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Elementary School Students' Waste Management Behavior Determinant in Kerinci Regency in 2021

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ABSTRACT

The existence of waste at this time was still a problem that hit almost all regions in Indonesia. Keliling Danau Districts in 2019 has produces 33,311 m3 of waste per year with a population of 22,207 people. The purpose of this study was to determine the determinants behavior of waste management in elementary school students at Kerinci Regency, 2021. This study aims to determine the relationship between knowledge, attitudes, and Availability of Facilities with Waste Management in State Elementary School 52 of Koto Dian students, Kerinci Regency. This research is quantitative with a cross sectional research design. Sampling using random sampling technique with a total sample of 44 students consisted of class III, IV, V to class VI. Data was collected by distributed of questionnaires. Analysis used chi-square test. The results of this study indicate that 18 of 44 (40.9%) respondents with poor behavior of waste management and 26 (59.1%) respondents with good behavior waste management. From the results of the bivariate test, it was found that Knowledge has a PR value = 3.33 CI = 1.73-6.39 and a p-value of 0.001 indicates that there is a relationship between knowledge and behavior of waste management. Attitude has a value of PR = 3.75 CI = 1.62-8.68 and a p-value of 0.001 indicates that there was a relationship between attitude and behavior of waste management and there was not relationship between availability of facilities and behavior of waste management with a p-value of 0.222. The conclusion of this study is that there is a relationship between knowledge and attitudes with behavior waste management. And the availability of facilities has no relationship between behavior of waste management in elementary school students.

Keywords: knowledge, attitude, facility availability and behavior of waste management.

Introduction

Waste is a non-economically useful material discarded or squandered due to human activities and natural processes (Anggun & et al., 2020). Waste is the waste of human activities that are created by human activities as a result of technical development and human modernization and is continually produced and not utilized (Dewanti, Purnomo, & Salsabila, 2021). Presently, garbage is a problem that affects nearly every region in Indonesia. Various programs and initiatives by the federal and municipal governments to anticipate waste-related issues, particularly in management.

Garbage is a huge environmental concern and opponent, especially in educational settings. Garbage and grime in the school environment reduce the effectiveness of the learning and education process. It will impair student academic success. In addition to unpleasant odours and infections, garbage can diminish students' motivation to learn (Poetry, Wiyono, & Adi, 2017). Elementary school-aged youngsters between 6 and 12 are considered children. It is seen as the optimal age for youngsters to learn. It is because youngsters desire to gain new abilities from their teachers. Therefore, it is possible to deduce that there is an intellectual attitude, and this phase is therefore known as the intellectual period. Today's youth are considerably simpler to instruct than those of the past (Sabani, 2019). Trash is not just an issue at home but also school. The autonomous waste management strategy has not yet affected schools as a large community. An ecological viewpoint is one of the criteria for a good school. This parameter is inextricable from the waste management strategy. After China, Indonesia is the second greatest trash generator in the world. The country's high population is evidence of this. It is projected that Indonesia produces a total amount of trash. Approximately 185,753 tons of garbage are created daily by 270 million individuals (National Waste Management Information System, 2021). Jambi province will generate 522,732 tons of rubbish in 2020, or 1,432 tons of waste each day (Indonesia Health Ministry, 2018).

According to Kerinci Regency Environmental Service statistics about the quantity of garbage created in 2019, the Keliling Danau sub-district produced the most rubbish in Kerinci Regency, with 33,311 m3 per year and a

population of 22,207. In 2020, Kerinci Regency generated 45,672 tons of garbage per day, amounting to 125 tons per day (Kerinci Regency Environmental Service, 2019). Each day, State Elementary School 52 of Koto Dian, Kerinci Regency, generates 54.5 kg of garbage. Management of irresponsible human waste will harm the environment and cause several diseases. If human conduct is driven solely by self-interest and disregards the interests of others, environmental devastation will result. To minimize environmental harm and the growth of many diseases, garbage must be handled effectively or disposed of on-site, and other causes of waste accumulation are the consequence of irresponsible human behaviour toward waste (Sari & Mulasari, 2017).

The health risks associated with improperly handled garbage can be categorized directly and indirectly. Direct exposure is the impact of coming into touch with garbage directly. Examples include hazardous waste, the trash that is corrosive to the body, and carcinogens. Additionally, faeces contain pathogenic microorganisms that can cause sickness. Decomposition, combustion, and garbage disposal may have indirect effects on populations.

