The Application of Methods Snake Ladder Game as The Effect of Clean and Healthy Behavior (PHBS) To Prevent Diarrhea On Children In A River Bank Area Martapura

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ABSTRACT: The Partners in this community service is the State of Elementary School (SDN) Tunggul Irang Ulu and Madrasah Ibtidaiyah (MI) Darussalam. The problems which are found in both partner schools are not implemented yet the Clean and Healthy Behavior (PHBS) on the students so that the incidence of diarrhea always increases. Based on direct interviews with the school teachers in the data, it obtained 53.7% of SDN Tunggul Irang Ulu students suffering from diarrhea and MI Darussalam received 56.61% of data suffered from diarrheal diseases. Diarrhea is a disease that often suffered by residents in the river bank. The high rate of diarrhea in partner schools is caused by students of SDN Tunggul Irang Ulu used to buy food and drink that is not clean and many students of MI Darussalam who urinate in "Jamban" as the toilet on the river and washing hands in the river. To prevent children from having diarrhea is to teach children Clean and Healthy Behavior (PHBS), among others, washing hands with running water and using soap, consuming healthy snacks in the school cafeteria, using clean and healthy toilets, regular exercise, eradicating mosquito larvae, not smoking at school, weighing weight and measuring height every 6 months, dumping garbage in its place (Health Office of South Kalimantan, 2012). Health education of should be done with an interesting method because the target is children aged 5-12 years that is by snake ladder game method. Community Service (IbM) was conducted on 10 - 21 August 2017 at two schools of cooperation partners, SDN Tunggul Irang Ulu for 150 students and MI Darussalam Martapura for 187 students. IbM result has an increase in student’s knowledge about PHBS by using the ladder snake game that is at SDN Tunggul Irang Ulu for 32.00 and MI Darussalam Martapura of 30.32. Suggestion: principals and teachers facilitate the creation of healthy schools and monitor the PHBS that have been applied students. This PHBS ladder snake game can be applied in other schools to improve student’s knowledge of PHBS.

Keywords: Diarrhea, clean healthy behavior, riverside
INTRODUCTION
Partners in this community dedication are State Elementary School (SDN) Tunggul Irang Ulu and Madrasah Ibtidaiyah (MI) Darussalam. The following situational analysis was obtained using the school environment observation method and interviewed with some of the students and teachers of the school.

The first partner is SDN Tunggul Irang Ulu. This school is located at Melati Street Tunggul Irang Ulu Village RT. 03 RW. 02 Martapura City. This elementary school is on the outskirts of the Martapura River. Almost every year in the rainy season, this village is always getting floods. This is because the river is no longer able to accommodate the increasing volume of water due to rain. The river is indeed silting because most of the daily activities of the community are carried out in the river, one of which is to dispose of garbage. Flooding that occurred in the Village Tunggul Irang gives effect also to SDN Tunggul Irang Ulu. Flood height is among 10-50 cm. When the floods are high, the school is closed. This is because the flood has entered the classroom as in 2015 school is closed 1 week. Around the school many food and beverage vendors are not found closed.

The second partner is Madrasah Ibtidaiyah (MI) Darussalam. This school is located at K.H.M. Street Kasiful Anwar District of Pasayangan Martapura City. The school is on the same level as the primary school. This school is located on the outskirts of the Martapura River. River becomes the center of daily activities. Most of the activities carried out in the river such as bathing, washing, defecating, and urinating.

Flood is like a routine that must be lived for the residents of these two schools. Even diarrheal diseases always appear when floods hit. Diarrhea is a disease characterized by changes in the shape and consistency of soft stools until melting and increasing frequency of bowel movements are more than usual, it is 3 times or more in a day which may be accompanied by vomiting or bloody stools (1).

In Indonesia, the rate of diarrhea in 2002 was 6.7 per 1000 population, while in 2003 it increased to 10.6 per 1000 population. Death rates due to diarrhea are still quite high. The National Health Survey shows that diarrhea is the second rank that causes death; it is 23.0% in under-fives; and number three, it is 11.4% in infants (2). In South Kalimantan itself there are many cases of diarrhea. As a comparison of cases of diarrhea, in 2008 it has 54,316 cases, in 2009 it has 72,020 cases, in 2010 it has 52,908 cases, and in 2011 it has 66,765 cases (3).

