

## KNOWLEDGE OF ELEMENTARY SCHOOL STUDENTS ABOUT WORMS

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### Abstract

The infection of intestinal worms is caused by many parasitic worm types, including roundworms, whips, and hooks. The objective of this research was to identify the worm and students knowledge of worms. This research carried out a descriptive survey approach with a cross-sectional study. The study subjects consisted of 44 students of SD Negeri 168 Solok Babata from grade 1 to 5. Data were collected through a questionnaire to assess the level of knowledge of worms. The research findings showed that 4.54% of students were positively afflicted with hookworms and 79.5% of students had a decent degree of worm awareness and 20.5% were in the bad group. The school is encouraged to have education about worms and ensure the cleanliness of the school environment.

Key Words: Worms, larvae of soil worms, parasitic worms

### INTRODUCTION

Worm infection caused by Soil Transmitted Helminths (STH) is one of the public health problems in Indonesia. Worm infections are classified as neglected diseases, namely infections that are not paid attention to and chronic diseases without causing clear clinical signs and impacts. Worms can be caused, among others, by *Ascaris lumbricoides*, helminthiasis and students' knowledge of worms *Ancylostoma duodenale*, *necator americanus*, *trichuris trichiura* and *strongyloides stercoralis*. In addition, helminthiasis can also be caused by infection with other important diseases such as tuberculosis, diarrhea and anemia (Winita, Mulyati & Astuty, 2012)

Data shows that more than 1.5 billion people or about 24% of the world's population are infected with STH (WHO, 2016). The highest incidence is in sub-Saharan Africa, America, China and East Asia. Indonesia is a place that really supports SHT to be able to develop well because it has a tropical climate and has high humidity. This is supported by the economic and social level of the community to maintain personal hygiene and the environment is still not good, thus causing the transmission of worm eggs more easily.

The highest prevalence of helminthiasis was in West Nusa Tenggara (86.6%), West Sumatra (82.3%) and North Sumatra (60.45%). The national rate for worms is 30.35%, with the description of the prevalence of roundworms

17.75%, whipworms 17.74% and hookworms 6.64% (Directorate General of PPM and PL, 2004). The prevalence of worm cases in Bengkulu Province according to the Bengkulu City Health Office in 2015 was 0.05% of the total population in Bengkulu City. Most cases occur in children and adults are no exception. This is mostly caused by various factors such as environmental sanitation and environmental hygiene (City Health Office, 2015).

The initial survey was conducted in two sub-districts in Seluma District, namely Sukaraja District and Air Periukan District, which contained 4 elementary schools, namely SD 13 Babatan, SD 01 Air Periukan, SD 24 Sukaraja, and SD 168 Solok. Based on the consideration that three of the four elementary schools are categorized as clean schools with good environmental sanitation, no bushes and the school yard has used cement so that the risk of STH worms breeding on the ground is very small. One of the four elementary schools, namely SD 168 Solok is one of the elementary schools that has a bushy school environment, the water channels in the school environment are not clean and the school yard still uses soil, causing puddles of water in the rainy season and facilities and infrastructure for washing hands have not been provided by the school. The environmental conditions around the school allow STH eggs to develop properly.

Based on the initial survey and a description of the factors that play a role in supporting helminthiasis, it is considered important to conduct research to identify worms and the level of knowledge of worms in elementary school students.

## **METHOD**

### **Research Design and Subject**

This research is a descriptive survey research conducted on a set of objects which usually aims to see a picture of the phenomena that occur in a particular population with a cross sectional study design. The population in this study was students from grade 1 to grade 5 at SDN 168 Solok Babatan, Seluma, Bengkulu, amounting to 68 people. Samples were taken using the Total Sampling method so that the total sample population was the sample of this study based on the inclusion criteria. The inclusion criteria for the sample in this study were: students in grades 1 to 5, students who had not taken deworming medicine for the last 6 months, and students who were present at the time of sampling.

### **Instruments and Data Analysis Techniques**

This research was conducted using the direct method, flotation method and the harada mori method, collecting data using a questionnaire to assess the level of knowledge of worms.

## RESULTS

The results showed that most of the students had a good level of knowledge. Researchers examined the sample of respondents with a different method, namely the flotation method (flotation) using 33% saturated NaCl, found STH worm eggs, namely Hookworm eggs or hookworms. This study was continued using mori Harada found two positive student found eggs of the worm hookworm or hookworm. The results of the analysis are presented in Table 1 below.

Table 1 Students' Knowledge Level of Worms

Variable	Worms Rate				P
	Negative		Positive		
	F	%	F	%	
Knowlede					0.038
Good	35	79,5	2	4.5	
Deficient	9	20,5	42	95.5	
Total	44	100	44	100	

Table 1 shows students who experienced positive helminthiasis as many as 2 students (4.5%) and negative as many as 42 students (95.5%). Students' knowledge of worms was included in the good category as many as 35 students (79.5%) and in the poor category as many as 9 students (20.5%).

## DISCUSSION

The discovery of Hookworm worm eggs related to loose soil conditions (sand, humus and clay) and the habit of students not wearing shoes were behaviors associated with hookworm infection. Hookworm infection in humans is obtained through penetration of Filariform larvae in the soil, entering through the skin, especially the skin under the nails, between the fingers, perianal skin and perineum usually walking barefoot on soil contaminated by hookworm larvae.

Furthermore, the method fluotasi and methods haradamori discovery of worm eggs hookworm are supported by preliminary survey conducted by researchers at the SDN 168 Solok Swipe, Seluma, Bengkulu is a school with a state school yard are still using clay, the environment around SDN 168 Solok Swipe majority working as a brick maker and followed by the attitude of SDN 168 Solok Babatan students who often took off their shoes at school, often played on the ground and had long nails as well as factors that could cause helminthiasis such as inadequate environmental sanitation conditions, poor personal hygiene. poor, low socio-economic, knowledge, attitudes and

behavior of healthy living that have not been entrenched, as well as geographical conditions that are suitable for the life and breeding of worms. Based on the results of the study, respondents who were positive for worms were observed by researchers with the characteristics of a pale face, weakness and thin body.

This study is in line with research conducted by Marlina (2012) which concluded that there was a significant relationship between mother's knowledge and STH infection in elementary school children in Seluma District, Seluma Regency Bengkulu ( $p = 0.00$ ). The same study was also conducted by Dharma (2016) which showed that all parents had fulfilled their nutritional and health needs in the relationship between fulfilling material welfare and STH infection, the result was  $p=1,000$ .

### **CONCLUSIONS AND SUGGESTIONS**

Based on the results of the research and discussion, it was concluded that 4.54% of students were positively infected with hookworms and 79.5% of students had knowledge of helminthiasis in the good category and 20.5% in the poor category. It is recommended for schools to provide counseling about worms and maintain the cleanliness of the school environment.

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