

## Analysis Of Environmental Sanitation Conditions And Clean And Healthy Living Behavior (PHBS) In Gunungpati Subdistrict Elementary School

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### ABSTRACT

Elementary school-age children belong to a vulnerable group to various infectious diseases such as ISPA, Pneumonia, eye infections, worm infections, and skin diseases. The purpose of this study is to find out the sanitary conditions of the environment and PHBS in the elementary school environment of Gunungpati Subdistrict. The method in this study is a combination method (mix methods) with sequential explanatory design approach. The sample in this study is 34 elementary schools and 100 students of class V. Informants in this study are principals, teachers, janitors, health center workers. Quantitative data analysis uses univariate and bivariate while qualitative uses 3 stages, namely reduction, presentation, and withdrawal of conclusions. The results showed environmental sanitation was 50% good and 50% less good. Good knowledge levels as much as 73% and less good 27%, good attitudes as much as 60% and less good as much as 40%, good actions as much as 56% and less good as much as 44%. There is a relationship of knowledge and action p-value 0.011 and there is a relationship of attitude and action p-value 0.015. Sanitation and PHBS primary school Gunungpati Subdistrict is not contained in the subjects in the school. The advice of this study is that the school increases the insights related to PHBS to make PHBS a habit.

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### 1. INTRODUCTION

School is a formal educational institution that organizes teaching and learning educational activities. Elementary school as one of the most important levels in the world of education, in order to equip character from an early age[1]. In the school environment many people gather which can pose a risk of disease transmission. Health problems faced by elementary/MI children are usually related to personal and environmental hygiene[2]. According to the HL theory, environment and behavior have the greatest contribution to health status, followed by behavior. The environment is very influential on the individual because the environment is the land for the development of behavior[3]. The environment in public places has the potential as a place for disease transmission, environmental pollution, or other health problems. Public places that are required to carry out environmental sanitation are hotels, markets, food stalls, canteens, schools, amusement parks, places of worship and others.[4]. Health is influenced by behavior that upholds cleanliness (Depkes RI, 2013). Most of the diseases of school-age children (6-10) are related to PHBS in the school environment[5]. School-age children who are prone to disease, 40-60% of children suffer from intestinal ulcers and about 3% of children under 10 years old have started smoking. In addition, every year around 100,000 Indonesian children die from diarrhea[6]. School-age children (6-14) years are a special group with special health needs as a process of growth and development[7]. This age is the age of elementary school and junior high school children. In addition to being vulnerable to health problems, school-age children are also

