JURNAL KESEHATAN

DOI: 10.63323/jkes.v14i02.239
ISSN: 2302-0911; e-ISSN: 2685-1040

OPEN ACCESS

Original article

The Relationship Between Mother's Knowledge Level and Behavior Use of Antibiotics in Children Aged 2-5 Years in Children's Polyclinic of Sitiung I Community Health Center, Sitiung Regency Dharmasraya

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Abstract
Introduction: The use of antibiotics in children aged 2–5 years is an important public health issue because at this age the immune system is still developing, so children are more susceptible to bacterial infections. This study aims to analyze the relationship between maternal knowledge levels and antibiotic use behavior in children aged 2–5 years at the Children's Polyclinic of Sitiung 1 Community Health Center, Dharmasraya Regency in 2025.
Methods: This study used a descriptive correlational design with a *cross-sectional approach.* The population in this study were all mothers with children aged 2–5 years who visited the Children's Polyclinic of Sitiung 1 Community Health Center. Sampling was carried out using a *purposive sampling* technique of 80 respondents. The research instrument used a structured questionnaire. Bivariate analysis was carried out using the Spearman Correlation test with a significance level of 5% ($p < 0.05$).
Results: The analysis showed a correlation coefficient (r) of 0.062 with *a p value* = 0.584 ($p < 0.05$).
Conclusion: there is no positive relationship with very low strength between maternal knowledge levels and antibiotic use behavior in children. This study recommends that healthcare workers improve education regarding the appropriate use of antibiotics, strengthen communication with mothers, and encourage active participation in outreach programs. These efforts are expected to reduce the risk of antibiotic resistance and improve child health.
Keywords: Knowledge, Behavior, Antibiotics

Received September 24, 2025; Received in revised form September 30, 2025; Accepted October 15, 2025; Available online October 25, 2025

INTRODUCTION

Children have a higher risk of contracting bacterial infections because their immune systems are not yet fully developed, so the risk of exposure to bacteria is greater. Antibiotic prescriptions are widely used, although not all are used for the correct indications. This results in resistance and hinders the development of the child's immune system. The longer you are exposed to antibiotics, the more your body can recognize the antibiotics through the immune system and cause the antibiotics to be unable to kill the bacteria in your body. Infectious diseases in children are a leading cause of morbidity and mortality in various countries, including Indonesia. At this age, children's immune systems are still developing, making them more susceptible to infection. Antibiotic use is one of the solutions to overcome infections, but its inappropriate use can cause serious health problems, such as antibiotic resistance (Anggi & Sulemba, 2019)

According to data from the World Health *Organization* (WHO), antibiotic use has increased 91% globally and 165% in developing countries between 2020 and 2023. This makes AMR one of the ten most dangerous global health threats (WHO, 2023). Correct use of antibiotics is crucial to maintaining their effectiveness in treating bacterial infections. Antibiotics should only be given when there is clear evidence of a bacterial infection, and not for viral infections such as the flu or a cold. Before starting treatment, consultation with a medical professional is strongly recommended to ensure a proper diagnosis and the selection of the appropriate antibiotic. Furthermore, it is important to adhere to the recommended dosage and duration, even if symptoms improve, to ensure complete elimination of all infecting bacteria. By following these guidelines, we can reduce the risk of antibiotic resistance and maintain the health of children and the community as a whole (Yurmila, 2020).

Inappropriate antibiotic use is common in various regions. In Indonesia, 30%-80% of cases of inappropriate antibiotic use have been identified.The Ministry of Health of the Republic of Indonesia stated that of the 35.2% of housewives who store drugs for self- medication, 27.8% of them store antibiotics and 86.1% of them obtained them without a doctor's prescription (Ministry of Health of the Republic of Indonesia, 2022). According to a 2023 study published in the journal Pediatrics, the prevalence of antibiotic resistance in children in Central Kalimantan was 25%. The study sample consisted of 100 children aged 0-18 years who were treated at Palangkaraya Regional Hospital with a diagnosis of bacterial infection. The highest prevalence of antibiotic resistance was penicillin antibiotics (30%), followed by cephalosporin antibiotics (25%) (Amin et al., 2023). Based on the results of a 2023 study conducted by a research team from the Faculty of Medicine, Palangka Raya University, the percentage of inappropriate antibiotic dosages in children reached 30% and inappropriate antibiotic use patterns in children reached 25% in Central Kalimantan (Hidayati, 2023).

