



## Personal Hygiene Practices in 5<sup>th</sup> Grade Elementary School Students

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### Abstract

**Background:** Personal hygiene is something that needs to be taken care of especially in elementary school-aged children. Data from the Srandol Community Health Center states that in 2017 the fifth-highest number of diarrhea occurred in elementary school-aged children. SDN Srandol Kulon 02 is a health promoting elementary school in the city of Semarang. Based on School Health Unit data, in 2018 there were 52 students from SDN Srandol Kulon 02 referred to the public health center because of diarrhea and 13 students referred to because of toothache. The purpose of this study was to determine the factors that influence personal hygiene practices in 5th grade elementary school students at SDN Srandol Kulon 02.

**Method:** This study was observational analytic with cross-sectional approach using total sampling technique and questionnaire instrument. The sample was 98 5<sup>th</sup> grade students in SDN Srandol Kulon 02. Data was analyzed by using chi-square test and ordinal regression.

**Results:** There was an influence between Knowledge ( $p=0.037$ ) attitudes ( $p=0.009$ ) support of teaching staff ( $p=0.005$ ) family support ( $p=0.008$ ) with personal hygiene practices and no influence between the support of health workers ( $p=0.997$ ) and PHBS facilities ( $p=0.817$ ) with personal hygiene practices.

**Conclusion:** Support of teaching staff was the most influential in improving students' personal hygiene practices.

### How to Cite

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## INTRODUCTION

School is the first place of children start outside activities, allowing the children to be affected and exposed to sources of disease. Regulation No. 36 of 2009 Article 79 about health, confirmed that the "Healthy Schools" was organized to enhance the ability of healthy life learners in a healthy living environment so that students can learn, grow and develop in a harmonious and setting height, so it is expected to be quality human resources. And in the regulation of the Minister of Health of the Republic of Indonesia No. 2269/Menkes/Per/X/2011, guidelines for the implementation of clean and healthy living behaviors are regulated, including in educational institutions.

Result of Riskesdas 2013 stated the number of respondents 1,027,763 people throughout Indonesia by the age of 5-9 years there were 28.9% who have teeth and mouth problem, while at the age of 10-14 years as much as 25.2%. The prevalence nationwide problem teeth and mouth is 25,9%, as many as 14 provinces have a prevalence of problem teeth and mouth above the figure nationally. Based on the health profile of Central Java in 2015, the proportion of diarrhea cases in Central Java was 67.7%, it decreased compare to 2014 which was 79.8%. In 2015 the city of Semarang was ranked 20th with the number of cases 61.3% as many as 22,305 cases. In contrast to 2016, the proportion of cases in Central Java was 68.9%, an increased compare to 2015. Based on gender, most cases were women, amounting to 53.4%. Semarang City ranked 9th with a number of case presentations by 87.2% or 32.274 case increased of 2015. 78-80% of diarrhea cases in children aged  $\geq 5$  years (Dinas Kesehatan Provinsi Jawa Tengah, 2015).

Diarrhea cases in 2013-2016 tended to decrease, but increased in 2017, in 2016 the total cases of diarrhea were 32,100 cases and increased in 2017 with a total of 38,766 cases of diarrhea. The number of most cases in the age group  $>5$  years old was 25,578 cases and the lowest in the  $<1$  years old group was 4,372 cases. In the city of Semarang, the diarrhea rate was also include in the top 10 diseases in the health center every year (Dinas Kesehatan Kota Semarang, 2017).

Based on the results of a preliminary study at Sronдол Public Health Care Center, it was found that in 2015 Sronдол was ranked first for diarrhea and decreased in 2017 to rank the 5th most diarrhea in the Semarang city. Based on data from the Sronдол Public Health Care Center, diarrhea cases in children aged 5-14 years, in

2016 there were 223 cases, in 2017 there were 145 cases and in 2018 there were 277 cases. Based on administrative data of School Health Unit of Public Elementary School Sronдол Kulon 02 (SDN Sronдол Kulon 02), in the 2017 reference book there were 37 students and in 2018 there were 52 students who were referred to the public health center with a diagnosis of diarrhea.