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in a condition that is very sensitive to stimuli so that they are easy to be guided, directed, and instilled good habits, including clean and healthy living habits.[8]. Schools are expected to be a means of increasing the knowledge and ability of school residents to carry out clean and healthy living behaviors. The important role that schools have in improving health education is by emphasizing physical health, nutrition, mental, emotional, and social development[9]. Healthy living behavior in children and parents who are still lacking, the role of schools becomes very important in changing and providing an understanding of clean and healthy living behavior.[2]. PHBS in household settings is strongly influenced by PHBS in other settings, one of which is schools. Clean and Healthy Living Behavior (PHBS) in educational institutions is the primary target, they must practice behaviors that can create PHBS Educational Institutions (Ministry of Health RI, 2011) Clean and healthy living behavior in schools is a set of behaviors practiced by students, teachers, and school community, so that they can independently prevent disease, improve their health, and play an active role in creating a healthy environment[10]. One indicator of clean and healthy living behavior in the school environment that is important for children is washing hands with soap. The importance of cultivating hand washing using soap properly and correctly is also supported by WHO[11]. Hand washing is the most important basic technique in preventing and controlling infection transmission[12]. Awareness of the importance of PHBS is still low, the facilities to support PHBS and nutrition programs are still not optimal, both physical facilities such as washing hands with soap and supporting activities such as UKS[13]. Lack of sanitation facilities can also affect the behavior of clean and healthy living in schools (Kemendikbud, 2017). Decree of the Minister of Health Number 1429 of 2006 concerning Guidelines for the Implementation of School Environmental Health, environmental sanitation facilities in schools include the provision of clean water, toilets, waste water disposal facilities, and waste disposal facilities. This school sanitation facility must meet the health requirements that have been determined in order to support the implementation of environmental health in schools and prevent disease transmission within the school environment. Elementary school education level has the lowest access to basic sanitation. Access to latrines in elementary schools, as many as 12.19% do not have latrines. Around 34.9% of primary schools do not have hand washing facilities (Kemendikbud, 2017). Environmental sanitation is a supporting factor in realizing students' clean and healthy living behavior. In Sari's research (2011), there is a relationship between infrastructure and PHBS in schools with a p-value of 0.038. Diarrhea is a disease that mostly affects children and toddlers who are influenced by the environment and hygiene behavior. Diarrhea can also be caused by a lack of habit of washing hands with soap. Diarrhea cases in Semarang City in 2016 were 18% per 1000 population while in 2017 it was 23.2% per 1000 population. The most cases were at the age of > 5 years, namely 25,578 (Semarang City Health Office, 2017). In the Gunungpati District, diarrhea sufferers also increased from 2016 to 2017. In 2016 cases of diarrhea in Gunungpati District were 14.9% per 1000 population and in 2017 there were 23, 2% per 1000 population. Diarrhea cases at the Gunungpati Health Center increased from 2016 to 2018. In 2016 diarrhea cases were 15.5% per 1000 population, in 2017 18.9% per 1000 population in 2018 diarrhea patients in the Gunungpati Health Center working area were 25.4% per 1000 inhabitants. Meanwhile, the number of diarrhea sufferers aged 5-14 in 2018 was 168 cases or 12.5%. In the Sekaran Health Center area, the number of diarrhea sufferers aged 5-14 in 2018 was 97 cases or 18.2%. Meanwhile, the number of diarrhea sufferers aged 5-14 in 2018 was 168 cases or 12.5%. In the Sekaran Health Center area, the number of diarrhea sufferers aged 5-14 in 2018 was 97 cases or 18.2%. Meanwhile, the number of diarrhea sufferers aged 5-14 in 2018 was 168 cases or 12.5%. In the Sekaran Health Center area, the number of diarrhea sufferers aged 5-14 in 2018 was 97 cases or 18.2%.

According to data from the Indonesian Ministry of Health, there is a relationship between hand washing behavior and the incidence of diarrhea. Washing hands with soap can reduce the number of diarrhea sufferers by 44%. Sanitation can reduce diarrhea rates by 32% and water supply by 25%. Meanwhile, 11% of treated water sources (Ministry of Health, 2014). In addition to diarrhea, infectious diseases due to the environment and behavior that occur in children include ARI, pneumonia, eye infections, worm infections, and skin diseases (Kemenkes, 2014). Based on interviews with schools in the Gunungpati District, the most common illnesses suffered by elementary school-aged children are fever, flu, cough, typhus. ARI in the Gunungpati District area in 2018 was

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77% per 1000 population. ARI in the working area of the Gunungpati Health Center aged 5 years were 59% of patients. ARI in the working area of the Puskesmas Sekaran aged 5-14 years as much as 23%. The case of typhoid fever in 2018 in Gunungpati District was 5.3% per 1000 population. For ages 5-14 years as much as 25.7%. Typhoid is one of the endemic diseases in Indonesia, the majority of which affect school-age children and productive age groups (Kemenkes RI, 2015). Dengue infection is a disease that can be caused by the breeding of mosquitoes in puddles around (Mulia, 2005). Dengue infection cases in Gunungpati District increased from 2017 to 2019 in March. In 2017 in Gunungpati District, dengue fever was 11.13% per 10000 population, in 2018 it was 21.31% per 10000 and from 2019 to March it was 69.23% per 1000000. Meanwhile, dengue cases in Gunungpati District increased from 2018 to 2019 as of March. In 2018 there were 5.33% of DHF cases, and in 2019 it was 9.59%. In 2019 the most dengue infections were at the age of 5-9 years as much as 29%, followed by the age of 10-14 years as much as 17.7% (Semarang City Health Office, 2019). There is an influence between washing hands with the incidence of diarrhea, consuming healthy snacks on the incidence of diarrhea, using healthy latrines has an effect on the incidence of diarrhea and throwing garbage in its place has an effect on the incidence of diarrhea. [14]. Gunungpati sub-district is divided into 16 sub-districts with an area of 5,899,085 ha. The population in Gunungpati District increases every year in 2019 reaching 93,866 people. Development also continues to increase along with the increase in population. Gunungpati District is a border area with Kendal Regency and Semarang Regency. The topography of Gunungpati District is diverse and is a hilly area. As a conservation area in Semarang City, Gunungpati District is a protected and supervised area. The number of elementary and equivalent schools in Gunungpati District is 51 schools consisting of 34 public elementary schools and 17 private elementary schools. Respondents used in this study were fifth grade students. Because fifth grade students were considered to be able to receive information well. The functions of imaginative memory and mind in fifth grade elementary school students begin to develop. Students begin to be able to recognize things objectively, students are also able to think critically.