In recent years, several studies have also revealed that excessive antibiotic use among children can negatively impact their long-term health, including disruption of the gut microbiota and an increased risk of chronic diseases in the future (Klein et al., 2021). Therefore, it is important to develop effective intervention strategies, including educational programs for parents and training for healthcare professionals, to ensure that antibiotics are used only when strictly necessary and in accordance with clinical guidelines. Antibiotics are a class of prescription drugs available only with a doctor's prescription and available at pharmacies. Failure to follow dosage, usage instructions, and warnings when using antibiotics can have harmful effects on the body (Suiyarti et al., 2022).

The indication for prescribing antibiotics to children is often a serious concern in medical practice, particularly regarding the risk of antibiotic resistance. Although antibiotics are effective in treating bacterial infections, many cases are inappropriately used, such as for viral infections that do not require antibiotic therapy. Recent research shows that approximately 30% of children with antibiotics are infected with antibiotics. 50% of antibiotic prescriptions given to children may not be in accordance with clinical guidelines, potentially increasing the risk of side effects and bacterial resistance (Hoffman et al., 2020).

Antibiotic use in children can have significant impacts both immediately and long-term. Directly, inappropriate antibiotic use can cause side effects such as diarrhea, skin rashes, and allergic skin reactions. Furthermore, excessive or inappropriate use can lead to antibiotic resistance, where bacteria become resistant to treatment, making future infections more difficult to treat. In the long term, inappropriate antibiotic use can disrupt the balance of a child's gut microbiota, which plays a vital role in digestive health and the immune system. Therefore, proper supervision and knowledge of antibiotic use are crucial to protecting children's health (Nasif et al., 2022). The advantages of using antibiotics include: they can slow down and kill bacteria, they can prevent infections, they work faster than other drugs, they are easy to take, they can be taken before meals, they can be used to fight several bacterial infections at once, and they can prevent bacteria from multiplying. The disadvantages of using antibiotics include digestive disorders, allergic reactions, fungal infections, sensitivity to light, tooth discoloration, and antibiotic resistance (Pharmacia et al., 2024).

Mothers' knowledge about antibiotics plays a crucial role in determining their behavior in using these drugs. As primary caregivers, mothers play a central role in decision-making regarding their children's health, including when dealing with infectious diseases. Mothers' knowledge of antibiotics, their indications for use, and their potential side effects can influence how they use these medications for their children (Megawati & Agustini, 2022). Inappropriate antibiotic use in children aged 2-5 years can have various negative health impacts. One major impact is the emergence of antibiotic resistance, where bacteria become resistant to previously effective drugs. This can make it difficult to treat future infections, both in the child and in the general population. Antibiotic resistance is one of the greatest threats to global health, leading to increased deaths from preventable infections (Nurmani, 2020).

To address the negative impacts of antibiotic use in children, a comprehensive approach is essential. First, education for parents and medical personnel should be improved to emphasize the differences between bacterial and viral infections and the importance of appropriate antibiotic use. Public health campaigns can help raise awareness about the risks of antibiotic resistance and the potential side effects of inappropriate use. Furthermore, developing stricter clinical guidelines and implementing infection control strategies in healthcare facilities can ensure that antibiotics are only administered when absolutely necessary. With these measures, we can minimize the risk of resistance and protect children's long-term health (Gumilang, 2019). Antibiotic use in children is often influenced by various factors, including parental understanding of health and communication with medical professionals. Many parents tend to

request antibiotics when their child experiences symptoms of illness, such as a cough or fever, even though the cause is often an untreated viral infection requiring antibiotic therapy. This is often due to a lack of understanding of the difference between bacterial and viral infections, as well as concerns about the child's health, which prompt them to seek prompt treatment. Research suggests that better education about the appropriate use of antibiotics could help reduce unnecessary demand for these drugs (Mason et al., 2019).