The impact of lack personal hygiene can occur in lice disease, both on the skin of the body or the skin of the hair. Data at the Sronдол Public Health Care Center in 2016, there were 9 cases in 2017, there were 15 cases and in 2018 there were 26 cases, all of these cases occurred at the age of 5-14 years.

Dental and oral health services for elementary school children and the same level in the city of Semarang, there were 12,484 students who need treatment and 1,803 students (14.4%) have received treatment. In line with the mass toothbrush activity, it was found that 434 elementary schools (72%) had carried out this activity out of a total of 597 elementary schools reported. However, 100% of elementary schools have received dental health services. Dental caries that occurred in Semarang City in 2017 was the same as in 2016, permanent tooth congestion of 7,888 cases, permanent dental extraction of 8,813 cases (Dinas Kesehatan Kota Semarang, 2017). Sronдол Public Health Care Center do on the SD in the working area of 15 schools, data from Sronдол Public Health Care Center year 2017 there were 493 who have dental problems and mouth. Most of the amount in the net which is as many as 899 students. While the highest number of oral and dental problems occur in SDN 02 Sronдол Kulon, the number of dental caries is number 57 and 85 wax dental caries. Based on School Health Unit data in 2017 there were 6 students and in 2018 there were 13 students referred to the public health care center because of toothaches. Another study stated that there was no significant relationship between the level of knowledge of dental health for children at SDN 2 Kauman Malang with dental health maintenance behavior ( $p= 0.361$ ) (Gyantri, 2017).

Based on the results of Sakkar (2013) in Kolkata India that maintaining personal hygiene helps improve quality of life and longevity, after research the level of knowledge and behavior was not match with good school conditions, the role of parents, teachers, associations in all schools must be stressed. Mother education appears to have a direct relationship with personal hygiene behavior. In this case, it was not only formal education, but continuing parental health education

programs by health workers, access to information via television, and others. Research [Sholihah \(2015\)](#) stated that there was a relationship between environmental sanitation and knowledge with personal hygiene.

Research from [Limbong \(2018\)](#) and [Sudjana et al \(2016\)](#) stated that the knowledge and attitudes affected personal hygiene students. Research other states that students with personal hygiene that was good to have the knowledge and attitude were good too ([Rajbhandari et al., 2018](#)). Other research state that apart from knowledge, the roles of parents and teachers also affect personal hygiene practices for students ([Rahman et al., 2019](#)). Supervision of primary school children by teachers and parents was very important in maintaining personal hygiene, clean food and beverages, and environmental health ([Herman et al., 2015](#)). However, several studies suggest different things that knowledge was not related to personal hygiene ([Arikan et al., 2014](#); [Triasmari & Kusuma, 2019](#)).

Based on the preliminary study conducted by researchers at SDN Sron dol Kulon 02 sub-districts Banyumanik Semarang, based on administrative data by bookkeeping School Health Unit, counseling every month was personal hygiene and implementation, as well as implementing programs cut nails mass once a month were almost 99 % of children have long nails at that time. As well as implementing a mass tooth brushing program once a month. Researchers also conducted interview with School Health Unit supervisors, it was found that data at SDN 2 Sron dol Kulon had implemented Health Education which was included in self-care and environmental subjects (KPDL), which included learning personal hygiene. In addition, the researchers also distributed questionnaires and conducted interview with students in 4<sup>th</sup> and 6<sup>th</sup> grades, the results showed that in 5<sup>th</sup> grade there were 45.7% of students and poor students, while in 6<sup>th</sup> grade 63% of students had good personal hygiene and 37% of students have bad personal hygiene. The school environment SDN 2 Sron dol Kulon have health facilities that adequate and School Health Unit in it have use basic of the Ministry of Health and a healthy school in the city of Semarang, but in fact in SDN 2 Sron dol Kulon still less clean and neat in dress and shoes, cleaning classrooms duty must be reminded, there were those who throw garbage inappropriately, students do not wash their hands after exercising and before eating, students have cavities, students have long and unclean nails, and students have less clean hair (there were lice).