Based on a preliminary study of environmental sanitation in 5 elementary schools in the Gunungpati District, the results related to school sanitation were obtained. For the provision of adequate clean water, 3 schools use PDAM, and 2 schools use wells but the distance between water sources and pollutant sources does not reach 10 meters such as septic tanks and/or garbage collection points, 1 school with separate student toilets for boys and girls, 4 schools there is no separation for male and female students. The condition of the student toilets is not clean and the ventilation holes are small so that the toilets are not bright and smelly. The sewerage for waste water from the canteen is not watertight and is not closed. The garbage disposal sites for 1 school are closed and 4 schools are not closed, while the garbage collection sites are scattered and not managed. Hand washing facilities are limited and only 1 school is equipped with soap. A preliminary study was conducted on 18 fifth grade students in 5 elementary schools in Gunungpati District related to PHBS with indicators that students always wash their hands when eating snacks as many as 2 students, 10 students always wash their hands with running water, 2 students often wash their hands with soap. For the behavior of using latrines, 6 students sometimes urinate carelessly, 10 students sometimes do not flush the latrine cleanly after urinating. While the behavior of throwing garbage, namely 5 students always throw garbage in its place, 12 students sometimes throw garbage carelessly when the trash can is far away. Based on the above background the author is interested in conducting research on "Analysis of Environmental Sanitation Conditions and PHBS in Elementary Schools in Gunungpati District". This study aims to provide an overview of environmental sanitation conditions and PHBS in elementary schools in Gunungpati District. This research was conducted quantitatively and qualitatively to obtain comprehensive, valid, reliable, and objective data related to environmental sanitation and PHBS in elementary schools in Gunungpati District. Quantitative research was conducted to obtain the level of environmental sanitation and PHBS as well as the relationship between knowledge and attitudes towards PHBS practices of students, while qualitative research was conducted to describe environmental sanitation and PHBS in elementary schools in the Gunungpati District. This study aims to provide an overview of environmental sanitation conditions and PHBS in elementary schools in Gunungpati District. This research was conducted quantitatively and qualitatively to obtain comprehensive, valid, reliable, and objective data related to environmental sanitation and PHBS in

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## 2. METHOD

This type of research uses a combination research method (mix method). Mix method is a research method that combines or combines quantitative and qualitative methods in one study in order to obtain comprehensive, valid, reliable, and objective data. The combination method strategy used in this research is sequential explanatory design, namely data collection and quantitative data analysis in the first stage, followed by qualitative data collection and analysis in the second stage, in order to deepen, broaden, and strengthen the results of the quantitative research conducted in the first stage. This quantitative method is used to obtain broad but not in-depth information. The design specification of this research is descriptive which aims to describe aspects of environmental sanitation and PHBS in the elementary school environment of Gunungpati District. This research is also equipped with a qualitative study which is used to test, deepen, and expand quantitative data. This study uses a combination method (Mixed Methods) with a sequential explanatory design approach. In the early stages of the research, quantitative methods were used, namely the level of environmental sanitation and PHBS in Elementary Schools in Gunungpati District. For the qualitative method, the focus of the research is on the description of school environmental sanitation and PHBS in elementary schools in the Gunungpati District. deepen, and expand quantitative data. This study uses a combination method (Mixed Methods) with a sequential explanatory design approach. In the early stages of the research, quantitative methods were used, namely the level of environmental sanitation and PHBS in Elementary Schools in Gunungpati District. For the qualitative method, the focus of the research is on the description of school environmental sanitation and PHBS in elementary schools in the Gunungpati District. deepen, and expand quantitative data. This study uses a combination method (Mixed Methods) with a sequential explanatory design approach. In the early stages of the research, quantitative methods were used, namely the level of environmental sanitation and PHBS in Elementary Schools in Gunungpati District. For the qualitative method, the focus of the research is on the description of school environmental sanitation and PHBS in elementary schools in the Gunungpati District. The dependent variable in this study is the action in PHBS (hand washing behavior, latrine use behavior, garbage disposal behavior). The independent variables in this study were the level of knowledge of PHBS and the level of attitude towards PHBS. The confounding variable in this study is environmental sanitation facilities, so in this study environmental sanitation facilities were also observed. The focus of this research contains the subject matter of the study that is the center of attention, namely examining the description of environmental sanitation and the description of PHBS in Elementary Schools in the Gunungpati District area to complete quantitative data. The description

