



The Effect of Enterobiasis Prevention Education on the Level of Knowledge of Students

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Abstract

Enterobiasis is a disease caused by the parasitic worm Enterobius vermicularis. This disease often occurs in children aged 5-14 years. Enterobiasis is a disease that can cause symptoms, one of which is itching in the perianal area. This can cause sleep disorders so that a child's concentration can be disturbed and of course this will affect the child's learning ability, as well as impacting the quality of a generation. This study aims to determine the effect of health education on the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin 1 Surabaya regarding the prevention of enterobiasis. This research is an observational analytical study with a cross sectional design and uses primary data in the form of a questionnaire. The method used in this research is a quantitative method. The research results showed that before health education, respondents with a good level of knowledge were 24.7%, 48.1% were adequate, and 27.2% were poor, whereas after health education the results obtained were respondents with a good level of knowledge of 64.2%, 24.7% sufficient, and less by 11.1%. Based on the results of the paired Wilcoxon test, the p value was 0.000, which means the p value <0.005, so it can be concluded that there is an influence of health education on the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin 1 Surabaya on the prevention of enterobiasis.

Introduction

Enterobius vermicularis or pinworm is the most common parasite in the human intestine and causes enterobiasis (Gunaratna et al., 2020). Enterobiasis is a disease that most often occurs in elementary school children in various developed and developing countries, one of which is Indonesia (Lubis et al., 2016). One of the symptoms of Enterobiasis is the appearance of itching in the perianal area which can cause sleep disturbances, restlessness and irritability (Zeibig, 2016; Gunaratna et al., 2020). If a serious infection occurs due to worms, a person will certainly experience a decrease in their immune system which will disrupt activities such as work productivity and learning abilities in children (Anjarsari, 2018).

Enterobius vermicularis infection can actually occur at any age and is not limited to gender, but the highest prevalence of cases occurs at the age of 5-14 years (Alfizena et al., 2021; Lubis et al., 2016). Based on research in recent years, the percentage of Enterobiasis cases in toddlers and preschool children in several regions in Indonesia is as follows: Group 1 State Elementary School and Group 2 State Elementary School, Godong District, Grobogan Regency, 52.6%, Southeast Minahasa 25.8% , Marong Village, East Praya District, Central Lombok Regency, West Nusa Tenggara Province 27.0% (Alfizena et al., 2021).

The easily contagious nature of Enterobiasis infection requires that treatment be given to all family members of the sufferer with the aim of preventing cases of reinfection (Lubis et al., 2016). One of the factors related to the high number of enterobiasis cases in children is that their knowledge about clean and healthy living behavior is still lacking, so parents still need to understand it (Alfizena et al., 2021). Based on previous research conducted on 38 students at SDN Klampok 1 and SDN Klampok 2, it was found that 65.8% of children did not wash their hands before eating and 73.7% of children did not cut and keep their nails clean, and it was found that there was a relationship between personal hygiene and cases of Enterobiasis. (Anjarsari, 2018).

Knowledge is the result of a person's efforts to search for the truth or a problem faced. Education is one of the things related to a person's knowledge (Darsini et al., 2019). Health education or education is a process carried out to invite other people to gain better knowledge regarding the value of health and changes in healthy living behavior (Mardiana, 2020). The description above shows that cases of Enterobius vermicularis still occur frequently, especially in children and have a high incidence rate. This is related to their knowledge and understanding regarding efforts to prevent Enterobius vermicularis infection which are still not good. Therefore, this became the background for researchers to conduct research and education on students at SDN Kaliasin I Surabaya.

Methods

This type of research is an observational analytical research with a cross-sectional design. The method used in this research is a quantitative method. The data used in this research is included in primary data in the form of a questionnaire. This research was conducted in October 2023 at SDN Kaliasin 1 Surabaya. The population in this study were all students in grades 4-6 at SDN Kaliasin 1 Surabaya with samples that met the inclusion and exclusion criteria. The minimum number of samples is 80 samples obtained from calculations using the Slovin formula. The sampling technique used was stratified random sampling. The stages of this research are collecting pretest data, followed by health education regarding enterobiasis and its prevention, and finally collecting post test data. After the data was collected, data analysis was carried out using SPSS. Data analysis includes a description of the characteristics of respondents based on class and level of knowledge and bivariate analysis using the paired Wilcoxon test because the data scale used is an ordinal scale.