In addition to resistance, excessive antibiotic use can also affect the normal microbial flora in children. Disruptions in the balance of the gut microbiota can trigger various health problems, including digestive disorders and an increased risk of other infections. Research shows that children who receive excessive antibiotics are more susceptible to gastrointestinal infections and may experience growth problems due to nutritional deficiencies caused by microbiota instability (Klein et al., 2020). Behavior and awareness regarding antibiotic use are crucial factors that can lead to antibiotic resistance. Incorrect public behavior leads to the assumption that antibiotics are mandatory for treating illnesses, even those caused by viruses. For example, flu and fever, which are common in the community, especially patients with good financial means, will demand the latest and most expensive antibiotic therapy, even when it is not necessary (Pharmacia et al., 2024). Hamiru's (2023) research found a strong correlation between knowledge, attitudes, and actions regarding antibiotic use. The attitudes formed depend on a person's knowledge, with the greater their knowledge of something, the more possessive their attitudes will be.

Antibiotics are given to children when they experience respiratory illnesses such as persistent coughs and colds, fevers, and coughs. It's important to remember that antibiotics are not effective against viral infections, so their use should be limited. Always based on a proper diagnosis from a doctor to prevent antibiotic resistance (Puskesmas Survey, 2024).

A child may be given antibiotics on the third day if symptoms of infection, such as fever, cough, or pain, do not improve or worsen despite supportive care. In this case, the doctor will need to re-evaluate the child's condition to confirm the presence of a bacterial infection requiring antibiotic therapy. Furthermore, it is important to conduct further tests to determine the type of infection and select the appropriate antibiotic, based on culture or sensitivity results, if necessary (Kesya, 2020). The role of nurses in maternal knowledge and behavior is crucial as a bridge between medical information and everyday practices in the community. Nurses act not only as care providers but also as health educators who can improve mothers' understanding of the appropriate use of antibiotics. Nurses have the opportunity to provide counseling, explain the risks of antibiotic misuse, and educate mothers on how to recognize symptoms of illness requiring treatment. With the active involvement of nurses in this study, it is hoped that it will provide deeper insights into how to improve mothers' knowledge and strengthen their role in promoting safe and effective antibiotic use, which ultimately has a positive impact on children's health (Sentra, 2019).

A preliminary study conducted at the Children's Polyclinic of Sitiung 1 Health Center, Dharmasraya Regency, found 6 mothers. Three of them knew how to administer medication according to doctor's recommendations, while 3 mothers did not know how to administer antibiotics even though they had been explained, such as the dosage of 3x1 or 2x1 teaspoon, and 3 mothers did not administer antibiotics according to recommendations, such as antibiotics must be finished, but in reality, the mother did not administer them because the child was already better. This is a conflict of knowledge regarding maternal behavior in the use of antibiotics in children aged 2-5 years. The antibiotic frequently used and administered at Sitiung Health Center is amoxin with a dose of 2x1 teaspoon, the age limit is based on the child's weight. Based on the above problems, researchers are interested in conducting research on the relationship Level of maternal knowledge regarding antibiotic use behavior in children aged 2-5 years at the Children's Polyclinic, Sitiung 1 Health Center, Dharmasraya Regency, 2025.

METHOD

This research method uses a correlational design with a cross-sectional approach that aims to determine the relationship between maternal knowledge levels and antibiotic use behavior in children aged 2–5 years at the Children's Clinic of Sitiung 1 Community Health Center, Dharmasraya Regency in 2025. The study was conducted from April 1 to May 18, 2025, with a population of all mothers with children aged 2–5 years who visited the Children's Clinic in the last three months totaling 100 people. The study sample consisted of 80 respondents determined using the Slovin formula with a 5% error tolerance and accidental sampling technique. The inclusion criteria in this study were mothers who had children aged 2–5 years, children who had consumed antibiotics, lived in the study area, and were willing to be respondents, while the exclusion criteria were mothers who could not communicate well and were not willing to participate. The study variables consisted of maternal knowledge as the independent variable and antibiotic use

behavior as the dependent variable. The research instrument was a structured questionnaire consisting of 15 questions. to measure knowledge and 10 questions to assess behavior, which had previously been tested for validity and reliability. Data were collected through questionnaires, then analyzed univariately using frequency distribution and bivariately using Spearman's correlation test at a significance level of 5% ($p < 0.05$). This study also considered ethical aspects including informed consent. consent, maintaining respondent confidentiality, and adhering to ethical principles of health research.