of environmental sanitation in schools includes the sanitation conditions of the school environment, efforts to improve student roles, student attitudes, student behavior, constraints, supervision, budget, and policies.

The population in this study is the entire number of SD/MI which has a Gunungpati District with a total of 51 schools, while to describe PHBS the student population of this study is all fifth grade students in SD/MI Gunungpati District who are the samples. The sample of this study applied a simple random sampling technique, namely sampling from the population was carried out randomly without regard to strata. The number of samples in this study were 34 elementary schools in Gunungpati District to describe the sanitation of the school environment. Primary data in this study, obtained from the results of questionnaires and checklists. Primary data is done by observation, interviews, filling out questionnaires. Data by filling out a questionnaire to obtain PHBS data at Elementary Schools in Gunungpati District. Checklist used to obtain data related to environmental sanitation in schools. Secondary data was obtained from observations in elementary schools in Gunungpati District to obtain data on school environmental sanitation facilities including the availability of facilities and condition of facilities. Secondary data was obtained through related agencies such as Gunungpati Public Health Center, Semarang City Health Service Health Center Sekaran, as well as websites from agencies in order to obtain additional information related to the research to be carried out. The tool used is in the form of a checklist related to primary school environmental sanitation facilities. Secondary data was obtained through related agencies such as Gunungpati Public Health Center, Semarang City Health Service Health Center Sekaran, as well as websites from agencies in order to obtain additional information related to the research to be carried out. The tool used is in the form of a checklist related to primary school environmental sanitation facilities. Secondary data was obtained through related agencies such as Gunungpati Public Health Center, Semarang City Health Service Health Center Sekaran, as well as websites from agencies in order to obtain additional information related to the research to be carried out. The tool used is in the form of a checklist related to primary school environmental sanitation facilities.

Informants in this study were obtained from quantitative primary data selected by schools that met the criteria in this study, namely 2 schools with poor and good environmental sanitation levels. The main respondents or informants in this study are:

- 1) Cleaning officers as those who take care of the school environment
- 2) Sports teacher who goes to the field to assist students regarding the field of environmental sanitation and PHBS

Respondents or triangulated informants in this study are:

- 1) Principal regarding the description of environmental sanitation and PHBS
- 2) Sekaran and Gunungpati Health Center officers who are related to the environmental sanitation inspection program and school PHBS

To determine the informants, the researcher used a purposive sampling technique, namely the determination of the sample with certain considerations. The selection of purposive sampling is based on those who play a role and who know best about the description of environmental sanitation and PHBS of students. The purpose of triangulation of informants is not to find the truth about some phenomena, but rather to increase the researcher's understanding of what has been found. The data used are qualitative data, both primary data and secondary data. Primary data were obtained from observations and interviews in the quantitative research of this study. Furthermore, in-depth interviews were conducted with informants related to this research to obtain more in-depth information regarding the description of PHBS and environmental sanitation in Elementary Schools in the Gunungpati District.

Questionnaires are a number of written questions addressed to students who are respondents to assess students' PHBS. The checklist in this study was used to obtain data on primary school environmental sanitation including aspects of clean water, toilets, waste water disposal, garbage disposal and hand washing. Documentation Tool is a tool used to complete data collection in the form of stationery, camera. Documentation tool as a complement to the use of observation methods, questionnaires and interviews in quantitative research.

