a source of information (76.4%), followed by pharmacists (31.5%). Other findings stated that pharmacies were the highest location for purchasing antibiotics without a prescription (83.3%), followed by shops/kiosks/stalls (40.5%). In terms of duration of use, the majority of

respondents (3.4%) consumed antibiotics for 5 days as the longest period (Kusuma et al., 2017).

Preliminary observations in Dopalak Village identified suboptimal antibiotic use practices. Three initial participants showed indiscipline in following the usage protocol, such as stopping antibiotic consumption before the dose was finished. The lack of socialization from health workers about the principles of antibiotic use also exacerbated this condition. The results of interviews with three residents confirmed the habit of self-medication of antibiotics that ignored medical prescriptions (Kusuma et al., 2017).

Although Dopalak Village has relatively adequate health infrastructure (e.g. community health centers) and educational facilities, this does not guarantee public awareness of the rational use of antibiotics. The unclear level of health literacy and residents' attitudes towards self-medication encourages the need for in-depth studies to map actual conditions (Ani & Kusumawati, 2020).

Based on this phenomenon, this study aims to analyze the level of knowledge and attitudes of the Dopalak Village community regarding antibiotic self-medication practices. This focus is considered crucial to identify educational gaps and design evidence-based health interventions (Ani & Kusumawati, 2020).

THEORETICAL BASIS

Self-medication

Self-medication is defined as a self-management step taken by individuals to relieve symptoms of illness before consulting a doctor or medical professional. This practice must be carried out according to the health conditions experienced and comply with the principles of rational drug use. The World Health Organization (WHO, 2020) states that self-medication includes the selection and use of modern, herbal, and traditional medicines by the community to overcome health problems, with a prevalence reaching 80% in various countries (Purnomo, 2020).

Self-medication provides maximum benefits when done rationally. According to Fitri (2023), this responsible practice has several advantages, such as: (1) helping to prevent and treat symptoms of minor illnesses without the need for medical intervention, (2) maintaining community productivity in daily activities, (3) reducing the cost of medical consultations and purchasing prescription drugs which tend to be expensive, and (4) increasing individual independence and awareness in maintaining their own health (Irwan, 2017).

The success of self-medication requires primary consideration of pharmacological safety aspects and the availability of accurate information related to self-medication practices. The Food and Drug Supervisory Agency (BPOM, 2014) formulated several key principles that must be adhered to in the implementation of self-medication, such as the correct dosage, appropriate indications, and monitoring of side effects to minimize the risk of active substance interactions or health complications (Ivoryanto et al., 2017).

Antibiotic Stewardship

Wise use of antibiotics means applying the principle of rational use by considering the risk of the emergence and spread of bacterial resistance. This approach is known as antibiotic stewardship, which aims to improve patient treatment outcomes in a comprehensive and coordinated manner. This stewardship includes a number of important aspects, such as accuracy in establishing a diagnosis, selecting the appropriate type of antibiotic, setting the right dose, interval of administration, route of administration, and duration of therapy that is appropriate to the patient's clinical condition (Ministry of Health, 2021).

As part of the resistance control efforts, antibiotics are grouped into a classification system called AWaRe, namely ACCESS, WATCH, and RESERVE. This grouping is designed to facilitate the implementation of antibiotic use policies at various levels—local, national, and international. In addition, this approach aims to improve the quality of therapy, prevent the development of bacteria that are resistant to antibiotics, and ensure that antibiotic effectiveness is maintained in the long term. The AWaRe classification is also in line with WHO's global action strategy in addressing the challenges of antimicrobial resistance comprehensively (Indonesia, 2011).

Antibiotics included in the ACCESS category are types of antibiotics that should be available in all health care facilities, both at the basic and advanced levels. This group of antibiotics is used to treat bacterial infections that are often encountered in everyday medical practice, such as respiratory tract infections or mild urinary tract infections (Indonesia, 2011).

Antibiotics included in the WATCH category are a group of drugs provided in advanced health care facilities, such as referral hospitals or specialist health centers. Antibiotics in this group are used to treat infections with certain indications, especially when therapy with antibiotics from the ACCESS group does not provide effective results (Indonesia, 2011).

Antibiotics included in the RESERVE group are only available in advanced health care facilities, such as referral hospitals with specialist services. This type of antibiotic is used in a limited manner and specifically to treat severe infections caused by resistant bacteria, such as multidrug-resistant organisms (MDRO). Because of its function as the last line in the therapy of life-threatening infections, its use must be carried out very carefully and selectively (Indonesia, 2011).

