

## Predisposing Factors Associated with Health Behavior in Deli Serdang, North Sumatera

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### ABSTRACT

**Background:** Clean and healthy life behavior (PHBS) is expected to reduce the risk of disease and improve the quality of health. PHBS in order school is an attempt to empower students, teachers and the public school environment in order to know, willing, and able to practice healthy hygiene practices. This study aimed to analyze the relationship of predisposing factors associated with PHBS in Deli Serdang.

**Subjects and Method:** This study was a cross sectional study conducted at Pancur Batu Senior High School, Deli Serdang, Medan, from April to May 2018. A sample of 88 students was selected for this study by simple random sampling. The dependent variable was PHBS. The independent variables were teacher's knowledge, attitude, and support. The data were collected using a questionnaire and analyzed by Chi square test.

**Result:** Positive attitude (OR= 7.88; 95% CI= 2.94 to 21.11; p= 0.001), high knowledge (OR= 7.88; 95% CI= 2.94 to 21.11; p= 0.001), and strong support (OR= 16.88; 95% CI = 4.33 to 65.71; p = 0.001) improved PHBS.

**Conclusion:** Positive attitude (OR= 7.88; 95% CI= 2.94 to 21.11; p= 0.001), high knowledge (OR= 7.88; 95% CI= 2.94 to 21.11; p= 0.001), and strong support (OR= 16.88; 95% CI = 4.33 to 65.71; p = 0.001) improved PHBS.

**Keywords:** knowledge, attitude, teacher support, clean and healthy life behavior

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### BACKGROUND

Health is the right of every individual in order to be able to do all activities of daily living. Living healthy can be realized in Clean and Healthy Behavior (PHBS). PHBS in schools is an absolute necessity as the emergence of various diseases that often attack school-age children, which are associated with PHBS. PHBS at school is a set of behaviors that are practiced by students, teachers and the community school environment on the basis of awareness as a result of learning, so that they are independently capable to implement a set of behaviors that are practiced on the basis of awareness as a result of learning that makes a person or family can help themselves in

the field of health and play an active role in realizing public health (Ministry of Health, 2006).

Blum's theory states that health status is influenced by 4 (four) kinds of factors, namely environment, behavior, health services, and heredity. Environmental and behavioral factors are the biggest factors that influence the level of health. Therefore, a healthy environment and healthy behavior need to be seriously pursued in the behavioral school setting that can change the level of community health through the implementation of PHBS.

In implementing PHBS, every individual must be aware, willing and able to practice it. PHBS coverage includes wash-

ing hands using soap, consuming healthy food and beverages, using healthy latrines, throwing garbage in the trash, not smoking, not consuming drugs, alcohol, psychotropic substances and other additives (drugs), not spitting anywhere, eradicating mosquito larvae so as to avoid health problems.

Health problems of school children include issues related to PHBS, such as helminthiasis, diarrhea, dental caries/ cavities, problems related to risk factors (drug abuse, free sex, sexually transmitted infections including HIV/ AIDS, reproductive tract infection, nutritional problems (malnutrition, over nutrition, anemia) and health problems related to basic sanitation (clean water, latrines / toilets, and waste water disposal) that do not meet health requirements like typhus, cholera, dysentery. This is vulnerable to school education and the threat of illness to school children which is still high in the presence of endemic diseases and malnutrition (Notoatmodjo, 2012).

Diseases attacking elementary school children related to behaviors include intestinal worms 40-60%, anemia 23.2%, caries and periodontal 74.4% (MOH, 2005). The highest percentage of smokers (19.7%) were in the adolescent age group (10-19 years), most (59%) of the population aged 10 years and over lacked physical activity. PHBS conditions in North Sumatra can be seen from the percentage of households with PHBS 54.30%, food safety issues sold around schools that have not applied hygiene principles<sup>3</sup>. If PHBS is not carried out properly, it will cause undesirable impacts, namely the emergence of various diseases.

School-age children are at a golden age to instill PHBS values and promote them both in schools, families and communities. Currently, in Indonesia, there are more than 12409 schools. Based on this

number, schools are strategic places in children's lives, so schools can function properly as one of the institutions that can assist and play a role in efforts to optimize the growth of school children with promotive and preventive efforts by implementing PHBS properly (BPS, 2015).