Carelessly discarded garbage has the potential to harm and degrade the environment. Plastic trash is a major contributor to global environmental degradation. Garbage significantly negatively influences us, other organisms, and the environment.

Another indirect effect is the transmission of congenital illnesses by vectors that grow in the garbage. If garbage is stored haphazardly, it can create a breeding ground for flies and rodents transporting disease. If trash is not disposed of correctly, it can harm public health. If trash is discarded improperly, it can provide a breeding ground for flies and mice (Soemirat, 2009). Diseases caused by diverse agents or mediators. Flies, cockroaches, and mice transmit these pathogens. It causes illnesses such as typhoid fever and dysentery (Arsal & Nurhayati, 2010).

Method

This study employs a quantitative methodology. In this study, a cross-sectional research approach was utilized. The investigation was carried out in State Elementary School 52 of Koto Dian, Kerinci Regency. The population of this study was comprised of 78 students from State Elementary School 52 of Koto Dian, Kerinci Regency, and the sample size was 44 participants. In this study, sampling was conducted using a random sampling approach, in which every member of the population had an equal opportunity to be sampled. This study's tools consisted of questionnaires and observation sheets. This study was analyzed using the chi-square test.

Results

Table 1
Frequency Distribution Based on Research Variables of Waste Management Behavior in State Elementary School 52 of Koto Dian, Kerinci Regency.

Waste Management Behavior	**f**	**%**
Bad	18	40,9
Good	26	59,1
Total	**44**	**100**
Knowledge	**f**	**%**
Low	12	27,3
High	32	72,7
Total	**44**	**100**
Attitude	**f**	**%**
Bad	18	40,9
Good	**26**	59,1
Total	**44**	**100**
Facility Availability	**f**	**%**
Tidak memenuhi Syarat	31	70,5
Memenuhi Syarat	13	29,5
Total	**44**	**100**

Source: Primary Data, 2022.

In table 1 it can be seen that respondents with bad behavior are 40.9%, less than respondents who have good behavior 59.1%. Respondents with low knowledge of 27.3%, less than respondents who have high knowledge of

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72.7%. Respondents with a bad attitude were 40.9%, less than respondents with a good attitude 59.1%. Respondents with the opinion that the availability of facilities that do not meet the requirements is 70.5%, more than respondents who think that the availability of facilities meets the requirements of 29.5%.

This univariate analysis was used to find the relationship between each dependent and independent variable. The results of data processing can be seen in the table and included the value of the chi-square test with 95% confidence degree (α =5%) and prevalence ratio (PR). To determine the magnitude of the strength of the relationship between the dependent variable and the independent variable, the Prevalence Ratio (PR) with 95% CI (Confidence Interval) was used.

Table 2

Results of Bivariate Analysis of the Relationship of Knowledge, Attitude, and Facility Availability with Waste Management Behavior in State Elementary School 52 of Koto Dian Students, Kerinci Regency.

Knowledge	**Waste Management Behavior**				**Total**		**p-*Value***	**PR 95% CI**
	Bad		**Good**					
	f	**%**	**f**	**%**	**f**	**%**		
Low	10	83,3	2	16,7	12	100	0,001	3,33 (1,73-6,39)
High	8	25,0	24	75,0	32	100		
Attitude	**Waste Management Behavior**				**Total**		**p-*Value***	**PR 95% CI**
	Bad		**Good**					
	f	**%**	**f**	**%**	**f**	**%**		
Bad	13	72,2	5	27,8	18	100	0,001	3,75 (1,62-8,68)
Good	5	19,2	21	80,8	26	100		
Facility Availablity	**Waste Management Behavior**				**Total**		**p-*Value***	**PR 95% CI**
	Bad		**Good**					
	n	**%**	**n**	**%**	**n**	**%**		
Not eligible	15	48,4	16	51,6	31	100	0,222	2,09 (0,72- 6,03)
Eligible	3	23,1	10	76,9	13	100		

Source: Primary Data, 2022

Discussion

1. The relationship between knowledge and waste management behavior in State Elemnetary School 52 of Koto Dian students, Kerinci Regency

The typical respondent in this survey is male, yet there is still a lack of understanding regarding waste management behaviour among respondents. Based on the findings of the study, the proportion of individuals with little knowledge is 12 (27.3%) out of 32 (72.7%), and an alternative test yields a p-value of 0.001 (p-value. 05). The association between knowledge and waste management behaviour is therefore evident.