According to research by Herawati, et al, she mentioned diarrhea as one of 10 most common nursing diagnoses that appear in rural communities in South Kalimantan (4). In 2015, diarrhea was included in the top 10 diseases in Kabupaten Banjar. The incidence of diarrhea in Kabupaten Banjar from year to year are increase, in 2014 the number of cases of diarrhea was 10425 cases, in 2015 increased to 10845 cases (5).

The main cause of diarrhea is a bacterial infection. This disease is an environmental disease. Several
factors related to the incidence of diarrhea are inadequate provision of clean water, contaminated water by feces, lack of hygiene facilities, poor personal hygiene and environment, poor food preparation and cooked food storage at room temperature should. Diarrheal diseases can also occur as a result of natural disaster events such as flooding due to flooding as a medium of transmission of bacteria that cause diarrhea (6). This condition will affect the health of children. To prevent children from suffering from diarrhea is to teach children what is “Clean and Healthy Behavior (PHBS)”. Indicators that are used as a measure for assessing PHBS in schools are washing hands with running water and using soap, consuming healthy snacks in the school canteen, using clean and healthy toilets, regular exercise, eradicating mosquito larvae, not smoking in school, weighing body and measuring height every 6 months, dumping garbage in its place (3). Based on the WHO study, washing hands with soap can reduce diarrhea incidence by up to 47% (7).

The problems that are found in SDN Tunggul Irang Ulu are not yet implemented the Clean and Healthy Behavior (PHBS) on the students so that the incidence of diarrhea is always increase. Based on direct interview with SDN teacher Tunggul Irang Ulu in getting data that as many as 53,7% suffer from diarrhea disease. The reason is that students used to buy food and drink that is not clean. Snacks that are around the school are mostly snacks carried by motor vehicles and some stalls that do not use the lid on the food, this causes the attachment of bacteria on snacks sold. Moreover the students did not wash their hands before eating. This is also because there is no hand-washing place in the school. SDN Tunggul Irang Ulu is also a flood-prone area every year to facilitate diarrheal bacteria to attack children.

The Problem which is not implemented Clean and Healthy Behavior (PHBS) yet is also found in the students of MI Darussalam. It causes the incidence of diarrhea also increases. Based on direct interview with MI Darussalam teacher in getting data that as many as 56,61% suffer from diarrhea disease. The reason is that many of the students who defecate in "jamban" as the toilet on the riverbank and washing hands in the river. When a child suffering from diarrhea defecates in the river, then a healthy child washes his hands with river water that already contains the bacteria that cause diarrhea and the child eats with his hands then the healthy child is also most likely to suffer from diarrhea. Based on the results of the study on both partners, it is necessary to socialize to instill clean and healthy living behavior (PHBS) to prevent diarrhea in the students with interesting method.

RESEARCH METHODS

The targets of this activity are the students of SDN Tunggul Irang Ulu Martapura and MI Darussalam Martapura from grade 1- grade 6. Using the approach to the snake ladder method as an effort to instill clean and healthy life behavior to prevent diarrhea in the students at SDN Tunggul Irang Ulu Martapura and MI Darussalam Martapura.

The Activity Steps are
a. The dedication team met principals and teachers in both
partner schools to communicate the purpose and purpose of community service.

b. The dedication team delivered the method of implementing the activities.

c. The dedication team will conduct the activities (giving PHBS materials and PHBS training) within 6 days of each school so that every day one class. In each class before the game begins, the dedication team asks the students questions (pre test) with a written method to measure the average initial knowledge of the students about PHBS and diarrhea. The range of pretest values is 0-100.

d. Students of each class will be divided into 3 groups. The duration of snake ladder game each group is 30 minutes.

e. Convey the rules of how to play in each group.

f. Facilitate each group to play. The stage of the ladder snake play is made in the form of a large banner with the size of 3x3 meters. In the playground each figure is given PHBS images. At the time of the game also provided dice size.

g. The dedication team facilitates the students to play.

h. After the game is done posttest about the material obtained from the technique of playing with the written method to get the average value of student’s knowledge after the game snake ladder. The range of posttest is 0-100.

i. The dedication team summed up the message on the snake game and asked students to do a clean and healthy lifestyle

j. The dedication team would like to thank the partner schools and provide the poster hand washing of each school 6 pieces.

k. The dedication team makes a final report of the activity and is collected to the funding activity of the ULM Medical Faculty

RESULTS AND DISCUSSION

Dedication Community entitled "Application of Snake Ladder Game Method as an Effort to Implant Clean and Healthy Behavior (PHBS) to Prevent Diarrhea in Children in Suburb of Martapura River" was conducted on August 10th – 21st 2017 at two cooperating partner schools, namely SDN Tunggul Irang Ulu as many as 150 students and MI Darussalam Martapura as many as 187 students, obtained the following results:

Table 1. Average Pre-Test Value Knowledge of Clean and Healthy Behavior (PHBS)

<table>
<thead>
<tr>
<th>School</th>
<th>Average Post-test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDN Tunggul Irang Ulu</td>
<td>46.67</td>
</tr>
<tr>
<td>MI Darussalam Martapura</td>
<td>45.35</td>
</tr>
</tbody>
</table>

The average pre-test value of knowledge about PHBS prior to apply game snake ladder PHBS School in prevention of diarrhea that is TunggulIrangUlu Primary School has average value of knowledge equal to 46.67 and at MI Darussalam equal to 45.35.

Table 2. Average Post-Test Value Knowledge of Clean and Healthy Behavior (PHBS)

<table>
<thead>
<tr>
<th>School</th>
<th>Average Post-test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDN Tunggul Irang Ulu</td>
<td>78.67</td>
</tr>
<tr>
<td>MI Darussalam Martapura</td>
<td>75.67</td>
</tr>
</tbody>
</table>
The average post-test value of knowledge about PHBS after applied game snake ladder PHBS School in prevention of diarrhea that is SDN Tunggul Irang Ulu has average value of knowledge equal to 78.67 and at MI Darussalam equal to 75.67.

Here is the difference between the pretest and post-test values of the students of both partners of SDM Tunggul Irang Ulu and MI Darussalam Martapura.

<table>
<thead>
<tr>
<th>School</th>
<th>Mean Differences of Pre-Test and Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDN Tunggul Irang Ulu</td>
<td>32.00</td>
</tr>
<tr>
<td>MI Darussalam Martapura</td>
<td>30.32</td>
</tr>
</tbody>
</table>

At SDN Tunggul IrangUlu, there is an increase in the average score of the students' knowledge related to PHBS before and after game of ladder snake 32.00. In MI Darussalam Martapura there is an increase in the average score of the students' knowledge related to PHBS before and after the snake game of 30.32.

The Increased knowledge of respondents due to the willingness in himself to find information. This snake ladder game method provides motivation and cognitive influences to increase the interest of elementary school students and facilitates the digestion of information where not only receive educative messages but also do something fun to better understand the material provided.

The use of educational methods of snakes ladder is an extension method appropriate to the age of the respondent, easy to remember and has appeal and facilitate the delivery of health information about school PHBS to prevent diarrhea. According to the cognitive development theory of Piaget children aged 6-12 years; his cognitive development is at a concrete operational stage. It means that children achieve certain logical structures that allow them to form several mental operations, but are still limited to concrete objects. Their abilities increase in terms of describing experiences and expressing what they think and feel. The child experiences a change of thinking ability, from previously self-centered to being able to think also about other things outside of him. The child also begins to understand causality.

School-aged children are the largest among the other age groups and most sensitive to receive change or renewal because they are at the stage of growth and development. So easily guided, directed and inculcated good habits, including habits and healthy living behavior considering, they are an investment for nation building. Through the game of snake and ladder, children get a stimulus that will increase knowledge and attitudes to health problems in the vicinity. The game of ladder snakes can stimulate a person to develop cognitive, moral, mental and emotional and social, as well as psychomotor abilities. The data is reinforced by the results of research that has been done by Yudianto that counseling with ladder snakes stimulation methods can further improve the attitude of students to Dengue Hemorrhagic disease than with classical methods and leaflets (8). Another study by
Prabowo proved an increase in the knowledge of school students about environmental health in schools by using the game of a snake ladder (9).

**CONCLUSION**

The use of snake ladder game method of school PHBS is an appropriate extension method with age of 6-12 years old. School-aged children are the largest community among the other age groups and most sensitive to receiving change or renewal, so as to be easily guided, directed and embedded in good habits. By a snake ladder game can increase knowledge of PHBS schools that should be applied to avoid the occurrence of diarrhea, especially schools that are on the riverbank. From dedication community, it proves the existence of increasing of student knowledge about PHBS by using game of snake ladder that is SDN TunggulIrangUlu for 32.00 and MI Darussalam Martapura equal to 30.32.

Snake and ladder game PHBS is the first step of increasing the knowledge of students related to PHBS. It is suggested to principals and teachers to facilitate the creation of healthy schools and to monitor the PHBS that students have applied. This PHBS ladder snake game can be applied in other schools to improve student’s knowledge of PHBS.

**REFERENCES**


