OVERVIEW OF MOTHER'S KNOWLEDGE LEVEL ON THE USE OF DEWORMING IN CHILDREN

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ARTICLE INFORMATION

Date, 12 October 2024
Revised : 15 November 2024
Accepted: 22 December 2024
DOI:

KEYWORDS

worm medicine, worm disease, level of knowledge.

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A B S T R A C T

Worm disease is an endemic and chronic disease caused by parasitic worms. Worm disease mostly occurs in children ranging from pre-school to elementary school age due to frequent playing on the ground. Worm treatment must be carried out routinely, compliance with taking deworming medication must be in accordance with the instructions of medical personnel and efforts to comply with giving medication to children are still controlled by parents. The role of parents is an important factor in children's health, if knowledge is lacking, it can result in parents being unable to supervise and protect children's behavior to avoid disease efficiently. This study was conducted to determine the level of maternal knowledge regarding the use of deworming medication in children and whether there is a relationship between age, occupation and education with the level of maternal knowledge regarding the use of deworming medication in children in Kadolokatapi Village, Wolio District, Baubau City. The method used was a cross-sectional survey using a questionnaire. Determination of the sample refers to certain criteria (purposive sampling) involving 100 respondents in Kadolokatapi Village. The results of this study showed that 51 respondents with a percentage value of 51% had a good level of knowledge, while 37 respondents with a percentage value of 37% had a sufficient level of knowledge and 12 people with a percentage value of 12% had a poor level of knowledge and from the results of the Chi-square test, there was no significant relationship between age, occupation and education with the level of maternal knowledge regarding the use of deworming drugs in children.

INTRODUCTION

Worm disease is a medical condition that occurs due to a parasitic infection in the form of worms, where mild attacks and severe attacks can occur (Syafrawati & Ramadani, 2022). Conditions and behaviors that cause a high incidence of worm disease are the lack of clean and healthy living behaviors and poor environmental sanitation, for example, the habit of children who eat before cleaning their hands and also do not clean their hands with soap after defecating, having dirty nails, snacking in random places with unmaintained hygiene, defecating not in the toilet so that worm eggs contained in the feces contaminate the soil and lack of availability of clean water sources (Sigalingging et al., 2019).

At this time, it is estimated that there are around 1.3 billion people who have the potential to contract Filariasis in the world. The number is spread across more than 83 countries and 60% of the cases are found in Southeast Asia. In line with this, Indonesia has set a target to combat filariasis by 2030 (Ministry of Health of the Republic of Indonesia, 2022). From statistical information obtained from the Southeast Sulawesi Provincial Health Office in 2010 the prevalence of worm disease was 29.50%, in 2011 the prevalence rate of worm disease increased to 32.11%, while in 2012 the prevalence rate of worm disease decreased again to 31.08% (Arimaswati et al., 2020).

The majority of worm diseases occur in preschool and elementary school children because they often play on the ground. Elementary school students are also the highest category affected by soil-borne worm infections (Hanif et al., 2017). This worm disease can cause a decrease in the patient's health, nutrition, intelligence and productivity and can result in a lack of carbohydrates, protein and blood in the body, thereby lowering the level of human health (Permenkes RI, 2017).

Worm treatment should be carried out regularly. All parties must contribute to tackling and anticipating worm diseases, both the government, families, communities, and children. Compliance in taking deworming must follow the directions of medical personnel and efforts to comply with the

administration of drugs to children are still controlled by parents (Cholifah, 2016 in Sari, 2021). The role of parents is an important factor in children's health, if knowledge is lacking, it can result in parents not being able to supervise and protect children's behavior to avoid diseases efficiently (Yurika et al., 2020). Parents must be able to treat themselves, they also need to know the causes of worm disease and how to prevent it (Hasibuan, 2018).

Based on research conducted by Rozanah (2021) in Sidaharja Village, Suradadi District, Tegal Regency, it shows that as many as 70% of mothers are well-educated, 22.1% are moderately knowledgeable and 7.4% are less knowledgeable. In another study conducted by Kurniasih, et al (2023) at one of the Posyandu in the city of Bandung, it showed that 59.6% were well knowledged, 34.6% were sufficiently knowledgeable, and 5.8% were less knowledgeable. Therefore, the researcher is interested in conducting a study on the description of the level of knowledge of mothers about the use of deworming drugs in children in Kadolokapi Village, Wolio District, Baubau City.