This research is in line with Mardiana's research (2017), which uses the Pearson Test statistical analysis to achieve a p value of 0,036 < α 0,05. The p-value is 0.036 less than 0.05 (r 0.036< 0.05). As a result, H0 is rejected while H1 is accepted because of the value of r (0.036) (0.05). That is, there is a relationship between students' waste management behavior and their level of understanding at Private Junior High School of Sriwedari Malang (Poety, Wiyono, & Adi, 2017).

Juniardi (2020) found that the null hypothesis of this study was rejected using the Chi Square test with p-value = 0,035 < α = 0,05 which shows that there is a significant relationship between knowledge and household waste management behavior among housewives in Kampung Biru, (Juniardi & Ilmi, 2018).

This shows that there is a relationship between waste management and knowledge. The PR value obtained is 2.147, which means that those with low knowledge have twice the chance of not doing waste management compared to those with high knowledge (Widawati, 2020).

This study is not in line with research conducted by Ahmad which stated that the results of the Chi Square test obtained p value = 0.696, which means that there is no relationship between knowledge and waste management behavior in Jaro District, Tabalong Regency (Ahmad, 2022).

According to Notoadmodjo (2010) knowledge is the result of "knowing" and this occurs after people have sensed a certain object. In addition, knowledge is also obtained through formal and informal education. Through

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education, there is a learning process that will produce good results if it is supported by adequate facilities. One of the important things that become a means of learning is a source of information and media.

The existence of sufficient knowledge from individuals or community groups is expected to lead to positive behavior in change. Thus knowledge needs to be improved again so that waste disposal and management is in accordance with what is expected, namely meeting health requirements, increasing counseling and information related to waste management (Syam, 2016).

Strong waste management behavior will be realized if students have a good understanding of how to manage waste and the benefits of waste management, but in this situation the waste is not managed properly due to lack of concern for the environment.

This is in accordance with the theory put forward by Lawrence Green, namely behavior is influenced by several factors, the main factor is predisposing factors including knowledge and attitudes towards health, where extensive knowledge is needed to find out what needs to be done.

2. Relationship between Attitudes and Waste Management Behavior in State Elementary School 52 of Koto Dian Students, Kerinci Regency

The results showed that there was a difference in the proportion of students with bad attitudes that had a higher chance of experiencing bad waste management behavior than those with good attitudes, from the results of the bivariate analysis it was found that students with bad attitudes were 3.75 times more likely to behave in bad waste management with bad attitudes.

This research is in line with Despa's research (2019) that a statistical value can be obtained with the Chi Square test, namely p-value = 0.017. This shows that there is a relationship between attitudes and waste management behavior. After further research, the OR value of 2.092 indicates that respondents with negative attitudes are twice as likely as respondents with good attitudes to not do waste management.

Based on the results of Syam's research (2016), there is a significant relationship between community attitudes and waste management in Loli Tasiburi Village, Banawa District, Donggala Regency with a p value = 0.00 ($p < 0.05$) for statistical tests of the relationship between community attitudes and waste management (16) .

This study is in line with Triana's research (2018), which found the results of statistical analysis of p-value = 0.024, which indicates a substantial (meaningful) relationship between attitudes and waste management behavior (Srisantyorini & Kusumaningtias, 2018).

This study is not in line with Sangga's research (2017). Chi-square test results show that there is no relationship between attitudes and waste management behavior on campus X Yogyakarta employees based on a p-value greater than the alpha value (0.547> 0.05). The RP (risk prevalence) value in this study was 0.778, meaning that a bad attitude had a 0.778 times greater risk of bad waste management than respondents who had a good attitude. The confidence interval (CI) value is 0.346-1.748 (Saputra & Mulasari, 2017).

Knowledge influencing good waste management attitudes is also the basis of good waste management attitudes, which implies that thinking knowledge plays an important role in shaping attitudes. Because respondents do not want to be burdened with waste problems, they just throw garbage in the trash, so a positive attitude towards waste management does not guarantee effective waste management behavior.

