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Description of Mother's Knowledge and Adherence to Use of Helminthic Drugs in Kuwaluhan Village, Magelang Regency, Central Java

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Abstract: Worm infection has become public health issue with the highest prevalence in children under the age of five and elementary school-aged children. The children have difficulty maintaining the hygienist, especially when they are playing. This study aims to determined the level of knowledge and mothers' adherence to the use of helminthic drugs in Kuwaluhan Village, Magelang Regency. This research used a descriptive study with both a survey method and a cross-sectional approach. The purposive sampling technique was used, while the questionnaire was distributed to mothers with children under the age of five and elementary school-age children in Kuwaluhan Village RW 2, Magelang Regency, in December 2022. The results showed that the level of knowledge of mothers in Kuwaluhan Village RW 2, Magelang Regency, regarding the use of helminthic drugs out of a total of 74 mothers indicated that 33 respondents (44.59%) had good knowledge, 29 respondents (39.19%) had sufficient knowledge, and as many as 12 respondents (16.22%) had less knowledge. Meanwhile, at the adherence level, respondents were categorized as having high adherence by 1 respondent (1.35%), medium adherence by 73 respondents (98.65%), and low adherence by 0 respondents (0%). Based on these results, most of the mothers in Kuwaluhan RW 2, Magelang Regency have good knowledge and have a medium level of adherence to using helminthic drugs for children. This research is expected to provide information and increase parental and child motivation to learn more about worm prevention and treatment.

Keywords: Knowledge, Adherence, Helminthic Drugs, Magelang Regency

1. Introduction

Worms in the community are often considered a trivial disease, even though it has a very bad impact on the health and development of children. The government has made efforts to break the worm transmission chain by administering mass helminthic drugs, promoting healthy lifestyles and clean sanitation (Kemenkes RI, 2017). Based on data from Octama CI (2015) in the research by Puteri P *et al.*, (2019), there are still many Indonesian people who suffer from this disease, especially children, even though worms can be prevented by paying attention to personal and environmental hygiene as well as preventing it by taking regular deworming medication every 6 months. Therefore, efforts need to be made to eradicate intestinal worms.

According to World Health Organization (2016), more than 1.5 billion people or around 24% of the world's population are infected with *Soil Transmitted Helminths* (STH). STH

infections are very common in Southeast Asia, including Indonesia. According to WHO data, Indonesia is listed in third place, after India and Nigeria in the ranking of worms. The prevalence of intestinal worms in Indonesia varies between 2.5% and 62% (Kemenkes RI, 2017).

The low level of knowledge of the mother will have an impact on the parenting style of the mother towards the child, especially the parenting style that can prevent the child from worm infection, therefore the role of the parents, especially the mother, is important in tackling cases of worms because parents must be able to take self-medication, the mother too must know how worm infection can occur, worm breeding and how to prevent it (Hasibuan, 2018). The level of community adherence to treatment is highly related to treatment. Adherence with taking medication is one of the keys to successful treatment, including worms infection in children (Tumiwa *et al.*, 2021).

Most of the residents in Kuwaluhan Village live near a location where there are lots of rice fields and vacant land. Based on the observations of researchers, children in Kuwaluhan Village frequently play in the environment near agricultural fields, fields, and rivers without using footwear when playing. In Hadi *et al.*, (2020) research, used research variables to determine the level of knowledge and attitudes of mothers towards consumption of helminthic drugs in MI DDI Gusung Elementary School students, Makassar City. Subagiyono (2018) research, used research variables to determine the level of knowledge and behavior of mothers in an effort to prevent helminthiasis in children at Panti Dewi Kindergarten Tanjung Kalitirto Berbah Sleman.

The limitations of the research conducted by previous researchers are that not many have researched the level of knowledge and adherence with the use of helminthic drugs in children, so this research is still relatively new and has not been carried out by many previous researchers. Based on this description, the researcher is interested in research to find out how the level of knowledge and adherence of mothers regarding the use of helminthic drugs in Kuwaluhan Village, Magelang Regency.

2. Materials and Methods

This research is a descriptive research type with a survey method and a cross-sectional time approach where measurements and observations are made at the same time (Hidayat, 2015). The population in this research were mothers in the Kuwaluhan Village RW 2, Secang, Magelang Regency who had children under the age of five and elementary school-age children. The calculation of the number of samples in this research is the number of samples from 4 RT's that are incorporated in 1 RW. In RT 1, there were 17 mothers who had children under the age of five and elementary school-age children., in RT 2 there were 10 mothers who had children under the age of five and elementary school-age children, in RT 3 there were 21 mothers who had children under the age of five and elementary school-age children., and in RT 4 there were 26 mothers who had children under five and elementary school age.