The implementation of the Clean and Healthy Life Behavior program is grouped into 5 orders, namely the household structure, educational institutions, health institutions, workplaces and public places. Of the several PHBS arrangements, households are the initial order of PHBS implementation because the household ladder is the smallest community group closest to the individual, therefore the implementation of PHBS in the household order is given a great attention so that it can run optimally. PHBS has 7 behavioral indicators and 3 environmental indicators. The behavioral indicators consist of not smoking inside the house, eating fruits and vegetables every day, childbirth assistance by health personnel, weighing babies and toddlers, washing hands with soap, giving exclusive breastfeeding and doing physical activities for at least 30 minutes regularly. Environmental indicators include family latrines, clean water and eradicating mosquito larvae. Clean and Healthy Life Behavior in educational institutions is an effort to empower students, teachers and community members of the school to know, want and be able to practice PHBS and play an active role in realizing healthy education institutions (MOH, 2011).

Based on Lawrence Green's theory, PHBS is influenced by 3 factors, namely the easy, enabling and reinforcing factors. A study by Mufidah (2007) shows that the level of knowledge of a healthy lifestyle is good, attitudes towards a healthy lifestyle is good, but not with a healthy lifestyle behavior that is not good among students

with the actions of students who do not wash their hands with soap and student actions who lack exercise are caused by poor time management factors so that busy learning is considered as a barrier to regular exercise.

Children's attitudes and PHBS are also influenced by reinforcing factors such as support from parents and teachers. One study that is influenced by reinforcing factors with parental support is a study by Dewi (2016) showing that the role of parents has a greater influence than the teacher's role in getting students to practice clean and healthy living behavior in school seen from the mean the role of parents in the practice of clean living behavior.

Based on the preliminary survey conducted in Pancur Batu Senior High School, in April 2017, 60% of students did not wash their hands with running water, did not use soap after using the toilet, and before eating, nails which is long and dirty, snacks are haphazard, and the toilet is less clean.

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## SUBJECTS AND METHOD

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### 1. Study design

This was an analytic observational study conducted at Pancur Batu Senior High School, Deli Serdang, Medan.

### 2. Populasi dan sampel

The population in this study were senior high school students in Pancur Batu, Deli Serdang. A sample of 88 students was selected for this study by simple random sampling.

### 3. Study variables

The dependent variable was PHBS. The independent variables were knowledge, attitude, and teacher support.

### 4. Operational definition of variables

Knowledge was defined as everything that students know about clean and healthy living behavior in school.

Attitude was defined a positive action of someone to be able to behave in a Clean and Healthy Life.

Teacher support was defined as all forms of support provided by teachers to the students in order to realize clean and healthy living behavior.

### 5. Data Analysis

The data were analyzed by Chi square test.

### 6. Research Ethics

The research ethics has been carried out by the School of Health Sciences Santa Elisabeth Research Ethics Committee, Medan.

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## RESULTS

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### 1. Univariate analysis

The results showed that based on gender, there are 56 female (63.6%) and 32 male (36.4%). As many as 55 students (62.5%) were Christian.

**Table1. The frequency Distribution characteristics of research subjects**

Characteristics	n	%
<b>Gender</b>		
Male	32	36.4
Female	56	63.6
<b>Religion</b>		
Catholic	3	3.4
Christian	55	62.5
Moslem	30	34.1
<b>Race</b>		
Karo	58	65.9
Java	14	15.9
Toba	12	13.6
Padang	2	2.3
Nias	1	1.1
Aceh	1	1.1
<b>Knowledge</b>		
Good	61	69,3
Poor	27	30,7
<b>Teacher's support</b>		
Good	70	79,5
Poor	18	20,5
<b>PHBS</b>		
Good	57	64.8
Poor	31	35.2

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**Table 2. The results of bivariate analysis using Chi square test**

	PHBS						OR	95% CI		P
	Good		Poor		Total			Lower	Upper	
	N	%	n	%	n	%				
<b>Attitude</b>										
Positive	45	81.8	10	18.2	55	100	7.88	2.94	21.11	0.001
Negative	12	36.4	21	63.6	33	100				
<b>Support</b>										
Strong	54	77.1	16	22.9	70	100	16.88	4.33	65.71	0.001
Weak	3	16.7	15	83.3	18	100				
<b>Knowledge</b>										
Good	51	83.6	10	16.4	61	100	17.85	5.75	55.40	0.001
Poor	6	22.2	21	77.8	27	100				

**2. Bivariate analysis**

Table 2 shows the results of bivariate analysis with Chi-square test. Table 2 shows that positive attitude (OR = 7.88; 95% CI= 2.94 to 21.11; p= 0.001), high knowledge (OR= 7.88; 95% CI= 2.94 to 21.11; p= 0.001), and teacher strong support (OR= 16.88; 95% CI= 4.33 to 65.71; p= 0.001) improve the behavior of clean and healthy living.

