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Behavioral Factors Against Hepatitis A Incidence in Universitas Jember with Lawrence Green Method

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ABSTRACT

Hepatitis A is an inflammatory liver disease caused by Hepatitis A virus is Ribonucleic Acid (RNA) Virus. Hepatitis A viruses belonging to the family picornaviridae, genus hepatovirus, have 1 serotype and 4 genotypes. Outbreak of hepatitis A in the last 4 years, often occurs among students, especially students of the Universitas Jember. The results of observations made by researchers in September 2020, namely the level of knowledge of students of Universitas Jember was still less and could be more at risk of contracting hepatitis A compared to students who were well knowledgeable. The results of the data analysis showed that the level of knowledge of Universitas Jember students about hepatitis A could be more at risk of contracting hepatitis A compared to students who were well-knowledgeable. Knowledge of hepatitis A will certainly support the change in health behaviors, namely behaviors related to preventive, curative and rehabilitative efforts against hepatitis A. In general, students' knowledge of hepatits A was still half of respondents lack good knowledge of hepatitis A. Supportive behaviors in improving health are needed means to disseminate information about hepatitis A which includes preventive, curative and rehabilitative efforts. A person's knowledge of the disease is very important for the formation of actions that will be carried out by the person, because with good knowledge can create good actions.

Keywords: behavior; hepatitis A; student

INTRODUCTION

Background

Based on data from WHO in 2013, Indonesia is a country with a relatively high prevalence of hepatitis A. WHO estimates that in the world each year there are about 1.4 million people with hepatitis A. In America the incidence of Hepatitis A is 1 per 100,000 population with an estimated 21,000 people in 2009. While in Europe the incidence of Hepatitis A is 3.9 per 100,000 population(1).

In 2019, Jember Regency has experienced an outbreak of Hepatitis A, which is an inflammation of the liver caused by hepatitis A virus infection, along with the increasing number of cases of the disease in the local district since December 26, 2019, which reached 217 cases. From the data of hepatitis A sufferers in students, it shows that 56% of these students are used to eating at stalls or street vendors with poor sanitation hygiene(2). According to medical record data related to cases of hepatitis A infection in the Medical Center Unit of the Universitas Jember, it shows that in 2016 there were 61 cases, in 2017 there were 54 cases, in 2018 there was a decrease of 47 cases, and in 2019 there was an increase of 58 cases based on monthly data January to October.

Hepatitis A outbreak in the last 4 years, often occur among students, especially students at the Universitas Jember. The Jember District Health Office has conducted epidemiological investigations of hepatitis A outbreaks and made prevention efforts, but every year hepatitis A outbreaks still occur in Jember Regency.

The incidence of hepatitis A in Jember Regency often occurs in areas where the population has poor behavior and environmental conditions[2].

According to the theory of Lawrance Green and friends (1980) in Notoatmodjo that the health of a person or society is influenced by factors, namely behavioral factors and factors outside the behavior, then the behavior itself is found or formed from 3 factors:

1) Predisposing factors are factors of a person who has a tendency to behave in a certain way, including the level of education, attitude, ethnicity, beliefs, beliefs, values in society and tradition[3].
2) Enabling factors are factors that enable behavior and action. It can be infrastructure or facilities to enable the existence of health behaviors.
3) The driving factor (reinforcing factors) that is a factor which reinforces the behavior.

This problem was raised because many students were stricken with hepatitis A because the area around the Universitas Jember was an endemic area for the hepatitis virus, which is a disease that occurs in an area that occurs repeatedly, and in the area around the Universittas Jember there are many food and beverage traders who relatively not maintaining cleanliness. It is suspected that the students consumed food and drinks contaminated with the virus. The equipment used to serve food and drinks is also suspected of being contaminated with the virus[4].

Purpose

The purpose of this study is to analyze the relationship between student behavior factors and the incidence of Hepatitis A at the Universitas Jember. Analyzing the relationship between knowledge and the incidence of hepatitis A at the Universitas Jember**.** Analyzing the relationship between attitudes and the incidence of hepatitis A at the Universitas Jember which is related to the incidence of Hepatitis A among Universitas Jember students**.** Analyzing the relationship between action / practice with the incidence of hepatitis A at the Universitas Jember which is related to the incidence of Hepatitis A among Universitas Jember students.