The theory of SOR (Stimulus - Organism - Response) is a theory of behavior change in which there is a connection between a certain stimulus (stimulus) in an organism and a certain reaction (response). In this theory, the stimulus given to schools is through learning in self-care and environmental subjects (KPDL), namely personal hygiene such as oral hygiene, hand / skin hygiene, body hygiene, hair hygiene, and eye hygiene. This learning also supported by the Health training school program as well as the School Health Unit organization, such as mass nail cutting, mass tooth brushing, and personal hygiene counseling. In addition, activities carried out in school health efforts in order to improve school age health status are screening, case finding, surveillance of immunization status, management of minor complaints, and administering medicines. The L-green theory states that the most important thing in health behavior is the problem of shaping behavior change. In this theory, Green identifies three factors that influence Personal Hygiene behavior, namely predisposition factors which are manifested in knowledge, attitudes and practices, driving factors manifested in the support of health workers, support of educators, as well as family support and enabling factors manifested in Clean and Healthy Behaviors Facilities (PHBS facilities). Based on the description of the background behind the research aim to determine the factors that affect personal hygiene practices of 5<sup>th</sup> graders at the elementary school SDN 2 Sron dol Kulon Semarang.

## METHODS

This study used observational analytic approach and cross sectional research methods. The independent variables examined in this study were knowledge, attitudes, support from education personnel, family support, support from health workers, and PHBS facilities. Dependent variable in this study was Personal Hygiene Practice. The population in this study were 98 students of SDN 2 Sron dol Kulon Semarang City. The sampling technique used in this study was a total sampling method of 98 respondents.

Sources of information used consisted of primary data and secondary data. Primary data were obtained from this study which came from the results of filling out questionnaires by respondents directly to obtain data related to education level, knowledge, educational work support, family support, support from health workers, PHBS facilities and personal hygiene practices. Meanwhile, secondary data in this study is sup-

porting data to complement primary data and data obtained not from the respondents studied but from other sources. Secondary data taken by other researchers of previous studies, books on PHBS, scientific journals and official government documents such as health profile and School Health Unit guidelines.

The instrument used in this study was a questionnaire. The questionnaire aims to find out the condition of respondents with respect to personal hygiene practices her. Before the questionnaire used, a validity test is conducted to indicate the level of validity or error of an instrument. An instrument is said to be valid if it is able to measure what is desired. An instrument is said to be valid if the correlation of each item has a positive value and the value of  $R_{count} > t_{table}$ . In addition to the validity test, the questionnaire also conducted a reliability test which indicated whether the instrument could be trusted to be used as a data collection tool.

The data obtained will then be carried out data checking, coding, and data compilation which will be carried out by univariate analysis, bivariate analysis and multivariate analysis. Univariate analysis was used to analyze the distribution and percentage of each variable. Meanwhile, bivariate analysis was carried out to see the relationship

between independent and dependent variables with statistical tests that were adapted to the existing data scale, while multivariate analysis was used to determine which variables had the most influence on the dependent variable. The statistical test in this study used the chi-square test, to see if there was a significant relationship between the independent and dependent variables. The terms of the chi-square test are cells that have an expected value of less than 5, a maximum of 20% of the number of cells. If the chi-square test requirements are not met, then the alternative test is the Kolmogorov Smirnov test because it uses a 2x3 table.