RESEARCH METHODOLOGY

This study applies a quantitative approach, namely a method based on a positivistic view, where the data collected is concrete and measurable. The quantitative method itself refers to research based on the philosophy of positivism and is intended to study a particular population or sample. Sampling is generally done randomly, with data collection using special instruments. The data obtained is then analyzed quantitatively or through statistical techniques to test previously formulated hypotheses (Zulkarni, 2019).

Based on its function and purpose, this research is included in the category of analytical observational research using descriptive research design. Descriptive research is a form of observational research in which data is collected at a certain time from a sample or population. The purpose of descriptive research is to provide an overview of the characteristics of the population or sample at a certain time. This approach is used to determine the relationship between independent variables and dependent variables (Zulkarni, 2019).

RESULTS AND DISCUSSION

Respondent Characteristics

The demographic profile of the participants in this study includes variables of gender, age range, and level of formal education. All data on the characteristics of the research subjects are presented comprehensively in the following frequency distribution table.

Table 1. Respondent Characteristics Overview of Knowledge and Attitudes Towards the Use of Antibiotics in Dopalak Village

Characteristics	F	%
Gender		
Man	19	44.19
Woman	24	55.81
Total	43	100.0
Age		
23-35	17	39.53
36-50	22	51.17
Total	43	100.0
Education		
SD	4	9.3
JUNIOR HIGH SCHOOL	12	27.9
SENIOR HIGH SCHOOL	21	43.96
College	6	13.96
Total	43	100.0

Source: Primary Data, 2024

The demographic profile of 43 research subjects showed a dominance of female participants of 24 people (55.81%), while male participants numbered 19 people (44.19%). In the age group classification, respondents aged 46-50 years occupied the highest proportion (22 people/51.17%), followed by the 23-35 year group (17 people/39.53%), and the age category >50 years (4 people/9.3%).

In terms of education level stratification, Senior High School (SMA) graduates contributed the largest percentage (21 people/43.84%), followed by Junior High School (12 people/27.9%), College (6 people/13.96%), and Elementary School (4 people/9.3%). This distribution reflects the variation in the educational background of respondents in this study.

Table 2. Knowledge Questionnaire Validation Test

No	R Count	R Table	%
Q1	0.336	0.294	Valid
Q2	0.658	0.294	Valid
Q3	0.529	0.294	Valid
Q4	0.679	0.294	Valid
Q5	0.298	0.294	Valid
Q6	0.307	0.294	Valid
Q7	0.325	0.294	Valid
Q8	0.510	0.294	Valid
Q9	0.518	0.294	Valid
Q10	0.556	0.294	Valid

Source: Primary Data, 2024

In the process of validating the questionnaire instrument through

statistical analysis, the test results on 10 knowledge questionnaire questions showed a higher r count value than r table (0.294). This condition proves that all items are declared valid, so that the research stage can be continued with correlation analysis.

Table 3. Attitude Questionnaire Validation Test

No	R Count	R Table	%
Q1	0.670	0.294	Valid
Q2	0.476	0.294	Valid
Q3	0.561	0.294	Valid
Q4	0.467	0.294	Valid
Q5	0.296	0.294	Valid
Q6	0.364	0.294	Valid
Q7	0.673	0.294	Valid
Q8	0.728	0.294	Valid
Q9	0.414	0.294	Valid
Q10	0.488	0.294	Valid

Source: Primary Data, 2024

Based on the results of the validation analysis of the attitude questionnaire instrument against 10 questions, the calculated r value was obtained which was greater than the r table (0.294). This indicates that all items in the attitude questionnaire have met the validity criteria, so that they are suitable for use in the next analysis stage.

Table 4. Knowledge and Attitude Reliability Test

Reliability Statistics		
	Cronbach's Alpha	**N of Items**
Knowledge	0.731	43
Attitude	0.610	

Source: Primary Data, 2024

The results of the reliability analysis showed that the Cronbach's alpha value for the knowledge and attitude questionnaire was above 0.60 involving 43 respondents. This condition proves that the questionnaire instrument has met the reliability criteria, thus meeting the requirements for the Pearson correlation test.

