

# THE RELATIONSHIP BETWEEN KNOWLEDGE ABOUT ENVIRONMENTAL HEALTH AND HEALTH BEHAVIOR TOWARDS HEALTH PROTOCOL COMPLIANCE

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**Abstrak.** This study aims to see: (1) the correlation between environmental health knowledge and the implementation of health protocols in compliance in limited teaching learning process at school; (2) the correlation between health behavior and the implementation of health protocols compliance in limited teaching learning process at school; and (3) the correlation between environmental health knowledge and health behavior on the implementation of health protocols in compliance in limited teaching learning process at school. This research is a correlational quantitative research with sampling using a simple random sampling technique. The questionnaires were distributed to students of XI level in senior high school in Sub-Rayon Cigombong, Bogor with a population of 879 people and a research sample of 503 people. Data was collected using a questionnaire that had been tested for validity and reliability. Analysis of research data using standard error normality test, variance homogeneity test, regression linearity test, and hypothesis testing. The results of the study stated that there was a very significant positive relationship between knowledge about environmental health and the implementation of health protocols in compliance in limited teaching learning process at school with a contribution of 15.1%. There is a very significant positive relationship between health behavior and implementation of health protocols in compliance in limited teaching learning process at school with a contribution of 48.3%. Knowledge of a very significant relationship, including the application of health protocols in compliance in limited teaching learning process at school with a contribution of 50.6% and fulfilling the regression equation  $Y = 33.113 + 0.853X_1 + 0.706X_2$ .

**Keywords:** environmental health; health behavior; implementation of health protocols; limited learning

## I. INTRODUCTION

At the end of 2019 the world's people were shocked by the discovery of an acute pneumonia case which was first discovered in Wuhan City, Hubei Province, China which then spread throughout the world including Indonesia, so WHO officially declared that COVID-19 was a pandemic in the world. Various policies were issued by the government of the Republic of Indonesia as a preventive effort to reduce the spread of COVID-19 in Indonesia [1]. In the field of education, the government issued a school closure policy and changed direct learning activities in schools into a distance learning policy. In its implementation, distance learning poses various challenges in the world of education, including the readiness of teachers to prepare media and teaching materials, also strongly influenced by the availability of digital media and internet access [2]. All educational institutions and all parties involved, both teachers, students and parents, are required to be able to adapt quickly to changing learning styles and learning methods [3].

The distance learning policy is considered to have a positive impact in minimizing the movement of people that affect the spread of COVID-19 in Indonesia. However, this policy also has a negative impact because its implementation is considered less effective because it is considered to cause a decrease in student learning outcomes, an increase in the dropout rate, an increase in the number of early marriages, and

an increase in cases of violence against children. The learning style that switches from face-to-face in the classroom to virtual face-to-face with learning activities carried out from home has been proven to have led to an increase in the decline in learning outcomes (learning loss) in students when compared to the decline in student abilities caused by school holidays (Beatty [4]). Yang and Lo [5] state that with many countries implementing school closure policies, it can turn health problems into problems of education inequality which will have long-term consequences, especially for students with low economic backgrounds.

Referring to various considerations related to the many negative impacts of implementing distance policies, the government finally made a policy related to limited face-to-face learning which was outlined in a Joint Decree of 4 Ministers regarding Guidelines for the Implementation of PAUDDIKDASMAN Learning in the COVID-19 Pandemic Period. Limited face-to-face learning in education units can be carried out after the education unit fills out a checklist on the DAPODIK and/or EMIS pages. The implementation of the limited face-to-face learning policy aims to improve the quality of education while still prioritizing the health of the citizens of the education unit. Therefore, the implementation of health protocols is the main thing that must be applied in the implementation of limited face-to-face learning. The implementation of health protocols in limited face-to-face learning is influenced by the level of knowledge of the

citizens of the education unit about environmental health. Knowledge of environmental health includes knowledge of human impacts on the environment and vice versa. As a form of efforts to prevent and handle COVID-19 in the educational unit environment, environmental health behavior is needed, namely the response of the education unit residents as individuals and communities in preventing the transmission of COVID-19 so that they can take various preventive efforts in order to protect all citizens of the education unit from the high rate of spread and transmission of COVID-19.