The observations used are structured observations, namely observations that have been  
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systematically designed about what will be observed, when, and where it is. Observations are used to directly see the condition of environmental sanitation in the Gunungpati District Elementary School by using a checklist. Interviews were conducted to obtain data on environmental sanitation and PHBS including knowledge, attitudes, and actions.

### **3. RESULTS AND DISCUSSION**

#### **3.1. Result**

The term environmental sanitation is often associated with the term environmental health by the World Health Organization (WHO) stating that the notion of environmental sanitation/environmental health is an attempt to control several physical environmental factors that affect humans, especially those that have a detrimental effect on physical development, health and well-being, and human endurance. Environmental sanitation can be in the form of sanitation in public places. Sanitation of public places such as hotels, recreation areas, places of worship, educational institutions. Sanitation of Public Places (STTU) is an effort to supervise activities that take place in public places, especially those closely related to the emergence or transmission of a disease, so that the losses caused by these activities can be prevented.

The school environment is an arrangement that can protect against accidents and disease and can increase prevention activities and develop attitudes towards risk factors that can cause disease. The school's physical environment must meet the criteria of being able to provide basic needs and protect against disease, biological and chemical threats. One of the fostering and development of healthy schools is through coaching and research on the physical environment of students' schools, as well as various activities, management/organizations as well as mutual influence between the school and the surrounding community in order to achieve educational goals optimally. Environmental sanitation is sanitation that is needed to provide a healthy environment that meets health requirements which focuses on monitoring various environmental factors that affect health status. Sanitation efforts in schools include several types, namely the provision of clean water, garbage disposal sites, latrines, and hand washing areas. The availability of access to school sanitation is a prerequisite for the creation of a safe, clean and healthy school environment (Kemendikbud, 2017). Based on the Decree of the Minister of Health of the Republic of Indonesia Number 1429/MENKES/SK/XII/2006 concerning Guidelines for the Implementation of School Environmental Health, it is stated that school sanitation facilities consist of clean water, toilets, waste water disposal channels (SPAL), and waste disposal facilities.

Water is very important for life, not only humans but also all life. Good water quality will also affect the health of its users. If you don't pay attention, the water you use can harm human health. Water sources in schools that are included in the proper category are PAM/pipes, pumps, rainwater, protected springs, protected wells, and bottled water. Inadequate water sources such as unprotected wells, rivers, reservoirs, lakes, and so on (Kemendikbud, 2017).

Clean water standards are based on the Decree of the Minister of Health of the Republic of Indonesia Number 1429/MENKES/SK/XII/2006 concerning Guidelines for the Implementation of Environmental Health, namely:

1. Clean water is available 15 liters/person/day or sufficient water needs.
2. The need for adequate water is that water is available all the time in schools, both in the rainy and dry seasons and fulfills water needs in schools (Kemendikbud, 2017).
3. The quality of clean water meets the health requirements in accordance with the Decree of the Minister of Health 416 of 1990, concerning the requirements and supervision of water quality. The requirements for water quality in schools are seen from the physical, namely smell, color, turbidity, and taste. The physical parameters of good water have no odor, taste and are colorless or clear (Kemendikbud, 2017).
4. The distance of wells/clean water facilities to sources of pollution (waste water disposal facilities, septic tanks, landfills, etc.) is at least 10 m.

The quality of clean water is based on the Decree of the Minister of Health 416 of 1990, namely the qualitative requirements that describe the quality or quality of clean water. These requirements include physical requirements, chemical requirements, biological requirements, and radiological

requirements. These requirements are based on the regulation of the minister of health 416/Menkes/PER/IX/1990, as follows:

1. Physical requirements. Physically, clean water must be colorless, odorless and tasteless. In addition, the temperature of clean water should be the same as the air temperature or approximately 25°C, and if there is a difference then the allowable limit is  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , while the amount of dissolved solids (TDS) is low.
2. Chemical requirements. Clean water must not contain chemicals in amounts that exceed the limit. Good water is water that is not excessively polluted by chemicals that are harmful to health, including mercury (Hg), aluminum (Al), arsenic (As), barium (Ba), iron (Fe), fluoride (F), calcium (Ca), acidity (pH), and other chemicals. Water should not be acidic and not alkaline (neutral) to prevent the dissolution of heavy metals and corrosion of the water distribution network, the recommended pH for clean water is 6.5 – 9.
3. Bacteriological and microbiological parameters. The number and types of bacteria differ according to the place and conditions that affect them. Therefore, water used for daily needs must be free from pathogenic bacteria that interfere with health. This bacteriological requirement is characterized by the absence of E. coli or Fecal coli bacteria in the water.
4. Radiological Parameters. Radiological requirements require that clean water must be free of substances that produce radioactive materials, such as alpha, beta, and gamma rays. Whatever form of radioactivity the effect will be the same, namely causing damage to exposed cells. Damage can be in the form of death and changes in genetic composition.
5. Quantitative requirements (discharge). Quantitative requirements are the amount of water needed every day depending on the activity and level of need. Quantity requirements in the provision of clean water are viewed from the amount of raw water available, and it means that the raw water can be used to meet the needs according to the needs of the area and the population to be served.
6. Continuity requirements. Raw water for clean water must be able to be taken continuously with relatively constant fluctuations in discharge, both during the dry season and the rainy season. Continuity can also mean that clean water must be available 24 hours per day, or whenever needed, water needs are available.

The latrine functions as a place to defecate and/or urinate. A latrine/toilet is a sanitary facility for defecation and urination, a place for washing hands and face. Healthy latrines are latrines that meet certain criteria (Kemenbudpar, 2004). According to health, the most recommended latrine is the goose-neck latrine. The goose-neck latrine is a latrine with an arch-shaped neck of the toilet hole, thus it will be filled with water to serve as a stopper so that it can prevent foul odors and the entry of small animals (Asriani, 2019). Based on the Decree of the Minister of Health of the Republic of Indonesia Number 1429/MENKES/SK/XII/2006 concerning Guidelines for the Implementation of School Environmental Health, the requirements for school latrines are as follows:

- 1) The location of the toilet is separate from other rooms such as classrooms, UKS rooms, teachers' rooms, libraries, guidance and counseling rooms.
- 2) There are separate toilets for men and women.
- 3) The proportion of the number of toilets / urinals for 40 students and 1 toilet for 25 students. The ratio of latrines for primary schools is 1:40 for boys, 1:25 for girls. So that the toilet is not crowded in its use, there are a minimum of 3 toilets. Toilets can become smelly and dirty if too many users and rarely cleaned.
- 4) The toilet floor has no puddles.
- 5) There is a ventilation hole that is directly connected to the outside air. If the position of the room does not allow for ventilation openings, then there must be an exhaust fan (Kemenbudpar, 2004). School toilet ventilation is 30% of the floor area.
- 6) The water reservoir is not a breeding ground for mosquitoes.
- 7) Trash can available
- 8) The material is made of waterproof material and is easy to clean.
- 9) The trash can has a lid and is easy to open so you don't get your hands dirty.

10) Trash cans are in every school room.

Table. 1 Type, Ratio, and Description of Latrine Facilities

Type	Ratio	description
Squat toilet	1 piece/room	Swan neck duct
Water container	1 piece/room	The minimum volume of water is 200 liters of clean water
Dipper	1 piece/room	
Clothes hanger	1 piece/room	
Rubbish bin	1 piece/room	

Based on the Decree of the Minister of Health of the Republic of Indonesia Number 1429/MENKES/SK/XII/2006 concerning Guidelines for the Implementation of School Environmental Health, it is stated that the maintenance of school toilets is as follows:

- 1) Toilets must always be clean and odorless.
- 2) There is a slogan or warning to maintain cleanliness.
- 3) Draining the water reservoir is carried out at least once a week.
- 4) If the water tank will not be used for a long period of time (eg during the long holiday season), then the water tank must be emptied.
- 5) Use disinfectant to clean floors and toilets and urinals.
- 6) Soap is available for hand washing.

According to the Government Regulation of the Republic of Indonesia Number 82 of 2001, wastewater is the residue from a business and or activity in liquid form. Wastewater can come from households (domestic) or industry. Household wastewater consists of 3 important fractions, namely feces, urine (urine), and gray water (water used for washing kitchens, washing machines and bathrooms). Industrial wastewater generally occurs as a result of the use of water in industrial processes. Therefore, the resulting impact is also very varied, depending on the substances contained in it. The requirements for waste water disposal facilities (SPAL) in schools according to the Decree of the Minister of Health 1429/Menkes/2006 concerning Environmental Health in schools are:

- 1) There is a separate sewerage for sewerage from the rainwater drain.
- 2) Sewerage drains must be made of watertight and sealed materials.