Table 5. Frequency Distribution of Knowledge of Self-Medication Use of Antibiotics in Dopalak Village

No	Attitude	Frequency	Percentage
1	Good	2	4.65%
2	Enough	15	34.88%
3	Not enough	26	60.47%
Amount		**43**	**100%**

Source: Primary Data, 2024

Data distribution analysis shows that the level of knowledge of the Dopalak Village community about antibiotic self-medication is dominated by the medium and low categories. Only 2 respondents (4.65%) have a good understanding of antibiotic knowledge. A total of 24 respondents (55.81%) are in the medium category, while 17 respondents (39.54%) are in the low category. This indicates that the understanding of the Dopalak Village community about antibiotic self-medication is generally at a moderate level.

Table 6. Frequency Distribution of Self-Medication Antibiotic Use Attitudes in Dopalak Village

No	Attitude	Frequency	Percentage
1	Good	2	4.65%
2	Enough	15	34.88%
3	Not enough	26	60.47%

Amount	**43**	**43**

Source: Primary Data, 2024

Based onthe results of the analysis of 43 respondents, the distribution of attitudes of the Dopalak Village community regarding antibiotic self-medication is dominated by the less category with 26 people (60.47%) as the highest percentage. The sufficient category was recorded in 15 respondents (34.88%), while only 2 respondents (4.65%) were in the good category in knowledge of antibiotic self-medication. This finding shows that the attitudes of the Dopalak Village community towards the practice of antibiotic self-medication are mostly at a low level.

DISCUSSION

Overview of Dopalak Village Community Knowledge Regarding Antibiotic Self-Medication

The knowledge of the Dopalak Village community about antibiotic self-medication is mostly at a moderate level. A total of 24 respondents (55.81%) are included in this category, while 17 respondents (39.54%) have low understanding, and only 2 people (4.65%) reach the good category. This low awareness is related to the educational profile of residents, where most are high school graduates, and only 6 respondents have a higher education background. Ivoryanto et al. (2023) explained that a higher level of education correlates with better awareness in the use of drugs, including antibiotics. Another factor that exacerbates this condition is the easy access of people to antibiotics without a doctor's prescription, triggering the practice of buying and consuming drugs carelessly when experiencing symptoms of certain diseases. This has the potential to increase the risk of antibiotic resistance due to irrational use (Ivoryanto et al., 2017).

This finding is in line with the research of Lembayung et al. (2021) at the Lowokwaru Health Center, Malang, which revealed that out of 83 respondents, only 12 people (14.5%) had adequate understanding of antibiotic use. Interestingly, most of the 12 respondents were high school/vocational high school graduates, indicating that although basic formal education is sufficient, knowledge of antibiotics remains limited without special education. This study emphasizes that secondary education does not guarantee a comprehensive understanding of drug use, especially antibiotics, which requires a more holistic approach (Lembayung et al., 2021).

Consistency of results is also seen in the study of Tandjung et al. (2021) in Tomohon City. Of the 262 participants, only 88 respondents (39.3%) reported appropriate antibiotic use. This figure reflects that the majority of people still self-medicate with antibiotics irrationally, such as taking antibiotics without a medical diagnosis or stopping treatment before the dose is complete. This finding underscores the urgency of educational interventions, especially in areas with limited access to health, to

prevent antibiotic misuse that impacts public health (Tandjung et al., 2021).

The low level of public knowledge about antibiotics in Dopalak Village is influenced by the lack of non-formal education from health workers regarding the correct procedures for using antibiotics. The lack of socialization through social media or print media also contributes, so that people tend to rely on information from personal experiences, friends, or family that is not necessarily accurate. This condition risks triggering misunderstandings in the use of antibiotics, such as incorrect dosages or premature cessation of consumption. Therefore, a systematic strategy is needed to increase public understanding, including through a structured Communication, Information, and Education (KIE) program on the principles of antibiotic use, as recommended by Pratiwi (2020). This program can include interactive training, distribution of educational materials, or collaboration with community leaders to reach vulnerable groups (Pratiwi et al., 2020).

The effectiveness of the structured education approach was proven in the counseling activities held by Adayani et al. (2022) in Wonorejo Village, Surabaya. A total of 57 PKK mothers were involved in this program, which was designed to raise awareness of the rational use of antibiotics. The evaluation results showed a significant increase in participants' knowledge scores from an average of 4 (low category) to 6.8 (good category). This success confirms that community-based educational interventions, such as group discussions, case simulations, or informative video screenings, are able to change people's perceptions and behavior. The active role of health workers in delivering material in easy-to-understand language is the main key to creating sustainable impacts (Djawarnia et al., 2020).