METHODOLOGY

This research is a quantitative research conducted at one time or commonly known as the *cross sectional* survey method. The type of data is primary data, namely data directly obtained by researchers from the questionnaire distributed (Sarni & Sidayat, 2020). The population in this study is mothers who have preschool and elementary school children in Kadolokatapi Village with the population type is an unknown population. This research was carried out from May to June 2024 in Kadolokapi Village, Wolio District, Baubau City. Sampling was carried out using *the purposive sampling* technique and to determine the number of samples the Rao Purba formula was used so that the number of samples was 96 people, but in order for the results obtained to be more accurate and representative, the researcher determined a sample of 100 respondents. In this study, data analysis was carried out using univariate analysis techniques in order to find out the frequency and percentage distribution to explain or describe each variable in the research and bivariate analysis using the Chi-square test to find out if there is a relationship between age, occupation and education.

RESULTS AND DISCUSSION

RESEARCH RESULTS

Table 1. Research Respondent Category

It	Respondent Category		Frequency	Percentage (%)
1.	Age	17-25 years old	19	19%
		26-35 years old	27	27%
		36-45 years old	54	54%
2.	Work	Housewives	92	92%
		Civil Servants (PNS)	4	4%
		Self employed	4	4%
3.	Education	Elementary School (SD)	11	11%
		Junior High School (SMP)	21	21%
		Senior High School/Vocational School (SMA/K)	53	53%
		College	15	15%
Total			**100**	**100%**

Source: Primary data, 2024

Table 2. Distribution of Respondents' Answers

No.	Question	Expected Answer	Respondent's Answer		Total
			Know	Don't Know	
1.	Do you know what worm disease is?	Know	97 (97%)	3 (3%)	100 (100%)
2.	Do you know if worm disease can cause stunting?	Know	85 (85%)	15 (15%)	100 (100%)
3.	Do you know that decreased appetite is one of the characteristics of worm disease?	Know	91 (91%)	9 (9%)	100 (100%)
4.	Do you know if pregnant women should not take deworming drugs?	Know	85 (85%)	15 (15%)	100 (100%)
5.	Do you know that breastfeeding mothers, children under 2 years old, people with liver and kidney disorders must be careful and not	Know	68 (68%)	32 (32%)	100 (100%)

	carelessly consume deworming?				
6.	Do you know if headaches, nausea, vomiting, dizziness, drowsiness, abdominal pain and diarrhea are side effects of deworming?	Know	39 (39%)	61 (61%)	100 (100%)
7.	Did you know that Pirantel Pamoat is inefficient on eggs and chicks?	Know	20 (20%)	80 (80%)	100 (100%)
8.	Did you know that adults need to take deworming?	Know	81 (81%)	19 (19%)	100 (100%)
9.	Do you know the various types of worms in the body?	Know	38 (38%)	62 (62%)	100 (100%)
10.	Do you know that Pirantel Pamoat worm medicine is a class of limited over-the-counter drugs?	Know	45 (45%)	55 (55%)	100 (100%)
11.	Did you know that roundworms, whipworms and hookworms are soil-borne worms?	Know	67 (67%)	33 (33%)	100 (100%)
12.	Do you know that deworming should not be taken every day?	Know	94 (94%)	6 (6%)	100 (100%)
13.	Do you know if deworming is given by mouth/orally?	Know	99 (99%)	1 (1%)	100 (100%)
14.	Did you know that taking deworming is better after eating?	Know	92 (92%)	8 (8%)	100 (100%)
15.	Did you know that the dosage of medication between children and adults is not the same?	Know	90 (90%)	10 (10%)	100 (100%)
16.	Do you know that Pirantel Pamoat deworming medicine can be obtained without a doctor's prescription?	Know	53 (53%)	47 (47%)	100 (100%)
17.	Do you know that deworming must be given periodically every 6 months once a time?	Know	96 (96%)	4 (4%)	100 (100%)