RESULTS

The results section may be divided into several subsections. For research articles, results should be presented clearly and concisely. Try to choose an effective method of presenting the data, for example in the form of tables and images. The requirements for writing tables are as follows:

Table 1. Frequency Distribution of Mothers' Knowledge of Antibiotic Use in Children Aged 2-5 Years at the Children's Polyclinic of Sitiung 1 Community Health Center, Dharmasraya Regency, 2025

Mothers' Knowledge	*f*	%
Good	37	46.3
Enough	42	52.5
Not Enough	1	1.3

Based on table 1, it can be seen that of the 80 respondents, the majority of mothers' knowledge sufficient about the use of antibiotics, namely 42 respondents (51.3%).

Table 2. Frequency of Mothers' Behavior Towards Antibiotic Use in Children Aged 2-5 Years at the Children's Polyclinic of Sitiung 1 Community Health Center, Dharmasraya Regency, 2025

Mothers' Behavior	*f*	%
Good	38	47.5
Enough	40	50
Not Enough	2	2.5

Based on table 2, it can be seen that of the 80 respondents, almost half of the mothers' behavior regarding the use of antibiotics

Table 3. Relationship between Mother's Knowledge Level and Antibiotic Use Behavior in Children Aged 2-5 Years at the Children's Polyclinic of Sitiung 1 Community Health Center, Dharmasraya Regency, 2025

Knowledge	Behavior								p-value
	Good		Enough		Not Enough		Total		
	f	%	f	%	f	%	f	%	
Good	22	59,5	15	40,5	0	0	37	100	
Enough	16	38	24	57	2	5	42	100	0.584
Not Enough	0	0	1	100	0	0	1	100	
Total	38	47,5	40	50	2	2,5	80	100	

Based on Table 3, it can be seen that of the 37 respondents with a good level of knowledge, the majority (22 respondents (59.5%) had good behavior, almost half (15 respondents (40.5%) had adequate behavior, and none had poor behavior. The Spearman rho test results showed a significance value of $p = 0.584$, indicating $p > 0.05$. Therefore, Ha was rejected and Ho was accepted. This means there is no significant relationship between maternal knowledge level and antibiotic use behavior in children aged 2–5 years at the Pediatric Clinic of Sitiung 1 Community Health Center, Dharmasraya Regency in 2025. Furthermore, a correlation coefficient (r) of 0.062 was obtained, indicating that the relationship between maternal knowledge level and antibiotic use behavior in children aged 2–5 years at the Pediatric Clinic of Sitiung 1 Community Health Center is very weak. The correlation coefficient (r) is positive, indicating that the higher the mother's knowledge level, the better the antibiotic use behavior tends to be.

DISCUSSION

Mothers' Knowledge in the Pediatric Polyclinic at Sitiung 1 Community Health Center, Dharmasraya Regency

Based on the results of the study, Table 1 shows that of the 80 respondents, 42 (51.3%) had sufficient

knowledge about antibiotic use. These results are supported by the research by Kardas et al. (2021) entitled "Mothers' Knowledge in Handling Antibiotic Administration in Children at Tanjung Unggat Community Health Center." One factor contributing to mothers' low knowledge is the lack of education from healthcare professionals regarding the proper indications for antibiotic administration. The study showed that mothers who received information from healthcare professionals tended to have a better understanding than those who relied solely on social media or personal experience. Therefore, a structured educational approach is crucial in primary healthcare.

Knowledge is closely related to the habit of storing or reusing antibiotics without a prescription when a child is sick later. This practice is highly risky because it can lead to inappropriate dosages, incorrect antibiotic choices, and delayed diagnosis of more serious conditions. Research in several developing countries shows that the use of antibiotics without a prescription is still a common problem due to a lack of regulation and supervision (Ocan, 2021).