The sampling technique in this research used a purposive sampling technique with a total sample of 74 respondents. The purposive sampling technique is a sampling method that is carried

out by selecting subjects based on certain characteristics that are considered to have a relationship with previously known population characteristics (Masturoh and Anggita, 2018). In conducting research, researchers determine research respondents with the following criteria:

Criteria for Inclusion:

Inclusion criteria are criteria that define research subjects as research samples that meet the requirements for inclusion as a sample (Notoatmodjo, 2012). Inclusion criteria in this research include a mother who lives in Kuwaluhan Village RW 2, Secang, Magelang Regency, a mother who has children under the age of five and elementary school-age children, and a mother who is willing to participate in research.

Criteria for Exclusion:

Exclusion criteria are criteria where research subjects cannot represent the sample because they do not meet the requirements of a research sample, such as ethical barriers, refusing to be respondents, or a situation that does not allow research to be carried out (Notoatmodjo, 2012). Exclusion criteria in this research include respondents who are unwilling to be research subjects, and respondents who were not at their home or had family obligations outside of town at the time of the research.

The variables examined in this research was the level of knowledge which included the definition of worms, methods of transmitting worms, signs of worms, the impact of worms, how to prevent worms, drugs to treat worms, and how to administer helminthic drugs, as well as research on the level of adherence regarding the use of worm medicines which included forgetting taking medication, changing medication dosages, stopping taking medication for a time, skipping medication doses and taking less medication than directed.

The instrument used in this research was a questionnaire to determine the level of knowledge and adherence of mothers. Before the questionnaire was distributed to the respondents, the researcher conducted a validity test to measure whether the questionnaire was valid or not. Based on the Aiken calculation formula Aiken, 1985, the validity of the Aiken index obtained from expert judgment is declared "Low" if it produces a value below 0.4. Validity is declared "Medium" if it produces a value between 0.4 and 0.8, and "High" if it produces a value greater than 0.8. As a result, all of the questions in this research satisfied the criteria. The overall average was 0.89.

In conducting research with human subjects, the application of ethics needs to be adapted to local conditions, especially in matters of language, values, norms, customs, and prevailing habits (Handayani, 2018). Research that includes humans as subjects can be accepted ethically if it is carried out based on valid scientific methods (Kemenkes RI, 2021). This research has been declared ethically passed by the Health Research Ethics Commission Faculty of Health Sciences, the University of Muhammadiyah Magelang with number 179/KEPK-FIKES/II.3.AU/F/2022.

This research was conducted in December 2022 in the Kuwaluhan Village RW 2, Secang, Magelang Regency with a total sample of 74 respondents. The research data was obtained from

the results of the questionnaires which were distributed and filled in by the respondents. The questionnaire used in this knowledge variable contains ten multiple-choice questions that must be answered by respondents. Each answer to this question is given a score of one if the answer is correct and a score of zero if the answer is wrong. Meanwhile, the adherence variable used the MARS (*Medication Adherence Rating Scale*) questionnaire with 5 questions to determine the level of maternal adherence with the answer choices "Always", "Often", "Sometimes", "Rarely", and "Never". The adherence level score is the sum of 5 questions with a range of 5-25. The data obtained were then analyzed descriptively by first giving the code and score to each respondent's answer. The data is then tabulated in tabular form using *Microsoft Office Excel* which is then processed to obtain a percentage as the conclusion of the research conducted.

The flowchart of the research stages carried out in this research is as follows:

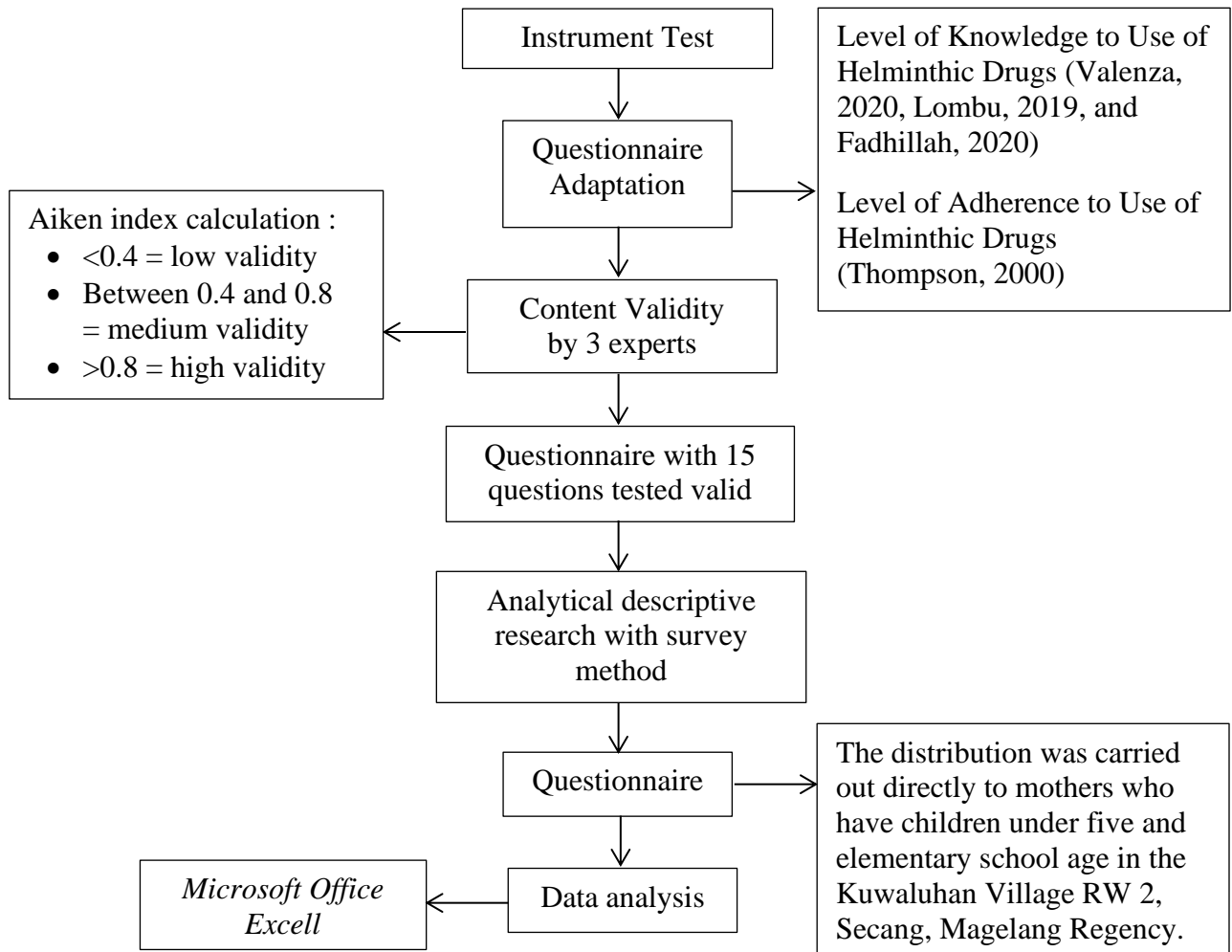


Figure 1. Flowchart of the research stages

3. Results and Discussion

Based on the results of research on "Description of the Level of Knowledge and Adherence of Mothers About the Use of Helminthic Drug in Kuwaluhan Village, Magelang Regency" which was conducted by distributing questionnaires to 74 respondents in December 2022, the data obtained from the results of distributing the questionnaires were then tabulated and analyzed. The research results can be described as follows:

3.1 Characteristics of Responden

3.1.1 Characteristics of Respondents by Age

The results of collecting data on the characteristics of respondents based on age are presented in Table 1.

Table 1. Characteristics Based on The Age of The Respondents

Age (year)	Number of Respondents	Percentage (%)
17 – 25	1	1.35
26 – 35	23	31.08
36 – 45	35	47.30
46 – 55	15	20.27
Total	74	100

Based on Table 1 it can be interpreted that some of the respondents in this research were aged between 36-35 years with a total of 35 respondents (47.30%). According to the Depkes RI (2009), ages 36-45 years are included in the category of late adulthood, where a person has an increased mindset so that it is easier and easier to receive information and knowledge throughout his life.

3.1.2 Characteristics of Respondents Based on Last Education

The results of data collection on the characteristics of respondents based on their last education are presented in Table 2.

Table 2. Characteristics Based on The Last Education of The Respondents

Last Education	Number of Respondents	Percentage (%)
Graduated from elementary school	0	0
Graduated from Junior High School	35	47.30
Graduated from Senior High School/Vocational School	29	39.19
College Graduate	10	13.51
Total	74	100

Based on Table 2, the last educational characteristics of the respondents show that most of the mothers in Kuwaluhan Village RW 2, Magelang Regency graduated from Junior High School with a total of 35 respondents (47.30%). According to JDIH BPK RI

(2008), Junior High School education falls into the category of basic education. This is also in line with previous research by Eviana (2020), showing that out of 69 respondents, most of the respondents had basic education, a total of 36 respondents (52.17%). According to Budiman & Riyanto (2013), the higher a person's education, the easier it is for that person to receive various information and increase their knowledge which can ultimately shape behavior.

3.1.3 Characteristics of Respondents Based on Profession

The results of data collection on the characteristics of respondents based on profession are presented in Table 3.