Source: Primary data, 2024

Table 3. Distribution of Respondents' Knowledge Levels

No.	Level of Knowledge	Frequency	Percentage (%)
1.	Good (76%-100%)	51	51%
2.	Sufficient (56%-75%)	37	37%
3.	Less (<56%)	12	12%
Total		**100**	**100%**

Source: Primary data, 2024

Table 4. Distribution of Knowledge Level Based on Age and P-value of Chi-square Test Results

Age	Category			Total	P-value
	GOOD	ENOUGH	LESS		
	f (%)	f (%)	f (%)	f (%)	
17-25 Years	7 (37%)	8 (42%)	4 (21%)	19 (100%)	0,381
26-35 Years	16 (59%)	10 (37%)	1 (4%)	27 (100%)	
36-45 Years	28 (52%)	19 (35%)	7 (13%)	54 (100%)	
Total	51 (51%)	37 (37%)	12 (12%)	100 (100%)	

Source: Primary data, 2024

Table 5. Distribution of Knowledge Level Based on Occupation and P-value of Chi-square Test Results

Work	Category			Total	P-value
	GOOD	ENOUGH	LESS		
	f (%)	f (%)	f (%)	f (%)	
Housewives	46 (50%)	35 (38%)	11 (12%)	92 (100%)	0,524
Civil servants	3 (75%)	0	1 (25%)	4 (100%)	
Self employed	2 (50%)	2 (50%)	0	4 (100%)	
Total	51 (51%)	37 (37%)	12 (12%)	100 (100%)	

Source: Primary data, 2024

Table 6. Distribution of Knowledge Levels Based on Education and P-value Chi-square Test Results

Education	Category			Total	P-value
	GOOD	ENOUGH	LESS		
	f (%)	f (%)	f (%)	f (%)	

SD	4 (36%)	4 (36%)	3 (28%)	11 (100%)	
JUNIOR	10 (48%)	9 (43%)	2 (9%)	21 (100%)	
SMA/K	28 (53%)	20 (38%)	5 (9%)	53 (100%)	0,680
College	9 (60%)	4 (27%)	2 (13%)	15 (100%)	
Total	51 (51%)	37 (37%)	12 (12%)	100 (100%)	

Source: Primary data, 2024

DISCUSSION

A total of 19% of respondents are 17-25 years old, 27% are 26-35 years old and 54% are 36-45 years old. Based on the type of work, 92% are housewives, 4% are civil servants and 4% are self-employed. Based on the level of education, 11% are elementary school graduates, 21% are junior high school graduates, 53% are high school/K graduates and 15% are college graduates.

From the results of the tabulation of respondents' answers to deworming which consisted of 17 questions to 100 respondents. The first question gave the result that 97% of respondents knew what worm disease was and 3% of respondents did not know what worm disease was. The 3% of respondents who did not know based on age consisted of 17 to 25 years old as much as 1%, 1% who were 26 to 35 years old and 1% who were 36 to 45 years old. Based on the type of work, the 3% are housewives. Based on the level of education, it consists of 1% of elementary school graduates, 1% of high school/K graduates and 1% of university graduates.

The second question stated that 85% of respondents knew if worms could inhibit children's growth, while 15% did not know about it. The 15% of respondents who did not know, based on age, consisted of 3% who were 17 to 35 years old, 1% who were 26 to 35 years old and 11% who were 36 to 45 years old. Based on the type of work, it consists of 14% housewives and 1% civil servants. Based on the level of education, it consists of 2% of elementary school graduates, 2% of junior high school graduates, 10% of high school/K graduates and 1% of university graduates.

The third question gave the result that 91% of respondents knew that one of the symptoms of worms was decreased appetite, while 9% did not know it. The 9% of respondents who did not know, based on age, consisted of 2% who were 17 to 25 years old, 2% who were 26 to 35 years old and 5% who were 36 to 45 years old. Based on the type of work, it consists of 8% housewives and 1% civil servants. Based on the level of education, it consists of 2% of elementary school graduates, 2% of junior high school graduates, 4% of high school/K graduates and 1% of university graduates.