Ventola's previous research (2020), entitled "The Antibiotic Resistance Crisis: A Comparative Analysis of the Factors," also noted that mothers' perceptions of the severity of their children's illnesses often drive inappropriate antibiotic use. Many mothers perceive antibiotics as "power drugs" capable of curing all types of infections, yet irrational use can have negative impacts on children, including disrupting the body's normal flora and increasing the risk of side effects. This highlights the need to improve health literacy in the community, particularly in understanding how antibiotics work and their limitations.

Mothers' knowledge about antibiotic use significantly impacts children's treatment behavior. As primary caregivers, mothers play a vital role in decision-making regarding their children's health, including when dealing with infections. Research shows that mothers with good knowledge about antibiotics tend to be more disciplined in following doctors' instructions, resulting in more effective and safer treatment for their children (Yurmila, 2020). This suggests that improving maternal knowledge can reduce the risk of inappropriate antibiotic use.

One factor influencing maternal knowledge is access to accurate information. Mothers who receive education from healthcare professionals, either through direct consultations or educational programs at community health centers, have a better understanding of antibiotic indications and side effects (Kurnia, 2020). Conversely, mothers who rely solely on information from unofficial sources, such as social media, tend to have less accurate information, which can lead to inappropriate antibiotic use (Pharmacia et al., 2024).

Furthermore, mothers' knowledge also influences their attitudes toward antibiotic use. Mothers who understand that antibiotics are ineffective against viral infections are less likely to seek antibiotic prescriptions for illnesses like the flu, which are often caused by viruses (Ventola, 2020). A good understanding of the differences between bacterial and viral infections is crucial for preventing unnecessary antibiotic use, which can contribute to antibiotic resistance, a current global health challenge (Ministry of Health of the Republic of Indonesia, 2022). Researchers assume that mothers' levels of knowledge regarding antibiotic use vary, influenced by factors such as education, experience, and access to information. Mothers with higher educational backgrounds tend to have a better understanding than those with lower education. The sources of information mothers use also significantly influence their level of knowledge; mothers who obtain information from health workers are more likely to have an accurate understanding than those who rely on social media or friends. Furthermore, many mothers still lack an understanding of the concept of antibiotic resistance and its impact on children's health, which can lead to inappropriate antibiotic use.

Researchers also assume that many mothers view antibiotics as a quick fix for various illnesses, driven by personal experience and a lack of education. It is hoped that participation in health education programs will significantly improve mothers' knowledge, enabling them to better understand how to administer antibiotics correctly and when they are necessary. Ultimately, mothers who are involved in decision-making about their children's health, including antibiotic use, will demonstrate better behaviors, supported by their knowledge of children's health in general.

Therefore, efforts to improve mothers' knowledge about antibiotic use should be a priority in public health programs. Structured and ongoing education, involving health workers, is expected to increase mothers' awareness and understanding, enabling them to make more informed decisions about prescribing antibiotics to their children (Nasif et al., 2022). This will not only improve children's health but also help reduce the problem of antibiotic resistance in the community.

Researchers assume that mothers have a better understanding of antibiotic use. Furthermore, mothers who obtain information from healthcare professionals, such as doctors or nurses, are expected to demonstrate a higher level of knowledge than those who rely on informal sources. Personal experience

with using antibiotics for children is also assumed to play a role in influencing maternal knowledge. Participation in health education programs at community health centers is expected to improve knowledge and behavior regarding antibiotic use.

Furthermore, maternal attitudes toward health and treatment are assumed to influence their understanding of antibiotics. Mothers with good knowledge of antibiotics are expected to be more likely to comply with doctor's instructions and understand the concept of antibiotic resistance, thus being more cautious when administering antibiotics to children.