Table . 2 Operational Definition

No	Variable	Definition	How to Measure	Measuring instrument	Results	Scale
1.	Environment sanitation	Availability and Conditions of basic sanitation in schools consists of the provision of clean water, latrine facilities, waste disposal facilities, SPAL, hand washing facilities	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Poor (&lt;65%)</li> <li>• Good (≥65%)</li> </ul>	ordinal
2	Clean water supply	Clean water is water that can be used for daily needs with quality that meets health requirements.	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Not eligible (requirements are not met or not all requirements are met)</li> <li>• Qualified (meets all requirements) (Kepmenkes 1429/Menkes/2006)</li> </ul>	ordinal



3	Latrine or Toilet	Availability and condition of facilities for defecation and urination, washing facilities.	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Not eligible (requirements are not met or not all requirements are met)</li> <li>• Qualified (meets all requirements) (Kepmenkes 1429/Menkes/2006)</li> </ul>	ordinal
4	Wastewater Disposal Facility (SPAL)	Availability and condition of waste water disposal facilities from schools, either rain water or toilet waste.	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Not eligible (requirements are not met or not all requirements are met)</li> <li>• Qualified (meets all requirements) (Kepmenkes 1429/Menkes/2006)</li> </ul>	ordinal
5	Garbage disposal facilities	Availability and condition of places to accommodate waste in schools.	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Not eligible (requirements are not met or not all requirements are met)</li> <li>• Qualified (meets all requirements) (Kepmenkes 1429/Menkes/2006)</li> </ul>	ordinal
6	Hand washing facilities	Availability and condition of facilities used for washing hands with running water.	Observation and interview	Checklist	<ul style="list-style-type: none"> <li>• Not eligible (requirements are not met or not all requirements are met)</li> <li>• Qualified (meets all requirements) (Kepmenkes 1429/Menkes/2006)</li> </ul>	ordinal
7	Knowledge of PHBS	Knowledge is the result of each individual knowing about PHBS through their senses.	Questionnaire Filling	Questionnaire	<ul style="list-style-type: none"> <li>• Poor (&lt; 85%)</li> <li>• Good (≥85%)</li> </ul>	ordinal
8	Attitude towards PHBS	Attitude is a person's response to the stimulus he receives towards PHBS	Questionnaire Filling	Questionnaire	<ul style="list-style-type: none"> <li>• Poor (&lt;80%)</li> <li>• Good (≥80%)</li> </ul>	ordinal
9	Action in PHBS	Action is the result of an assessment of the stimuli that have been known to PHBS	Interview	Questionnaire	<ul style="list-style-type: none"> <li>• Poor (&lt;70%)</li> <li>• Good (≥70%)</li> </ul>	ordinal

### 3.2. Discussion

Schools can increase support for realizing school environmental health and school PHBS and include environmental health and PHBS materials in learning. The local health center carries out health promotions related to environmental sanitation and PHBS in schools as a whole so that it can

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be delivered according to the target. The local Education Office makes policies related to learning environmental health and PHBS in schools and fully supports the realization of environmental health and PHBS in schools. The health office together with the education office can create policies related to environmental sanitation and school PHBS. It is hoped that future researchers can overcome the weaknesses / limitations of this study so that the results of further research are even better.

#### 4. CONCLUSION

Environmental sanitation facilities in elementary schools in Gunungpati District include clean water facilities, latrine facilities, SPAL facilities, waste disposal facilities, hand washing facilities as much as 50% good category and 50% less good; Students who have good knowledge are 73% and those who have poor knowledge are 27%; 60% of students who have a good attitude and 40% who have a bad attitude; Students who have good actions are 56% and those who have bad actions are 44%; There is a relationship between knowledge and actions in the implementation of PHBS with a p-value of 0.011; There is a relationship between attitudes towards actions in the implementation of PHBS with a p-value of 0.015; The understanding of the school regarding environmental health regulations in schools is still lacking,

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