The fourth question gave the result that 85% of respondents knew that pregnant women should not consume deworming, while 15% did not know it. The 15% of respondents who do not know, based on age, consist of 6% who are 17 to 25 years old, 3% who are 26 to 35 years old and 6% who are 36 to 45 years old. Based on the type of work, it consists of 14% housewives and 1% civil servants. Based on the level of education, it consists of 4% of elementary school graduates, 3% of junior high school graduates, 6% of high school/K graduates and 2% of university graduates.

The fifth question gave the result that 68% of respondents knew that breastfeeding mothers, children under 2 years old, people with liver and kidney disorders should be careful and not carelessly consume deworming, while 32% did not know it. The 32% of respondents who did not know, based on age, consisted of 7% who were 17 to 25 years old, 8% who were 26 to 35 years old and 17% who were 36 to 45 years old. Based on the type of work, it consists of 29% housewives, 2% civil servants and 1% self-employed. Based on the level of education, it consists of 6% of elementary school graduates, 6% of junior high school graduates, 14% of high school/K graduates and 6% of university graduates.

The sixth question gave the result that 39% of respondents knew that headaches, nausea, vomiting, dizziness, drowsiness, abdominal pain and diarrhea were side effects of deworming, while 61% did not know about it. 61% of respondents who did not know, based on age, consisted of 15% who were 17 to 25 years old, 14% who were 26 to 35 years old and 32% who were 36 to 45 years old. Based on the type of work, it consists of 56% housewives, 1% civil servants and 4% self-employed. Based on the level of education, it consists of 9% of elementary school graduates, 14% of junior high school graduates, 30% of high school/K graduates and 8% of university graduates.

The seventh question gave the result that 20% knew that Pirantel Pamoat was inefficient on eggs and chicks, while 80% did not know it. 80% of respondents who do not know, based on age, consist of 16% who are 17 to 25 years old, 22% who are 26 to 35 years old and 42% who are 36 to 45 years old. Based on the type of work, it consists of 73% housewives, 3% civil servants and 4% self-employed. Based on the level of education, it consists of 10% of elementary school graduates, 15% of junior high school graduates, 42% of high school/K graduates and 13% of university graduates.

The eighth question gave the result that 81% of respondents knew that the consumption of deworming drugs was not only in children but also adults, while 19% did not know it. The 19% of respondents who did not know, based on age, consisted of 4% who were 17 to 25 years old, 4% who were 26 to 35 years old and 11% who were 36 to 45 years old. Based on the type of work, it consists of 17% housewives and 2% civil servants. Based on the level of education, it consists of 5% of junior high school graduates, 10% of high school/K graduates and 4% of university graduates.

The ninth question gave the result that 38% of respondents knew about the various types of worms in the body, while 62% did not know them. The 62% of respondents who did not know, based on age, consisted of 11% who were 17 to 25 years old, 15% who were 26 to 35 years old and 36% who were 36 to 45 years old. Based on the type of work, it consists of 58% housewives, 2% civil servants and 2% self-employed. Based on the level of education, it consists of 10% of elementary school graduates, 12% of junior high school graduates, 32% of high school/K graduates and 8% of university graduates.

The tenth question gave the result that 45% of respondents knew that Pirantel Pamoat worm medicine was a group of limited over-the-counter drugs, while 55% did not know it. The 55% of respondents who did not know, based on age, consisted of 14% who were 17 to 25 years old, 13% who were 26 to 35 years old and 28% who were 36 to 45 years old. Based on the type of work, it consists of 51% housewives, 1% civil servants and 3% self-employed. Based on the level of education, it consists of 3% of elementary school graduates, 14% of junior high school graduates, 32% of high school/K graduates and 6% of college graduates.

The eleventh question gave the result that 67% of respondents knew that roundworms, whipworms and hookworms were worms spread through the soil, while 33% did not know about them. The 33% of respondents who did not know, based on age, consisted of 6% who were 17 to 25 years old, 11% who were 26 to 35 years old and 16% who were 36 to 45 years old. Based on the type of work, it consists of 31% housewives, 1% civil servants and 1% self-employed. Based on the level of education, it consists of 4% of elementary school graduates, 7% of junior high school graduates, 18% of high school/K graduates and 4% of university graduates.