## RESULTS AND DISCUSSIONS

Based on Table 1. Description of the characteristics of respondents include sex, age, level of education parents. Based on the analysis of gender that more were respondents with gender-1 battery that is 55.1%, while 44.9% of women. The age of the respondents in this study ranged from 9 to 13 years. The education level of the respondent's parents with the latest education from tertiary education was 16.3% , the respondent's parent with the latest education was high school/equivalent was 59.2%, the

**Table 1.** Result of Univariate Analysis

Variables	Category	Frequency	%
Sex	Male	54	55,1
	Female	44	44,9
Age	≤10	37	37,7
	≥10	61	62,2
Parent's Education Level	Bachelor	16	16,3
	SMA/equivalent	58	59,2
	SMP/ equivalent	12	12,2
	SD/ equivalent	12	12,2
Knowledge	Good	39	39,8
	Bad	59	60,2
Attitude	Good	45	45,9
	Bad	53	54,1
Teacher's Support	Support	30	30,6
	Not Support	68	69,4
Family's Support	Support	32	32,7
	Not Support	66	67,3
Health Officer's Support	Support	82	83,7
	Not Support	16	16,3
PHBS Facility	Support	63	64,3
	Not Support	35	35,7

respondent's parent with the latest education was junior high school / equivalent was 12.1% and Respondents' parents with education at least elementary school were 12.1%.

The results of the frequency distribution of knowledge about PHBS, it was found that respondents who had bad knowledge were as much as 60.2% and respondents who had good knowledge were 39.8%. The results of the attitude frequency distribution showed that there were 54.1% respondents who had bad attitudes, while the respondents who had good attitudes were 45.9%. Besides that, the respondents which has the no support from teacher as many as 69,4% while that has the support of teachers as many as 30.6%. In the variable Family's support showed that respondents who have support from family as much as 32,7%, and respondents who did not have the support of family as much as 67,3%. Besides that, health officer's support showed that respondents who had support from health officer was 83,7%, while respondents who do not have the support of the health officer as much as 16.3%. The results of the frequency distribution of PHBS facilities showed that respondents who had supporting facilities as many as 64.3% and respondents who had not supported PHBS facilities were as many as 53.7%.

Based on Table 2. There were four variables that have an association with personal hygiene practices in primary school students which includes knowledge, attitudes, support of the teacher, family support and support of health officer, while two unassociated variables ( $p$  value > 0.05). The results of data analysis showed that there was an association between knowledge and personal hygiene practices for elementary school students ( $p= 0.002 <0.005$ ). A statement that is

in line with Hassan et al., (2019) which states that there was a significant relationship between knowledge of a child and the practical method of personal hygiene.

This research is also the same as research conducted by Nielsen et al., (2015) that knowledge was very dominant science for changing someone's behavior in everyday life. Knowledge has a very significant relationship with personal hygiene behavior such as teeth and mouth, hair and body of primary school children in Denmark. Knowledge was also one factor to shape the attitudes of children and also through health promotion contained in the school will be more support and shape a child into a character student preserve the clean and healthy life. However, studies of other states that an increase in knowledge and attitudes were positive does not directly lead to changes in personal hygiene practices are good but rather through habituation daily (Pal & Pal, 2017).

The results of data analysis showed that there was an association between the personal hygiene attitudes and practices of elementary school students ( $p=0.001 <0.005$ ). Based on research conducted by Abdul-Mutalib et al., (2012) knowledge and attitudes showed a significant relationship to practice. Have good knowledge and the good attitude will lead to good practice.

The results of the data analysis stated that there was an association between the support of teaching staff and personal hygiene practices for elementary school students ( $p=0.002 <0.005$ ). Teacher support influences student behavior in school so that there was an association between teacher support and student hygiene and healthy living habits, the teachers direct, guide students so that students can carry out clean and healthy

**Table 2.** Results of Association between Variables

Variables	$p$ -value	OR	95% CI	Explanation
Association of Knowledge to personal hygiene practices	0.002	4,621 3,470	(1,925-11,092) (1,161-10,374)	There was association
Association of Attitudes with personal hygiene practices	0.000	4,271 12,750	(1,787 – 10,210) (2,726-59,640)	There was association
Association of Teacher's Support with personal hygiene practices	0.002	4,798 4,357	(1,917-12,008) (1,465-12,959)	There was association
Association of Family's Support with personal hygiene practices	0.002	4,804 3,831	(1,946-11,859) (1,297-11,314)	There was association
Association of Health officer's Support with personal hygiene practices	0.997	-	-	There was no association
Association of PHBS Facilities and personal hygiene practices	0.817	-	-	There was no association