## II. RESEARCH METHODS

Sugiyono [6] states that to make statistical data analysis, quantitative research methods test hypotheses to several random samples in a certain population by utilizing research instruments. Danial and Warsiah [7] is a variable relationship in a study that examines the relationship of significance, contribution, regression, bivariate, or multivariate. The method used in this research is a correlational quantitative research method to examine the relationship between knowledge about environmental health and behavior health on the implementation of health protocols in the implementation of limited face-to-face learning at the State Senior High School level in the Cigombong Sub-district.

The research was carried out at public high schools in Cigombong sub-district, namely SMA Negeri 1 Cigombong, SMA Negeri 1 Caringin and SMA Negeri 1 Cijeruk from January 2022 to July 2022. The population used was class XI students with a total sample of 503 people using a simple technique. random sampling. The data collection technique was carried out by distributing questionnaires in the form of a paper-based checklist and by utilizing electronic media, namely the google form application, while still being monitored by researchers and assisted by the education unit that was used as a research site. The questionnaire in this study was made based on variables that had been determined by the researcher with a number of closed questions and the answer choices were prepared using a rating scale. The answer scale for the Health Protocol Implementation variable in Limited Face-to-face Learning (Y) and the Health Behavior variable (X2) is always, often, sometimes, never and never. Meanwhile, for the variable Knowledge of Environmental Health, true and false scales were used. The analysis technique uses descriptive statistics to determine the correlation between research variables (Lina [8] 2021). The presentation of research data is equipped with tables and graphs. Analysis of the research data using the estimated standard error normality test using the Liliefors formula, the homogeneity test of variance using the Bartlett formula, regression linearity test, and hypothesis testing using the Pearson Product Moment (r) correlation technique.

## III. RESULTS AND DISCUSSION

### *Health Protocol Implementation*

De Leon in Messie [9] explains that implementation is defined as what happens in accordance with policy

expectations and expected consequences. Sulistyorini [1] state that the obstacles that hinder the implementation of health protocols in schools are the surrounding environment, the students themselves, teachers who are less assertive in highlighting the disciplinary requirements of health protocols in the school area, and the obstacles faced by teachers and schools in implementing the discipline of health protocols. student.

The implementation of health protocols in limited face-to-face learning referred to in this study is a form of activity and disciplinary behavior towards the implementation of a series of rules set by the government in the prevention and handling of pandemics in the form of activities carried out in face-to-face learning activities during the transition period of the COVID-19 pandemic. The success indicator of the implementation of the health protocol is a form of compliance with the implementation of rules such as the use of masks, washing hands, maintaining distance, avoiding crowds, and limiting social mobility carried out by students in limited face-to-face learning activities.

### *Knowledge of Environmental Health*

Bolisani and Bratianu [10] stated that knowledge is an abstract concept that does not refer to the real world. Walter R. Lym in Pinontoan and Sumampouw [11] defines environmental health as a reciprocal relationship between humans and their environment which consequently can affect the level of human health. Knowledge about environmental health, it can be concluded that what is meant by knowledge about environmental health in this study is a form of thinking and observations from the five senses about the interaction between humans and their environment or as an effort to control and prevent the magnitude of the impact of the spread of COVID-19. The indicators of knowledge about environmental health in students are identifying the quality and quantity of clean water, knowing environmental sanitation, demonstrating clean and healthy living behavior, waste management skills, and participation in efforts to control COVID-19 disease.

### *Health Behavior*

Levis (2013) in Kaniawati [12] states that behavior is a person's expression of the circumstances around him. Notoatmodjo [13] states that health protection includes prevention and protection against diseases and other health disorders, health promotion, and seeking treatment if sick or exposed to health problems. Health behavior is the action of a person or group on a stimulus or object related to efforts to maintain and maintain health [14], restore health, and improve the quality of health. In this case, is a form of action students in efforts to prevent and handle COVID-19. The indicators of health behavior in this study are understanding the health condition of each individual, consuming healthy and nutritious food, doing physical activity and regular exercise, maintaining a clean environment, building mental health [15].

