



THE INFLUENCE OF THE LEVEL OF KNOWLEDGE OF STUDENTS' PARENTS AT MUHAMMADIYAH 20 MEDAN PRIVATE ELEMENTARY SCHOOL ABOUT ANTIBIOTICS ON THE PERCEPTION OF CHRONIC COUGH SYMPTOMS

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Abstrak: Pendahuluan: Kurangnya pengetahuan orang tua mengenai penggunaan antibiotik yang tepat dapat berkontribusi terhadap munculnya resistensi antibiotik dan memperburuk kondisi kesehatan. **Tujuan:** Penelitian ini bertujuan untuk mengetahui pengaruh tingkat pengetahuan orang tua siswa SD Swasta Muhammadiyah 20 Medan tentang antibiotik terhadap gejala batuk kronis. **Metode:** Penelitian ini merupakan penelitian deskriptif analitik dengan desain *cross-sectional*. Jumlah sampel sebanyak 84 orang yang dipilih menggunakan teknik *purposive sampling*. Pengolahan data dilakukan menggunakan aplikasi statistik SPSS dengan uji Chi-Square pada tingkat kemaknaan $p < 0,05$. **Hasil:** Berdasarkan hasil uji statistik Chi-Square, diperoleh nilai $p = 0,008$ ($p < 0,05$). **Kesimpulan:** Terdapat pengaruh tingkat pengetahuan orang tua siswa SD Swasta Muhammadiyah 20 Medan tentang antibiotik terhadap persepsi gejala batuk kronis.

Kata Kunci: Antibiotik, Pengetahuan Orang Tua, Batuk Kronis, Resistensi Antibiotik.

Abstrak: Introduction: Lack of parental knowledge regarding the proper use of antibiotics can contribute to the emergence of antibiotic resistance and worsen health conditions. **Objective:** This study aims to determine the effect of the level of knowledge of parents of students of Muhammadiyah 20 Medan Private Elementary School about antibiotics on chronic cough symptoms. **Method:** This study is a descriptive analytical study with a cross-sectional design. The number of samples is 84 people. The sampling technique is purposive sampling. Data processing uses the SPSS statistical application using Chi-Square ($p < 0.05$). Results: Based on the results of the Chi-Square statistical test, the p value is obtained = 0.008 ($p < 0.05$). **Conclusion:** There is an Influence of the Level of Knowledge of Parents of Students of Muhammadiyah 20 Medan Private Elementary School About Antibiotics on the Perception of Chronic Cough Symptoms.

Keywords: Antibiotics, Parental Knowledge, Chronic Cough, Antibiotic Resistance.

How to Cite

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INTRODUCTION

Knowledge is acquired through a cognitive process, requiring a person to first understand or recognize a particular science in order to understand it. Human knowledge is

the result of human effort in seeking the truth or addressing a problem. The activities or efforts undertaken by humans to seek the truth or address the problems they face are fundamentally driven by their own nature or desires. It is society's desires that drive them to achieve whatever they desire. What differentiates individuals is the effort they put forth to achieve their desires (Darsini et al., 2020).

Antibiotics are drugs used to prevent and treat infections caused by bacteria. Antibiotics work by killing or stopping the growth of bacteria in the body. Antibiotics should be used based on a doctor's clinical judgment and given to patients through a prescription (Kirana & Feliadita, 2022). Not all antibiotics require three doses per day. For example, Cefadroxil is taken twice daily, every 12 hours. Amoxicillin, on the other hand, should be taken three times daily, with an eight-hour interval. Chloramphenicol, on the other hand, needs to be taken four times daily, with a six-hour interval (Fidia et al., 2024). The prevalence of antibiotic use in Indonesia is quite high, around 40%–60%. Improper antibiotic use can lead to antibiotic resistance. Antibiotic resistance is the ability of bacteria to neutralize and weaken the effectiveness of antibiotics. Antibiotic resistance also negatively impacts people's lives, such as increased morbidity and mortality, increased costs, longer hospital stays, and side effects (Imansyah & Alam, 2021). Antibiotic resistance is a global public health problem. In 2014, the WHO declared this problem a serious threat to public health, including in Indonesia. According to Regulation of the Minister of Health of the Republic of Indonesia Number 28 of 2021, antibiotic resistance has become a health problem with various adverse impacts that can reduce the quality of health services (Safitri et al., 2022). According to the WHO, antibiotic resistance is one of the ten global health threats, with the death rate due to antibiotic resistance increasing by around 700,000 people per year. As infections caused by resistant microorganisms continue to develop and spread, it is estimated that deaths due to antibiotic resistance could rise to 10 million by 2050 (Siari et al., 2021).