**Table 3.** Multivariate Ordinal Regression Analysis of Factors Affecting Primary School Students Personal Hygiene Practices

Variable	B	Wald	p-value	RP	95% CI	
					lower	Upper
<b>Dependent Variable</b>						
Practice 1	-2.410	17.078	0.001	11.133	3.550	34.953
Practice 2	-0.919	3.060	0.080	2.507	1.117	7.029
<b>Independent Variables</b>						
Knowledge	-1.003	4.370	0.037	2.726	1.383	9.450
Attitude	-1.285	6.875	0.009	3.615	1.487	9.272
Teacher's Support	-1.337	7.772	0.005	3.808	1.395	8.802
Family's Support	-1.254	7.120	0.008	3.504	3.550	34.953

living habits properly and regularly.

The results of the analysis showed that the value of  $p=0.002$  ( $p < 0.05$ ), which means that there is an association between family support and personal hygiene practices for primary school students. Based on research conducted by [Berliana & Pradana \(2016\)](#) that the role of parents with hygiene themselves, out of 50 respondents who had the role of parents is low, 41 students (75.9%) have personal hygiene behaviors categorized as low. The results of the bivariate study are also stated there was an association between parent's support to personal hygiene in SDN 177 / IV city of Jambi.

Based research result showed that there was no association between health officer's support and personal hygiene practices elementary school students ( $p=0.997 > 0.005$ ). This research was in line with research conducted by [Istiarti & Dangiran, 2016](#) which states that there was no association between health officer's support and students' personal hygiene practices.

The results of the data analysis showed  $p$  value 0.817 ( $p > 0.05$ ), which means that there was no association between PHBS facilities and personal hygiene practices of elementary school students. Not all facilities and infrastructure owned by children can be used and utilized properly.

Multivariate analysis of the model feasibility have shown that the model was fitting information model with a significance value of 0.001. The model said to be fit if the  $p$  value in the fitting information model is smaller than 0.05, which means that the independent variable was better than without the independent variable. The contribution of the independent variables to the dependent variable was assessed using pseudo-R. In this study the parameter used was nagelkerke, so the ability of the independent variable to explain the dependent variable was 3.8%. Propor-

tional odds tested with a test of parallel lines, so there was proportional assumptions. Value P-test of parallel lines is  $0.385 > 0.005$  so proportional assumptions established.

**Table 3** showed the results of multivariate analysis with ordinal regression test. It was known that all variables meet the multivariate ordinal requirements or affect personal hygiene practices, because the variables of knowledge, attitudes, support of educators and family support have  $p$  value  $< 0.05$ . Knowledge was one of the variables that affects the personal hygiene practice of 5<sup>th</sup> grade elementary school students, which evidenced by the value of  $p=0.037$  and the value of the Prevalence Ratio of 2.726, which means that respondents who have bad knowledge give a risk of 2.726 having bad personal hygiene practices than those who This research was in line with research conducted by [Vivas \(2017\)](#) which states that knowledge can change a person's behavior in maintaining the cleanliness of a healthy life. This research was in line with research conducted by [Sajjad \(2017\)](#) stated that the attitude according to the theory of L green enters the presdisposing phase which is able to influence children in carrying out clean and healthy behaviors, based on research conducted in the field of elementary school students in 4<sup>th</sup> and 5<sup>th</sup> grades, it is explained that attitudes affect hygiene and healthy living behavior.

This study was in line with the research conducted by [Wang et al., \(2016\)](#) which states that family support affects one's personal hygiene. The family has positive values and a supportive function, namely through informational support, the family functions to provide guidance and disseminate information to other family members.

## CONCLUSION

Changes in the behavior of personal hygiene-

ne is not only determined by the good knowledge and good attitudes but also the support of family and teachers. The process of habituation in practice hygiene themselves will determine the change in behavior.

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