The twelfth question stated that 94% of respondents knew that deworming should not be taken every day, while 6% did not know. The 6% of respondents who do not know, based on age, consist of 1% who are 17 to 25 years old, 1% who are 26 to 35 years old and 4% who are 36 to 45 years old. Based on the type of work, the 6% are housewives. Based on the level of education, it consists of 1% of elementary school graduates, 2% junior high school graduates, 2% high school/K graduates and 1% university graduates.

The thirteenth question gave the result that 99% of respondents knew if the deworming was given by mouth/orally, while 1% did not know it. The 1% of respondents who did not know were housewives aged 26 to 35 years and were high school/K graduates.

The fourth question gave the result that 92% of respondents knew that taking deworming should be after meals, while 8% did not know it. The 8% of respondents who did not know, based on age, consisted of 4% who were 17 to 25 years old, 1% who were 26 to 35 years old and 3% who were 36 to 45 years old. Based on the type of work, the 8% are housewives. Based on the level of education, it consists of 2% of elementary school graduates, 1% of junior high school graduates, 4% of high school/K graduates and 1% of university graduates.

The fifteenth question stated that 90% of respondents knew that the dosage of the drug in children and adults was not the same, while 10% did not know it. The 10% of respondents who do not know, based on age, consist of 2% who are 17 to 25 years old, 2% who are 26 to 35 years old and 6% who are 36 to 45 years old. Based on the type of job, the 10% are housewives. Based on the level of education, it consists of 3% of elementary school graduates, 3% junior high school graduates, 3% high school/K graduates and 1% university graduates.

The sixteenth question gave the result that 53% of respondents knew that Pirantel Pamoat worm medicine could be obtained without a doctor's prescription, while 47% did not know it. 47% of respondents who did not know, based on age, consisted of 13% who were 17 to 25 years old, 10% who were 26 to 35 years old and 24% who were 36 to 45 years old. Based on the type of work, it consists of 44% housewives, 1% civil servants and 2% self-employed. Based on the level of education, it consists of 6% of elementary school graduates, 10% of junior high school graduates, 27% of high school/K graduates and 4% of university graduates.

The seventeenth question gave the result that 96% of respondents knew if they had to give deworming periodically every 6 months once, while 4% of respondents did not know. The 4% of

respondents who did not know, based on age, consisted of 2% who were 17 to 25 years old, 1% who were 26 to 35 years old and 1% who were 36 to 45 years old. Based on the type of work, the 4% are housewives. Based on the level of education, it consists of 2% of junior high school graduates and 2% of high school/K graduates.

The question with the most known answer by respondents is question number 13, which is as much as 99%. The concept of taking medicine in general refers to a real action to avoid disease. Oral administration of drugs is very frequent and common among the public, so many people know about it (Cholifah, 2016). While the least known question is question number 7, which is as much as 20%. Although it has a very high success rate for killing worms in the body, pirantel pamoate is not effective for use against worm eggs or immature larvae. There are still many respondents who do not know it, because respondents have not received enough information about it (Darsini et al., 2019).

Most of the respondents were well-informed (76%-100%), namely 51 respondents with a percentage score of 51%, while 37 respondents with a percentage score of 37% had sufficient knowledge (56%-75%) and 12 respondents with a percentage score of 12% had less knowledge (<56%). This is in line with research conducted by Kurniasih, et al (2023) at one of the Posyandu in the city of Bandung, showing that as many as 59.6% are well knowledged, 34.6% are sufficiently knowledgeable, and 5.8% are less knowledgeable. Another research that is in line is a study conducted by Meilani, et al (2023) in Narawita Village, Cicalengka District, showing that as many as 46.4% are well knowledged, 28.6% are sufficiently knowledgeable and also 25% are less knowledgeable and research conducted by Gabriel, et al (2018) in West Petta Village, North Tabukan District which shows results as much as 40% are well knowledged, 35% are sufficiently knowledgeable and 25% are less knowledgeable.