Overview of the Attitudes of the Dopalak Village Community Regarding Antibiotic Self-Medication

Attitude is a crucial indicator that reflects a person's understanding of an issue, in this case antibiotic self-medication in Dopalak Village. The results showed that the majority of residents (60.47% or 26 respondents) had inappropriate attitudes towards antibiotic use. As many as 15 respondents (34.88%) were in the sufficient category, while only 2 respondents (4.65%) had good attitudes. This finding indicates the dominance of irrational behavior in antibiotic use decision making, such as reliance on personal assumptions rather than medical guidelines.

This weak attitude is rooted in a lack of knowledge about the principles of antibiotic use. Many residents consume antibiotics without a doctor's prescription, driven by the mistaken belief that antibiotics are "god's medicine" for all diseases. For example, some people stop taking antibiotics once symptoms subside, without realizing the risk of microbial resistance. This phenomenon does not only occur in Dopalak Village, but is also a global problem in developing countries, where antibiotics are easily purchased freely, use is unsupervised, and there is

ignorance about the importance of completing the dose.

A similar gap between knowledge and attitudes was reported by Chow CQ and Nor Liana (2020) in Batu Pahat, Malaysia. Although 83.2% of villagers had moderate knowledge about antibiotics, 56.9% showed negative attitudes, such as buying antibiotics without a prescription. A study by Pattnaik et al. (2023) in Tigiria, India, reinforced this finding: 44.47% of respondents were familiar with antimicrobials, but 14.75% still bought antibiotics indiscriminately, and 20.14% stopped treatment before completion. These data confirm that increasing knowledge does not automatically change attitudes without educational interventions that target daily practices.

The formation of a person's attitude is influenced by a number of factors, including personal experience, figures who are considered to have authority or influence, mass media, cultural environment, and the individual's emotional condition. An attitude will be more easily formed if the experience occurs in a situation that involves deep emotional aspects, because this condition can create a strong and lasting impression in the individual's memory (Ministry of Health, 2021).

The low level of knowledge and attitude of the Dopalak Village community towards the use of antibiotics through self-medication can be caused by several determinants, including age, the last level of formal education taken, type of work, and ease of access to purchasing antibiotics without a prescription. Education plays a strategic role in forming a rational and responsible attitude towards the use of antibiotics. The lack of public awareness in using antibiotics appropriately and according to medical indications is largely triggered by limited education and minimal counseling activities carried out by the government and related health institutions. Therefore, structured interventions are needed in the form of ongoing education programs to increase public awareness of the importance of using medicines wisely.

Efforts that can be made include increasing the intensity of counseling on antibiotic resistance by health workers, as well as encouraging the public to always consult with professionals such as doctors or pharmacists before using antibiotics. In addition, the public also needs to be given an understanding not to use leftover antibiotics or share them with others without clear medical indications.

CONCLUSION

1. The level of knowledge of the Dopalak Village community regarding antibiotic self-medication practices shows that the majority of respondents are still in the low category, namely 24 people (55.81%). Meanwhile, respondents with a level of knowledge in the sufficient category numbered 17 people (39.54%), and only 2 people (4.65%) showed a good understanding. This low level of knowledge is thought to be closely related to the respondents' limited educational background and the lack

of socialization or counseling activities related to the proper use of antibiotics. Lack of access to accurate health information is also a factor that worsens the community's understanding of the risks and procedures for using antibiotics.

2. In terms of public attitudes towards antibiotic use, the data shows that most respondents have inappropriate attitudes, with details of 26 people (60.47%) falling into the low attitude category, and 15 people (34.88%) in the sufficient category. Only 2 respondents (4.65%) have a good attitude towards antibiotic use. The low attitude shown by the public is thought to be influenced by a lack of adequate understanding of antibiotics and a tendency to obtain and consume antibiotics without examination and prescription from medical personnel. This habit of self-medication carried out by the general public has the potential to increase the risk of antibiotic resistance and worsen public health problems in general.

SUGGESTION

As an effort to increase public awareness of the rational use of antibiotics, it is recommended that health workers, especially pharmacists working in health centers and pharmacies, can collaborate with local governments to actively carry out educational activities. These activities can be in the form of counseling or health information campaigns aimed at providing an understanding to the public about the importance of proper antibiotic use, in accordance with medical indications and applicable regulations. This educational intervention is expected to increase public health literacy and prevent inappropriate antibiotic use practices.

In addition, the public is also urged to be wiser in consuming antibiotics, namely by only using the drug based on a doctor's prescription and advice. Compliance with the rules of use and understanding the risks of indiscriminate antibiotic use are key to reducing antibiotic resistance rates and encouraging the formation of responsible health behavior in society.

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