In addition to maternal behavior, educational level also plays a significant role in influencing knowledge regarding antibiotic use. Mothers with higher education generally have a better ability to understand medical information, including the indications and risks of antibiotic use. Research by Saputra & Lestari (2021) shows that formal education plays a role in developing critical thinking, making it easier for individuals to receive and process accurate health information. Conversely, mothers with lower education tend to have more difficulty understanding medical instructions and are more susceptible to misunderstandings regarding antibiotic use. Therefore, educational interventions need to be tailored to the mother's educational background so that health messages can be conveyed effectively.

In addition to education, access to information and support from health workers also significantly contribute to maternal knowledge. According to research by Pratiwi et al. (2022), mothers who have regular access to health services, such as visits to community health centers or consultations with doctors, demonstrate better knowledge levels than mothers who rarely interact with health workers. The availability of accurate information from trusted sources is key to preventing misunderstandings about antibiotics. Support from health workers in the form of counseling, leaflets, and public health campaigns can improve maternal health literacy, enabling them to distinguish between rational and irrational antibiotic use.

Mothers' Behavior in the Pediatric Clinic at Sitiung 1 Community Health Center, Dharmasraya Regency, 2025

Based on the results of the study, Table 1 shows that of the 80 respondents, nearly half (49 respondents) had good attitudes toward antibiotic use in children aged 2-5 years at the Pediatric Clinic at Sitiung 1 Community Health Center. A study by Rahmawati and Sari (2021) entitled "The Relationship Between Knowledge Levels and Attitudes in Family Practices in Administering Medication at the Kampung Bugis Bintan Community Health Center" also found that mothers who received sufficient information about antibiotics tended to have better behaviors in caring for their children. This suggests that there is still room for improvement, particularly in addressing poor maternal behavior. Other studies have emphasized the importance of further interventions to educate mothers about the risks of antibiotic resistance and the negative impacts on children's health, so that antibiotic use can be carried out appropriately and safely. This research aligns with Kurnia (2020), who wrote in a study titled "Health Education for Mothers: The Importance of Improving Knowledge about Antibiotics," explaining that health education for mothers is crucial in this context. Programs aimed at increasing mothers' knowledge and awareness regarding antibiotic use can help improve their behavior. According to Nurse Education Today (2020), training healthcare workers to provide clear and understandable information can help mothers make better decisions regarding antibiotic use for their children.

In line with Hurmia (2020), support from healthcare workers also plays a crucial role in shaping maternal behavior. Mothers who feel supported and receive accurate information from healthcare workers are more likely to follow instructions for proper antibiotic use. This suggests that good communication between healthcare workers and patients can improve treatment adherence and correct antibiotic use behavior.

Behavior is influenced by the interaction of internal and external factors. According to Albert Bandura, social learning theory emphasizes that people learn through observation and experience, as well as the influence of the social environment. Furthermore, behaviorist psychological theories, such as those proposed by B.F. Skinner, emphasize the importance of reinforcement and punishment in shaping behavior. Factors such as needs, motivations, and emotions also play a role in determining a person's behavior. Thus, human behavior can be understood as the result of complex interactions between individuals and their environment, encompassing cognitive, affective, and social aspects (Skinner, 2019).

According to the researchers' assumptions, based on a 10-question questionnaire on mothers' attitudes toward antibiotics in children aged 2-5, mothers' attitudes regarding the risks of inappropriate antibiotic use, such as antibiotic resistance, play a significant role in their behavior. Finally, access to accurate and reliable information about children's health is expected to improve mothers' behavior in providing care. Based on these assumptions, the researchers hope to understand the factors influencing mothers' behavior

and formulate strategies to increase awareness and knowledge regarding the safe use of antibiotics.

The researchers' assumptions suggest that mothers' behavior regarding antibiotic use in children is influenced by their level of knowledge about the drugs. Mothers who have a good understanding of the indications and side effects of antibiotics are expected to be more careful in administering medication to their children, follow doctor's instructions, and avoid using antibiotics indiscriminately. Furthermore, mothers who actively participate in health education programs at community health centers tend to demonstrate better antibiotic use behavior.