It should be noted that knowledge plays an important role in preventing the occurrence of a health disorder. The higher the level of knowledge possessed, the less likely it is to suffer from the disease (Hakim et al., 2023). Some factors that can affect a mother's knowledge are education, work, age, experience, interests, environment and culture (Nurwanti, 2023) and have not received information from medical personnel. According to the researcher's assumption, the majority of knowledge obtained from the research results was due to the fact that the respondents had obtained sufficient information about worm diseases and deworming. and have not received information from medical personnel. According to the researcher's assumption, the majority of knowledge obtained from the research results was due to the fact that the respondents had obtained sufficient information about worm diseases and deworming.

Based on age, respondents with an age range of 17-25 years have good knowledge 37%, sufficient knowledge 42% and lack of knowledge 21%. Respondents with an age range of 26-35 years have good knowledge 59%, sufficient knowledge 37% and less knowledge 4%. Respondents with an age range of 36-45 years had good knowledge 52%, sufficient knowledge 35% and lack of knowledge 13%. From the results of the Chi-square test between age and knowledge level, a *p-value* or sig. of 0.381 was obtained, then *the p-value* > 0.05 so that there was no significant relationship between age and the mother's knowledge level.

Based on occupation, respondents who are housewives have good knowledge 50%, sufficient knowledge 38% and lack of knowledge 12%. Respondents who are civil servants have good knowledge 75% and lack of knowledge 25%. Respondents who are self-employed have good knowledge 50% and enough knowledge 50%. From the results of the Chi-square test between the type of work and the level of knowledge, a *p-value* or sig. of 0.524 was obtained, then the *p-value* > 0.05 so that there was no significant relationship between the work and the mother's level of knowledge.

Based on education, respondents who are elementary school graduates have good knowledge 36%, sufficient knowledge 36% and lack of knowledge 28%. Respondents who are junior high school graduates have good knowledge 48%, sufficient knowledge 43% and lack of knowledge 9%. Respondents who are high school/K graduates have good knowledge 53%, sufficient knowledge 38% and lack of knowledge 9%. Respondents who are university graduates have good knowledge 51%, sufficient knowledge 27% and lack of knowledge 13%. From the results of the Chi-square test between education and the level of knowledge, a *p-value* or sig. of 0.680 was obtained, then the *p-value* > 0.05 so that there was no significant relationship between education and the level of knowledge of mothers.

From the results obtained, it is known that most of the respondents have good knowledge, but there are still many respondents who have enough or even less knowledge. Based on the test results, there was no significant relationship between age, occupation and education and maternal knowledge

of deworming use in children. For this reason, there are other factors that cause a lack of maternal knowledge, namely experience, information sources, environment and socio-culture. In many cases, the more experience one experiences, the more knowledge one gains. In this case, the knowledge of mothers who have had children before should be higher than the knowledge of mothers who have just had children. The next factor is the source of information. Mothers who have access to a lot of information tend to have a higher level of knowledge than those who are limited in the information obtained. The next factor is the environment, if an area has an attitude that cares about children's health, especially worm diseases and the use of deworming, then it is very likely that the surrounding community also has this caring attitude. The next factor is socio-culture which has the potential to affect the way of looking at information. Individuals who live in closed environments often have difficulty obtaining new information (Darsini et al., 2019).

CONCLUSION

51 respondents with a percentage score of 51% had a good level of knowledge, while 37 respondents with a percentage score of 37% had a sufficient level of knowledge and 12 people with a percentage score of 12% had a low level of knowledge. Based on the results of the Chi-square test, it was found that there was no significant relationship between age, occupation and education and the level of maternal knowledge about the use of deworming in children.

The limitations of this study lie in the number of respondents who are only 100 people and the uneven distribution of questionnaires throughout the Kadolokalapi Village area, certainly not enough to describe the original condition of the area.

ACKNOWLEDGMENTS

The researcher would like to thank all parties who have provided advice, criticism, moral support and motivation so that the researcher can complete the preparation of this journal properly.

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