**DISCUSSIONS**

**1. The relationship between knowledge and PHBS**

Knowledge was done by a person through sensing a particular object. Sensing occurred through the process of the five senses of human, in the form of senses of sight, hearing, taste, smell and touch, which provided stimulation to the brain so that it could recognize an object. By itself, the time of sensing to produce knowledge was affected by the intensity and perception of the object being observed (Notoatmodjo, 2010). The result of this study showed that knowledge was in good category with PHBS at Pancur Batu senior high school which could be seen through the actions of students who did PHBS on the basis of knowing about PHBS so that they maintained the PHBS at school. This was not in line with a study done by Rohani (2012) which stated that good knowledge was not related to

action, because even though they already know the action, they did not want to implement it. In Pancur Batu senior high school, good knowledge can be realized through good behavior of waste disposal. Based on the results of the study, it could be seen that the behavior of disposing the waste has been implemented quite well which could be seen in terms of students action. With good action, it mean that the respondent has sufficient level of awareness on the importance of maintaining cleanliness, especially in disposing the garbage. This was in accordance with the Health Belief Model theory which stated that individuals would take action if they felt themselves vulnerable to a problem and considered it as a serious problem (Glanz et al., 2006).

The result of this study showed that there was a relationship between knowledge and PHBS. Knowledge could reflect a person's behavior if a person's knowledge was good, and she/he would also have good behavior. Student's knowledge about PHBS could influence them in conducting PHBS. The better the knowledge about PHBS, the better the PHBS action.

Knowledge was a predisposing factor so that PHBS can be implemented, this factor triggered a person's behavior which was the basis or motivation for his/her

actions due to traditions or habits, beliefs, level of education, and socioeconomic level. Increased knowledge would provide significant results to improve the behavior, this was in accordance with the statement of Rogers in Notoatmodjo (2007) which stated that knowledge was a very important domain for the formation of behavior, and behavior which was based on knowledge would last longer than the behavior that was not based on knowledge (Edwin, 2013). According to Bloom in Notoatmodjo (2003) knowledge was a very important domain for the formation of someone's actions. Where in this case the students would not have an action according to PHBS if the students did not know the benefits of PHBS for them.

## **2. The relationship between attitude and PHBS**

Attitude was an action of positive or negative tendencies which was related to psychological objects. Real attitude showed the connotation of the suitability of reactions to certain stimuli which in everyday life were emotional reactions

According to Thurston (1928), attitude as an action of a positive or negative tendency that was associated with psychological objects. Actual attitudes showed the connotation of the suitability of reactions to certain stimuli which in everyday life were emotional reactions to social stimuli. Attitude was the readiness to react to objects in a particular environment as an appreciation to the object. The results of the descriptive analysis of student attitudes found that the attitude variables of students showed a result of poor attitudes by 42.0%. The results of the chi-square test statistic showed the score of  $p = 0.002$ , which indicated that there was a significant relationship between the students' attitudes and PHBS actions. The OR score was 9.818, this mean that students who have bad actions were 9.818

times more likely to have bad attitudes than those who have good actions. According to Azwar (2003), educational institutions were a system that has an effect on the formation of attitudes. This was because the educational institutions placed the foundation for understanding within individuals, understanding of good and bad, the dividing line between something that was allowed or not which was obtained from the education center. This was in accordance with Notoatmodjo (2003) who stated that one of the factors that influence a person's attitude was their experience or knowledge of the object's attitude.

According to Notoatmodjo (2003), generally, attitude can be formulated as a tendency to respond (positively or negatively) to certain people, objects or situations. Attitudes contained emotional judgments (happy, sad, hate, and others). Attitude was a reaction or response that was still closed from someone to a stimulus or object. Attitudes were often obtained from individuals' experience or their closest people. Attitudes cannot yet be seen in real life, meaning that attitude was still within someone so that it was difficult to know someone's attitude toward something.

Newcomb, one of the experts in social psychology stated that attitude was readiness or willingness to act and was not an implementer of certain motives. Attitude was not an action or activity, but it predisposed to an act of behavior. Attitude was readiness to react to objects in a particular environment as an appreciation of the object (Juni, 2014).