Attitudes are influenced by the formation of factors, namely personal experience, culture, putting trust in others, the influence of social media, educational institutions and religious institutions, and emotional feelings. There are several aspects that affect a person's attitude on waste management behavior such as aspects of infrastructure and regulations that can minimize bad waste management behavior.

Based on Lawrence Green's theory in Notoatmodjo, behavior causes are influenced by three factors, namely predisposing factors, reinforcing factors and enabling factors. That the theory of health behavior of a person or society is influenced by factors in behavior and factors outside behavior (Hidayah, Prabamurti, & Handayani, 2020).

3. The Relationship between Facility Availability and Waste Management Behavior in State Elemnetary School 52 of Koto Dian Students, Kerinci Regency

Based on the results of the study, it shows that there is a difference in the proportion between the availability of facilities that do not meet the requirements, which is higher in having bad waste management behavior compared to the availability of good facilities that meet the requirements, from the results of the bivariate analysis it was found that the availability of facilities that do not meet the requirements is 2.09 times more risky. to behave in waste management compared to those who meet the requirements.

This research is in line with Ahmad's research which states that there is no relationship between the availability of facilities and waste management in Jaro District with a p-value = 0.503.

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This study is not in line with the research conducted by Windasari (2020) which found a p-value (0.040) relationship between the availability of facilities and the behavior of community waste disposal on the banks of the river, Brang Biji Village, Sumbawa Regency (Windasari , Hamid, & Juliatmi, 2020).

This research is also not in line with Astina's research (2020) which states that there is a p-value of 0.014 between the availability of facilities and community behavior in disposing of household waste in the river in Pamarangan Kanan Village, Tabalong Regency in 2019.

This study is in contrast to Irma's research which found that there was a clear relationship between facilities and community behavior when disposing of waste in the Miai Dalam River, North Banjarmasin Regency, with a p-value of 0.001.

Availability of infrastructure facilities accompanied by good knowledge will increase student participation in waste management behavior. On the other hand, in this study, there are poor infrastructure so that the behavior of waste management in elementary school students becomes bad. Based on Green's theory, behavior occurs because of supporting factors to facilitate behavior or action. Supporting factors (enabling factors) which include infrastructure or facilities that cause good behavior, bad behavior, positive behavior and negative behavior. The importance of information sources in determining one's knowledge

Inadequate facilities and infrastructure are caused by the lack of supporting factors in waste management, the lack of harsh consequences from the relevant leadership on the actors who do not manage waste, and unfavorable practices such as throwing garbage into rivers and burning it.

Based on the results of observations made by researchers, it was found that in the elementary school there was a lack of supporting facilities for disposing of waste. Based on the results of an interview with one of the teachers at the elementary school, he said that there were trash bins but many were damaged and had not been repaired and had not even been replaced. Furthermore, based on the results of the researcher's interviews with several students, they also said that they were used to throwing garbage out of place, this was due to a lack of education regarding the importance of disposing of garbage in its place.

Conclusion

Based on the results of research that has been carried out on 44 respondents regarding the relationship between knowledge, attitudes and availability of facilities with Waste Management Behavior Determinant in Elementary School Students in Kerinci Regency in 2021, it can be concluded as follows:

1. The proportion of behavior regarding waste management in the bad category is (40.9%), while the good category is (59.1%).
2. The proportion of knowledge about waste management in the low category is (27.3%), while the high category is (72.7%).
3. The proportion of attitudes about waste management in the bad category is (40.9%), while the good category is (59.1%).
4. The proportion of facilities availability in the category that does not meet the requirements is (70.5%), while the category that meets the requirements is (29.5%)
5. There is a relationship between knowledge and waste management behavior p-value <0.05 (0.001) and the probability of poor knowledge with high knowledge, PR : 3.33 95% CI : 3.33 (1.73-6.39)
6. There is a relationship between attitude and waste management behavior p-value <0.05 (0.001) and the probability of bad waste management behavior with a good attitude, PR : 3.75 95% CI : 3.75 (1.62-8, 68)

There is no relationship between the availability of facilities and waste management behavior p-value <0.05 (0.222) and the probability is 2.09 times more risky for waste management behavior compared to those who meet the requirements, PR : 2.09 95% CI : 2.09 (0.72-6.03).

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