A study in Ampek Angkek District found that the community's knowledge of antibiotics was good, at 87%. However, there were some shortcomings, such as a lack of awareness that antibiotics are classified as prescription drugs. This was even evident in the field, where people questioned the meaning of this class of prescription drugs (Santoso et al., 2022).

Coughing is the most common symptom of illness, with a prevalence of coughing reaching approximately 15% in children. One in ten patients visiting a healthcare facility each year primarily complains of coughing. Coughing can cause discomfort, disrupt sleep, interfere with daily activities, and reduce quality of life. Coughing is a complex physiological reflex that protects the lungs from mechanical, chemical, and thermal trauma (Riyanti & Emelia, 2021). An objective study found that healthy children, with an average age of 10 years, typically experience 10 coughs, ranging from 10 to 34, in a 24-hour period, with most coughs occurring during the day. Coughs can be divided into three groups: acute, subacute, and chronic. A cough lasting less than 2 weeks is considered acute, between 2–4 weeks is called subacute, and a cough lasting more than 4 weeks is considered chronic. Chronic coughs are quite common in children and are more common in boys, as boys are more active than girls. In pediatric patients, coughing, especially chronic or recurring coughs, can disrupt daily activities, including schoolwork, reduce appetite, and hinder growth and development. Parents may also be concerned, especially if the coughing is more frequent and intense at night (Setiyanto, 2020).

METHOD

This study used a descriptive analytical cross-sectional design. Data were collected only once to analyze the influence of parents' knowledge of antibiotics on their perception of chronic cough symptoms at Muhammadiyah 20 Medan Private Elementary School. The sample for this study was parents of students at Muhammadiyah 20 Medan Private Elementary School who met the inclusion and exclusion criteria.

The inclusion and exclusion criteria in this study are:

a. Inclusion Criteria

1. Parents whose children attend Muhammadiyah 20 Medan Private Elementary School.
2. Parents of students aged 6-10 years, and have given written consent to participate in the study.
3. Parents who can read and write to fill out the questionnaire correctly.

b. Exclusion Criteria

1. Parents who did not provide written consent to participate in the study.
2. Parents who cannot read or write, and are therefore unable to fill out the questionnaire correctly.

The sample was selected using a purposive sampling technique, where researchers select respondents based on specific criteria relevant to the research objectives. This technique was used to ensure that the sample possessed the characteristics necessary to effectively answer the research questions, in accordance with the inclusion and exclusion criteria. The sample in this study consisted of 84 individuals who met both inclusion and exclusion criteria.

The data used in this study were obtained using a questionnaire, which was distributed with the assistance of teachers and distributed to parents and students. The results were analyzed using the Chi-square statistical test with a p-value <0.05.

RESULTS AND DISCUSSION

Table 1. Demographic data of students' parents

Gender	N	%
Man	25	29.8%
Woman	59	70.2%
Age		
29-38	59	70.2%
40-44	20	23.8%
53-56	5	6.0%
Education		
Elementary School	2	2.4%
JUNIOR HIGH SCHOOL	8	9.5%
SENIOR HIGH SCHOOL	43	51.2%
Diploma/Bachelor's Degree	31	36.9%
Work		
Government employees	10	11.9%
Private employees	7	8.3%
Housewife	52	61.9%
Other	15	17.9%
Income		
<3,800,000	50	59.5%

>3,800,000	34	40.5%
Total	84	100%

Based on table 1, it was found that there were 25 male respondents (29.8%), while there were 59 female respondents (70.2%). There were 59 respondents (70.2%) aged 29-38 years, while there were 20 respondents (23.8%) aged 40-44 years, and there were 5 respondents (6.0%) aged 53-56 years. There were 43 respondents (51.2%) with Diploma/Bachelor's degree, 31 respondents (36.9%) with High School education, 8 respondents (9.5%) with Junior High School education, and 2 respondents (2.4%) with Elementary School education. There were 52 respondents (61.9%) with housewives, 15 respondents (17.9%) with other jobs, 10 respondents (11.9%) with civil servants, and 7 respondents (8.3%) with private employees. It was found that respondents based on income <3,800,000 were 50 respondents (59.5%), while those with income >3,800,000 were 34 respondents (40.5%).

Table 2. Parents' knowledge of antibiotics and perception of chronic cough symptoms in children

Knowledge	N	%
Good	47	56.0%
Enough	29	34.5%
Not enough	8	9.5%
Perception of Chronic Cough Symptoms		
Heavy	33	39.3%
Light	51	60.7%
Total	84	100%

Based on table 2, the results of knowledge about antibiotics showed that 47 respondents (56.0%) had good knowledge, 29 respondents (34.5%) had sufficient knowledge, and 8 respondents (9.5%) had insufficient knowledge. 51 respondents (60.7%) had mild symptoms of chronic cough, while 33 respondents (39.3%) had severe symptoms.