Results and Discussion

Description of the Characteristics of the Respondent

Table 1. Distribution of Respondent Characteristics by Level of Knowledge and Class

Class	Level of Knowledge Before Education		Level of Knowledge After Education		Frequency
	Good	Enough	Good	Enough	
4	Good	9	Good	17	26
	Enough	12	Enough	3	
	Less	5	Less	6	
5	Good	7	Good	17	22
	Enough	10	Enough	5	
	Less	5	Less	0	
6	Good	4	Good	18	33
	Enough	17	Enough	12	
	Less	12	Less	3	

Based on table 1 of the 81 respondents, it was found that 26 respondents were grade 4 students with a level of knowledge before health education as follows: 9 respondents in the good

category, 12 respondents in the sufficient category, and 5 respondents in the poor category, while the level of knowledge after health education as follows: 17 respondents in the good category, 3 respondents in the sufficient category, 6 in the poor category.

There were 22 respondents in class 5 with the following level of knowledge before health education: 7 respondents in the good category, 10 respondents in the sufficient category, 5 respondents in the poor category, while the level of knowledge after health education was as follows: (1) 17 respondents were in the good category, 5 respondents in the sufficient category, and 0 in the poor category; (2) There were 33 respondents in class 6 with the following level of knowledge before health education: 4 respondents in the good category, 17 respondents in the sufficient category, 12 respondents in the poor category, while the level of knowledge after health education was as follows: (a) 18 respondents in the good category, 12 respondents in the sufficient category, 3 respondents in the poor category; (b) The student's overall level of knowledge before education; (c) The level of knowledge is categorized into three, namely; (d) Good: value range 76—100%; (e) Sufficient: value range 56—75%.

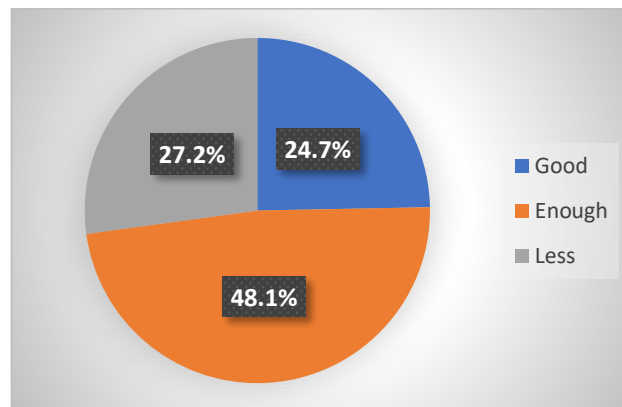


Figure 1. Level of Knowledge Related to Enterobiasis and its Prevention before Health Education

Based on figure 1, from 81 respondents, it was found that respondents who were in the good category were 24.7%, respondents who were in the sufficient category were 48.1% and respondents who were in the less category were 27.2%.

Students' Overall Level of Knowledge after Education

The level of knowledge is categorized into three, namely: Good value range 76—100%; Sufficient value range 56—75%.

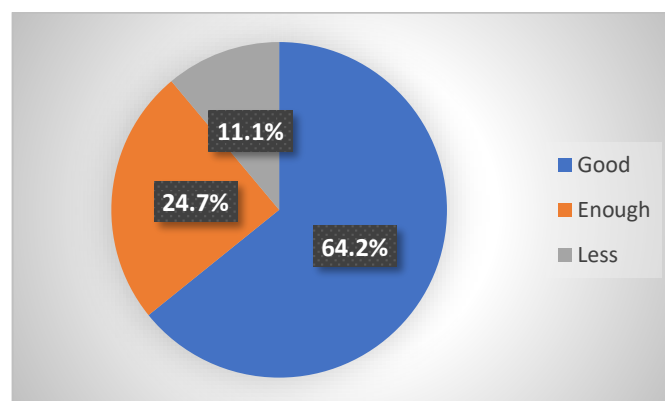


Figure 2. Level of Knowledge Related to Enterobiasis and its Prevention after Health Education.

Based on figure 2, from 81 respondents, it was found that after education, respondents who were in the good category were 64.2%, respondents who were in the sufficient category were 24.7%, and respondents who were in the less category were 11.1%.

Analyzes Bivariate

The analytical test used in this study is the *paired Wilcoxon* test because the variable data scale used is ordinal.