Table 3. Characteristics based on the profession of the respondents

Profession	Number of Respondents	Percentage (%)
Housewife	61	82.43
Private employees	6	8.11
Honorary Officer	4	5.41
Peasants/Laborers	0	0
State Civil Apparatus	3	4.05
Total	74	100

Based on Table 3, the profession characteristics of the respondents show that some of the respondents have employment status as housewives as many as 61 people (82.43%). This is in line with research by Subagiyono (2018), which says that the role and responsibility of the mother to prevent the risk of disease occurring during a child's development is very necessary because at each stage an actual pattern of behavior will be formed at every stage of life. This means that there is a relationship between children and parents that is closely related to the formation of the child's behavior so housewives have a very important role in a household, especially in paying attention to the growth and development of children.

3.2 Level of Mother's Knowledge About the Use of Helminthic Drugs

The results of data analysis on the level of mother's knowledge about the use of helminthic drugs were put into three categories, namely good, sufficient and poor categories which can be seen in Table 4.

Table 4. Distribution of mother's level of knowledge about the use of helminthic drugs

Level of Knowledge	Number of Respondents	Percentage (%)
Good	33	44.59
Sufficient	29	39.19
Poor	12	16.22
Total	74	100

Based on Table 4 it can be interpreted that some of the respondents in this research had a good level of knowledge as many as 33 respondents (44.59%). These

results may indicate that the knowledge of the respondents is not only obtained from formal education, but can also be obtained from the surrounding environment and the influence of information technology at this time. According to Darsini *et al.*, (2019) the environment influences the process of entering knowledge into individuals who are in that environment. However, there are still some respondents who have sufficient or insufficient levels of knowledge, so there is still a need to increase knowledge about worms, methods of treatment and methods of treating worms so that people's knowledge, especially a mother, can be better.

The results of this research are in line with research conducted by Rozanah (2021) showing that most of the research respondents had a good level of knowledge about the use of helminthic drugs in children, as many as 48 respondents (70.6%). After knowing the level of knowledge of the respondents, it can then be investigated further on each item of knowledge questions to be able to find out which information is still not known by the respondents so that it can be used as material for providing information to the public.

3.3 Level of Mother's Adherence About the Use of Helminthic Drugs

The results of data analysis on the level of maternal adherence regarding the use of helminthic drugs were categorized into three categories, namely high, medium and low categories which can be seen in Table 5.

Table 5. Distribution of mother's level of adherence about the use of helminthic drugs

Level of Adherence	Number of Respondents	Percentage (%)
High	1	1.35
Medium	73	98.65
Low	0	0
Total	74	100

Based on Table 5, it can be interpreted that the majority of respondents in this research had a medium level of adherence to the use of helminthic drugs in children, as many as 73 respondents (98.65%). In this research, the level of adherence of mothers in delivering helminthic drugs to children was classified as medium. For children under 5 years old, they always get helminthic drugs every 6 months at the Posyandu in Kuwaluhan Village. Respondents are adherence in applying helminthic drugs in children because posyandu cadres under the direction of the local puskesmas always remind respondents to offer helminthic drugs to children every 6 months. The results of this research are in line with research conducted by Wulandari *et al.*, (2019) showing that most of the research respondents had a medium level of maternal adherence with giving helminthic drugs to toddlers at the Karang Pule Mataram Health Center, as many as 19 respondents (63.3%).

According to the World Health Organization (2018) in research by Aliyana and Rosmiati (2021) medication adherence is also determined by several factors such as socioeconomic factors, health factors, disease condition factors, therapeutic factors, and

disease factors. Therefore, in solving the problem of patient compliance, it is not entirely up to the patient, but also to improve the health system and healthcare workers to provide direction on the importance of treating and preventing worms. According to Kardas *et al.*, (2013) in research by Edi (2015) the importance of having a harmonious family, having support from the family in terms of finances and in carrying out treatment, having parents or adults as the main caregivers in the family can also be a contributing factor to treatment adherence.

Based on the research experience that has been done, there are some limitations experienced by researchers so that it can be a concern for future researchers in perfecting their research. The limitations contained in this study include the limited area in this study only in Kuwaluhan Village RW 2, so that the scope of the research is still relatively narrow and the number of samples in this study is only 74 people, of course it is still insufficient when used to describe the actual situation.

4. Conclusion

Based on the results of the research that has been conducted regarding the description of the level of knowledge and compliance of mothers regarding the use of deworming drugs in Kuwaluhan Village, Magelang Regency, it can be concluded that the majority of mothers in Kuwaluhan Village RW 2 Secang, Magelang Regency have a good level of knowledge about using deworming as many as 33 respondents with a percentage of 44.59% and have a moderate level of compliance with 73 respondents with a percentage of 98.65%.

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Conflict of Interest

The authors has no conflict of interest.

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