Attitude toward PHBS showed that the majority of respondents strongly agreed that clean and healthy behavior was one of the actions in preventing the diseases. PHBS was an effort to provide a learning experience or create a condition for individuals, families, groups, and communities by

opening communication channels, providing information, and conducting education to improve knowledge, attitudes, and behavior through advocacy, social support, and Community empowerment as an effort to help people to recognize and know their own problems, in the household order, in order to implement healthy ways of life in order to maintain and improve health (Notoadmodjo, 2007)

The result of this study showed that PHBS in SMA N 1 Pancur Batu was good, this was in line with a study done by Wokas (2018) which stated that the distribution of respondents showed that most students were good at hand washing with a good category by 57.9% which was an indicator of PHBS. This study was supported by previous research on the behavior of hand washing before and after eating based on the good category, which was 54.2% (Khoiruddin et al., 2015). Other studies also suggested that handwashing behavior showed good behavior by 51%. The behavior of hand washing was an activity conducted by a person in cleaning the hands with the aim of cleaning hands from dirt and killing the germs of disease that were detrimental to human health (Rahayu et al., 2016).

This study was not in line with a study done by Simbolon (2017) which stated that the PHBS of elementary school students in the work area of Pancur Batu Public Health Center was not good because there were no health facilities and PHBS monitoring at the school.

The result of a study in Pancur Batu senior high school showed that the students have good attitude related to PHBS due to the level of education about PHBS, the age of respondents, and the awareness to conduct PHBS properly. This was in line with Notoadmodjo (2014) who stated that the PHBS factor was good due to an

individual's behavior. According to Green, there were two factors that caused health problems, namely behavioral factors and non-behavioral factors. The behavior factor itself was determined by 3 main factors, including predisposing factors, factors that facilitate the occurrence of a person's behavior, including knowledge, attitudes, beliefs, values, traditions, and demographic factors (age, gender, socioeconomic status), enabling factors were factors that enabled or facilitated behavior or actions, including facilities and infrastructure, costs, distance, and availability of transportation, reinforcing factors were factors that encouraged or strengthened the occurrence of behavior such as community leaders, family, friends, teachers, and health personnels.

The level of education of respondents in this study was high school and the age of respondents has entered adolescents, based on these factors, most respondents already have awareness without being instructed by the teachers and parents. Based on the HBM theory, the perceived benefits determined the actions of someone (Glanz et.al, 2008). The benefits that would be obtained would stimulate someone to take actions that were beneficial to him/her (Notoadmodjo, 2010). It can be concluded that Positive responses have an important role for someone in taking a good decision for their health. If someone felt the perceived benefits were not too big, then they tend to not take good action in PHBS. Therefore, it was necessary to increase the awareness of respondents to motivate them to take PHBS actions by giving the counseling related to the advantages and disadvantages in doing PHBS properly.

This was in line with a study conducted by Siregar (2013) which stated that Good PHBS could have a positive impact on health and improve the quality of human resources both in terms of health and

utilization of environmental health facilities. Because basically, healthy is a basic need for every human or individual that would affect all daily activities. Clean and healthy behavior need to be applied by everyone to maintain good health behavior. Clean and healthy behavior need to be instilled since childhood, it was certainly very important to see the behavior of children who have been able to maintain their clean and healthy behavior. This clean life behavior was based on personal hygiene and the environment which related to a person's physical condition. By maintaining personal hygiene, a person would be protected from several kinds of diseases, thus with a healthy body, the physical fitness was also formed.

### **3. The relationship between teacher support and PHBS**

According to Caplan in Friedman (1998) Family support was an integral part of social support. The positive impact of family support was to increase someone's adjustment to life's events.

Teacher support in this study was social interaction in the form of support and encouragement from teachers in schools about PHBS. The results of the study showed that there was a relationship between teacher support and PHBS in Pancur Batu senior high school in 2018. This was in line with a study done by Siswanto (1999) which found that support contributed significantly to someone's motivation to be better. Social support would indirectly have emotional benefits that would give strength to a person. The existence of teacher support according to the description above was supporting the students' activities in implementing PHBS. According to Smet (1994), giving support caused individuals to get positive experiences, increase self-confidence, and be able to control changes in their environ-

ment. This was in line with Siregar (2013) who stated that social support in this study through social interaction in the form of support and encouragement about PHBS from family, health personnels, community leaders, and friends.

In implementing PHBS, teacher support was very necessary because the teacher was the closest person to the student in school and the teachers acted as the second parents for students when they were in school. The form of teacher support made the individuals felt that members of a group have similar interests and social activities with them, so that individuals would felt that they have friends.

Wortman (in Sarafino, 2004) stated that as human beings, they cannot be separated from other people. The presence of others could lead to positive or negative relationships. It can be said as positive characteristic if the relationship was beneficial, such as giving love, security, and happiness. Whereas the negative one was a relationship that created a threatening and uncomfortable feeling that could lead to stress.

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