Table 2. Wilcoxon Test Results Differences in Student Knowledge Level Before and After Health Education

Category	Before Education		After Education	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Good	20	24,7	52	64,2
Enough	39	48,1	20	24,7
Less	22	27,2	9	11,1

Bivariate Analysis with *Wilcoxon Test*: Sig values $0.000 < 0.05$

Based on the Wilcoxon test results above, it was found that the p-value was 0.000. The sig value <0.005 means that H_0 is rejected and H_1 is accepted. This means that there is a difference in the level of knowledge of students in grades 4-6 at SDN Kaliasin 1 before and after health education, which means that there is an influence of Enterobiasis prevention education on the level of knowledge of students in grades 4-6 at SDN Kaliasin 1 Surabaya.

Transmission of Enterobiasis infection depends on several factors, including socioeconomics, close contact between individuals, and personal hygiene. Environmental density is also a factor that plays a role in the frequent cases of Enterobiasis that occur. Several studies report that cases of this infection are more common in families with more members (Suraweera et al., 2015).

Enterobiasis cases can also be influenced by gender. Based on the results of previous research, it was found that men are more at risk than women. This is related to men who tend to be more active and have less personal hygiene than women (Laoraksawong et al., 2020). Studies also state that the likelihood of a child being infected with Enterobiasis decreases with age. This is a result of changes in a child's activities, namely that as a child gets older, habits such as finger sucking and not washing their hands will decrease (Suraweera et al., 2015).

Lack of knowledge regarding individual hygiene behavior also plays a role in the high number of Enterobiasis cases which most often occur in children (Alfarisi, 2015). Knowledge is something that can be obtained not only from formal or non-formal education, but also from the knowledge and experience of other people, the environment, and mass media (Suluwi et al., 2020). The knowledge a person has is influenced by two groups of factors in general, namely internal and external factors. Internal factors include age and gender, while external factors include education, work, environment, social culture, interests, information systems, and experience (Darsini et al., 2019).

One way that can be done to increase a person's knowledge is by providing health education. Health education is a form of action taken to influence, change and support not only knowledge but also attitudes and habits related to health for individuals, groups and society (Luthfi et al., 2021).

Based on the research results that have been presented, it was found that there was an increase in the number of respondents in the good category after being given health education. The results of this research are in line with previous research conducted on grade 5 and 6 elementary school students at SDN 01 Kromengan, Malang Regency by Ramadhani et al. (2020), namely that there was an increase in the number of students included in the good category and a decrease in the number of students included in the good category. less and enough. Apart from that, other research conducted by Pasyanti et al. (2015) using health promotion methods for

students in grades 4, 5 and 6 at SDN 2 Keteguhan Teluk Betung Barat also showed that the level of knowledge of students in the good category increased after the promotion was carried out. health.

Based on the results of the paired Wilcoxon analysis test, it was found that the p value was 0.000, which means this value is less than α which is 0.005. This result means that there is a difference in the level of knowledge of students in grades 4-6 at SDN Kaliasin 1 Surabaya before and after health education. Thus, there is an influence of health education on the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin 1 Surabaya regarding the prevention of Enterobiasis.

The results of this research are in line with previous research conducted by (Ramadhani et al., 2020). This research states that there is a significant influence between health education or counseling using power point media and the level of knowledge of grade 5 and 6 students at SDN 01 Kromengan, Malang Regency regarding the prevention of worm infections. This supports the results of research conducted by researchers because the media used in health education activities for students in grades 4-6 at SDN Kaliasin 1 Surabaya is power point. The effectiveness of using PowerPoint as a health education medium is also related to the images presented along with the material so that this causes students to remember the material better (Ramadhani et al., 2020).

The results of the research also show that after health education the level of knowledge of class 6 students in the good category is higher than class 4 and 5. This is in line with the theory related to educational factors that influence knowledge that the higher the individual's level of education, the more easily the information obtained will be received. (Darsini et al., 2019).

The age difference between students in grades 4, 5 and 6 is also a factor in the differences in knowledge levels in this research. Each individual's grasping power is of course different and there are developments that increase with age. Therefore, this plays a role in the maturation of individuals to think so that new information obtained can be accepted easily. (Darsini et al., 2019).

Conclusion

The results of this study show that the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin I Surabaya regarding the prevention of Enterobiasis before health education is mostly sufficient, the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin I Surabaya regarding the prevention of Enterobiasis after health education is mostly is good, and there is an influence of health education on the level of knowledge of elementary school students in grades 4-6 at SDN Kaliasin I Surabaya regarding the prevention of Enterobiasis. Carrying out more effective counseling, for example by trying to use other educational media when carrying out educational activities so that the results obtained from health education can be maximized.

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