According to the researchers' assumptions, mothers' attitudes toward their children's health are also assumed to influence their behavior. Mothers with positive and proactive attitudes toward treatment will be more disciplined in administering antibiotics according to the recommended dosage and duration. It is expected that mothers who understand the risks of antibiotic resistance will be more cautious in administering antibiotics to their children and will not use leftover medication from previous treatments. Based on these assumptions, the study aimed to determine the relationship between mothers' knowledge and their behavior regarding antibiotic use in children.

Correlation Between Mothers' Knowledge Level and Antibiotic Use Behavior in Children Aged 2-5 Years at the Pediatric Clinic of Sitiung 1 Community Health Center, Dharmasraya Regency.

Table 3 shows that of the 37 respondents with good knowledge, the majority (22 respondents (59.5%) had good antibiotic use behavior, almost half (15 respondents (40.5%) had adequate antibiotic use behavior, and none had poor antibiotic use behavior. The Spearman rho test showed a significance value of $p = 0.584$, indicating that $p > 0.05$, thus Ha was rejected and Ho was accepted, indicating there was no significant relationship between maternal knowledge and antibiotic use behavior in children aged 2–5 years at the Children's Polyclinic of Sitiung 1 Community Health Center, Dharmasraya Regency in 2025. Furthermore, a correlation coefficient (r) of 0.062 was obtained, indicating that the relationship between maternal knowledge and antibiotic use behavior in children aged 2–5 years at the Children's Polyclinic of Sitiung 1 Community Health Center was very weak. The correlation coefficient (r) was positive, indicating that the higher the mother's knowledge, the better the antibiotic use behavior.

This condition can be caused by various factors other than knowledge, such as attitudes, family habits, previous experiences, trust in non-medical advice, or limited access to health workers. According to Notoatmodjo (2014), health behavior is influenced not only by knowledge but also by predisposing, enabling, and reinforcing factors. Therefore, knowledge alone does not guarantee consistent behavior change. A similar study by Putri et al. (2021) also found that although respondents' knowledge of antibiotics was quite good, their use behavior was not always rational. This was due to the habit of using leftover antibiotics from previous prescriptions or purchasing antibiotics without a prescription. Meanwhile, research by Andayani and Fitri (2020) confirmed that antibiotic use behavior is often influenced by personal perceptions and environmental pressures, not just medical knowledge.

Another factor that may play a role is invalid information sources. Mothers who obtain information from social media or family can be influenced by myths or misinformation (Ministry of Health of the Republic of Indonesia, 2021). Furthermore, research by Hadi et al. (2019) found that compliance with antibiotic use instructions was more closely related to attitudes and trust in health professionals than to knowledge alone. Therefore, while education to improve maternal knowledge remains important, a more comprehensive approach is needed that also targets the formation of attitudes, behaviors, and access to correct information. Intervention programs should combine education, increasing trust in healthcare professionals, and strengthening antibiotic purchasing regulations to promote more rational antibiotic use.

In addition to attitudes and habits, social influences are also important factors in antibiotic use. Support or pressure from family, neighbors, or friends can influence a mother's decision to prescribe antibiotics, even without a clear medical indication. In communal cultures like Indonesia, the experiences of those closest to her are often the primary reference, leading to the neglect of medical recommendations. This aligns with research by Widayanti et al. (2020), which found that family and environmental influences play a significant role in treatment decisions, including antibiotic use in children. Another factor is antibiotic access and regulation. In some regions, antibiotics are still readily available without a prescription at pharmacies or drugstores, resulting in weak controls over their use. This convenience encourages people to self-medicate, despite the high risk of resistance and side effects. According to the Indonesian Ministry of Health (2021), weak oversight of antibiotic distribution at the health facility and pharmacy levels contributes to high rates of irrational use, particularly in areas with limited access to healthcare services.

CONCLUSION

Based on the description of the research results and discussion on the relationship between the level of maternal knowledge and antibiotic use behavior in children aged 2-5 years at the Children's Polyclinic of Sitiung 1 Health Center, Dharmasraya Regency in 2025, it can be concluded that most of the mothers' knowledge level is sufficient, namely 42 respondents (51.3%), Half of the mothers' behavior level is sufficient, namely 40 respondents (50%), There is no significant relationship between the level of maternal knowledge and antibiotic use behavior in children aged 2-5 years.

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