Table 3. The influence of parental knowledge level about antibiotics on the perception of chronic cough symptoms in children

		Perception of Chronic Cough Symptoms			<i>P value</i>
		Light	Heavy	Total	
		n (%)	n (%)	n (%)	
Knowledge	Good	25 (53.2)	22 (46.8)	47 (100.0)	0.008*
	Enough	5 (17.2)	24 (82.8)	29 (100.0)	
	Not enough	3 (37.5)	5 (62.5)	8 (100.0)	
Total		33	51	84	

Based on table 3, the results of the analysis of the influence of a good level of knowledge about antibiotics on the perception of mild chronic cough symptoms were obtained that there were 25 respondents (53.2%), while at a good level of knowledge about antibiotics on the perception of severe chronic cough symptoms were obtained 22 respondents (46.8%), while the influence of a sufficient level of knowledge about antibiotics on the perception of mild chronic cough symptoms was obtained 5 respondents (17.2%), while at a sufficient level of knowledge about antibiotics on the perception of severe chronic cough symptoms there were 24 respondents (82.8%), and on the influence of a poor level of

knowledge about antibiotics on the perception of mild chronic cough symptoms there were 3 respondents (37.5%), while at a poor level of knowledge about antibiotics on the perception of severe chronic cough symptoms there were 5 respondents (62.5%).

Based on the results of the chi-square statistical test in Table 3, the p-value was 0.008 ($p < 0.05$). These results indicate a significant effect of parental knowledge of antibiotics on the perception of chronic cough symptoms among students at Muhammadiyah 20 Medan Private Elementary School.

DISCUSSION

From the results of the demographic data analysis on the research sample of 84 samples of parents of students, it was found that respondents with the highest level of education were Diploma/Bachelor as many as 43 respondents (51.2%), obtained a level of knowledge about antibiotics at good knowledge as many as 47 respondents (56.0%), sufficient knowledge as many as 29 respondents (34.5%), and poor knowledge was found as many as 8 respondents (9.5%). That from the results of the research conducted, it was found that the level of knowledge about antibiotics in parents of students was found to be good at the Diploma/Bachelor level of education.

Research conducted in Saudi Arabia indicates that more people with good antibiotic knowledge have undergraduate education. Furthermore, research in South Korea showed that those with higher education had 2.39 times better antibiotic knowledge than those with only primary school education (Ruslin et al., 2023).

According to research conducted in Ampek Angkek District, the community's knowledge of antibiotics was found to be good, at 87%. Lack of knowledge about antibiotics can lead to ineffective treatment, increase complications and patient morbidity, and increase healthcare costs. According to the principles of drug use, it must be followed according to the indications, dosage, method of administration, duration of use, effectiveness, and safety (Santoso et al., 2022).

Based on the results of this study, it was found that 51 respondents (60.7%) perceived chronic cough symptoms as mild, while 33 respondents (39.3%) perceived severe chronic cough symptoms. The results of this study indicate that the perception of mild chronic cough symptoms in children is more common.

Chronic cough is quite common in children and is more common in boys. In pediatric patients, coughing, especially chronic or recurrent symptoms, can disrupt daily activities, including schoolwork, reduce appetite, and hinder growth and development. Parents may also be concerned, especially if the coughing is more frequent and intense at night (Setiyanto, 2020).

Based on this study, there were more respondents with a good level of knowledge about antibiotics regarding the perception of mild chronic cough symptoms in children, as many as 25 respondents (53.2%) compared to those with a poor level of knowledge about antibiotics regarding the perception of severe chronic cough symptoms in children, as many as 5 respondents (17.2%).

Knowledge is closely related to education, so individuals with a higher level of education are expected to have broader knowledge. It's important to note that a low level of education doesn't necessarily mean a low level of knowledge. A person's knowledge of something has two components: positive and negative aspects. The more positive aspects and

objects a person knows, the stronger their positive attitude toward that object (Darsini et al., 2020).

The results of this study have been proven significantly, namely that there is an influence of the level of knowledge of parents of students at Muhammadiyah 20 Medan Private Elementary School about antibiotics on the perception of chronic cough symptoms.

CONCLUSION

It was found that more parents of students had good knowledge about antibiotics, and the severity of the perception of chronic cough symptoms experienced by children was included in the mild category, where there was an influence on the level of parental knowledge about antibiotics on the perception of chronic cough symptoms.

SUGGESTION

1. Researchers suggest that respondents with low knowledge need to increase their knowledge about antibiotics so that they can follow the correct use of antibiotics.
2. Researchers suggest that parents should be more proactive in consulting with medical personnel before giving medication to children, especially antibiotics.
3. Researchers suggest that in addition to questionnaires, future researchers can consider using in-depth interviews or focus group discussions (FGDs) to gain a deeper understanding of parents' knowledge of the correct use of antibiotics.

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