*The Relationship Between Implementation of Health Protocols in Limited Face-to-face Learning and Knowledge of Environmental Health*

Based on the results of statistical analysis, for the regression between the variables Knowledge of Environmental Health (X1) and the Implementation of Health Protocols (Y), the regression equation obtained that satisfies the equation  $1 = 2.0404X1 + 94,172$ . The result of the correlation coefficient is 0.388 and the coefficient of determination is 0.151 (15.1%). This shows that 15.1% of Health Protocol implementation is caused by the contribution of Knowledge about Environmental Health, while 84.9% is influenced by other factors.

Table 1. Significance Test Results and Correlation of Knowledge about Environmental Health Variables (X1) with Health Protocol Implementation Variables (Y)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.388*	.151	.149	19.448

The Relationship Between Implementation of Health Protocols in Limited Face-to-face Learning and Health Behavior Regression between the Health Behavior variable (X2) and Health Protocol Implementation (Y), obtained a regression equation that satisfies the equation  $1 = 0.7703X2 + 44,693$ .

Table 2. Significance Test Results and Correlation of Health Behavior Variables (X2) with Health Protocol Implementation Variables (Y)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695*	.483	.482	15.182

The correlation coefficient is 0.695 while the coefficient value is 0.483 (48.3%). This shows that 48.3% of Health Protocol implementation is caused by the contribution of Knowledge about Environmental Health, while 51.7% is influenced by other factors. Relationship between Knowledge of Environmental Health and Health Behavior with Implementation of Health Protocols in Limited Face-to-face Learning with The equation of the multiple linear regression line between Knowledge of Environmental Health (X1) and Health Behavior (X2) together with Health Protocol Implementation (Y) is  $12 = 33.113 + 0.853X1 + 0.706X2$

Table 3. Significance Test Results and Correlation of Environmental Health Variables (X1) and Health Behavior (X2) together with Health Protocol Implementation Variables (Y)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.711*	.506	.504	14.855

The relationship between the Knowledge about Environmental Health variable (X1) and the Health Behavior variable (X2) together has a correlation coefficient of 0.711 to the Implementation of Health Protocols (Y) so that the coefficient of determination is 0.506 which means that the

variable Knowledge of Environmental Health (X1) and the Health Behavior variable (X2) simultaneously gave an effect of 50.6% on the Health Protocol Implementation variable (Y), and the remaining 49.4% was influenced by other factors. The partial correlation coefficient between the Knowledge about Environmental Health (X1) variable and the Health Protocol Implementation variable (Y) and controlled by the Health Behavior variable (X2) has a  $r_{y1.2}$  value of 0.388 with a significance test value of probability value (sig) of 0.000 which states that the data is less than 0.05 so it can be concluded that the correlation coefficient of the Knowledge about Environmental Health variable (X1) with the Health Protocol Implementation variable (Y) and controlled by the Health Behavior variable (X2) is significant.

#### IV. CONCLUSION

Based on the research hypothesis proposed by the researcher, analysis of research data, and discussion of research problems. Empirical evidence is obtained so that the following conclusions can be drawn There is a very significant positive relationship between Knowledge about Environmental Health (X1) and Health Protocol Implementation (Y). The magnitude of the relationship is indicated by the value of the correlation coefficient ( $r_{y1}$ ) of 0.388 and the value of the coefficient of determination ( $r_{y12}$ ) of 15.1%. Functional relationship between Knowledge of Environmental Health and Implementation of Health Protocols. meet the regression equation  $1 = 94,172 + 2,0404X1$  and the relationship is significant. There is a very significant positive relationship between the Health Behavior variable (X2) and the Health Protocol Implementation variable (Y). The magnitude of the relationship is indicated by the value of the correlation coefficient ( $r_{y2}$ ) of 0.693 and the value of the coefficient of determination ( $r_{y12}$ ) of 48.3%. The functional relationship between Health Behavior and Health Protocol Implementation meets the regression equation  $2 = 44,693 + 0.7703X2$  and the relationship is significant. There is a very significant positive relationship between the Knowledge about Environmental Health (X1) and Health Behavior (X2) variables together on the Implementation of Health Protocols. The magnitude of the relationship is indicated by the correlation coefficient ( $r_{y12}$ ) of 0.711 and the coefficient of determination ( $r_{y12}$ ) of 50.6%. The functional relationship between the Knowledge about Environmental Health variable and the Health Behavior variable on the Health Protocol Implementation variable meets the regression equation  $12 = 33.113 + 0.853X1 + 0.706X2$  and the relationship is significant.

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