METHODS

Research method using case control study with sample size of 70 respondents. This study used two samples. The comparison between the case group of students affected by the disease (case) 35 samples and students who were not affected by the disease (control) 35 samples with the control group of 1:1. This was done with the aim of minimizing bias. Sampling techniques in this study were respondents in the case group selected using simple random sampling. The analysis of this study used descriptive analysis to identify the characteristics of respondents, bivariate analysis to see the risk factors of independent variable events against dependent variables as well as multivariate analysis conducted to see the relationship of free variables with dependent variables and which independent variables had the most effect on dependent variables. To find out the knowledge and attitude of students using questionnaires and interview guides that have been tested validity and reliability to students at the Universitas Malang. This research was conducted in Universitas Jember in October-September 2020.

RESULTS

Table 1 shows that most of the students (64.3%) were female and most of them (31.4%) were 22 years old.

Table 1. Results of the analysis of the characteristics of respondents

Characteristics of respondents	Frequency	Percentage
Gender		
• Male	25	35.7
• Female	45	64.3
Age		
• 18	2	2.9
• 19	10	14.3
• 20	14	20.0
• 21	10	14.3
• 22	22	31.4
• 23	6	8.6
• 24	4	5.7
• 25	1	1.4
• 28	1	1.4

Table 2. Distribution of research variables

Research variables	Case		Control	
	f	%	f	%
Knowledge				
• Good	16	45.7	30	85.7
• Less	19	54.3	5	14.3
Total	35	100	35	100
Attitude				
• Positive	19	54.3	32	91.4
• Negative	16	45.7	3	8.6
Total	35	100	35	100
Action				
• Good	23	65.7	34	97.1
• Less	12	34.3	1	2.9
Total	35	100	35	100

Based on table 2, 35 respondents who were studied based on statistical analysis had good knowledge in hepatitis A patients (cases) of 45.7%, for respondents who had less knowledge in hepatitis A patients (cases) of 54.3%. In the group that did not have hepatitis A (control) of 35 respondents, 85.7% had good knowledge, while those with less knowledge were 14.3%. Data showed that the distribution of 35 respondents studied based on statistical analysis had a positive attitude in hepatitis A patients (cases) of 54.3%, for respondents who had a negative attitude in hepatitis A patients (cases) of 45.7%. In the group that did not have hepatitis A (control) of 35 respondents, 91.4% had a positive attitude, while those who had a negative attitude of 8.6%.

The data also showed that the distribution of 35 respondents studied based on statistical analysis had good actions in hepatitis A patients (cases) of 65.7%, for respondents who had less action in people with hepatitis A (cases) of 34.3%. In the group that did not have hepatitis A (control) 35 respondents of 97.1% had a positive attitude, while those who had a negative attitude of 2.9%. Furthermore, the relationship test between variables and hypothesis test. To find out the relationship between independent variables and dependent variables used the Chi-Square test. Logistic regression tests was used to see the significant influence of independent variables on dependent variables as well as to know which independent variables were most influential with dependent variables.

Table 3. The relationship between knowledge and hepatitis A incidence

Knowledge	Hepatitis A incidence						p-value	OR
	Case		Control		Total			(95% Cl)
	f	%	f	%	n	%		
Good	16	45.7	30	85.7	46	65.7		0.140
Less	19	54.3	5	14.3	24	34.3	0.000	(0.044-0.446)
Total	35	100	35	100	70	100		

Table 3 shows that of the 46 respondents who had good knowledge of hepatitis A sufferers (cases) was 45.7%, while those who did not suffer from hepatitis A (controls) were 85.7%. The 24 respondents who had less knowledge of hepatitis A sufferers (cases) were 54.3%, while those who did not suffer from hepatitis A (controls) were 14.3%. The p-value was 0.000, so there was a relationship between knowledge and the incidence of hepatitis A among students at the Universitas Jember. The OR was 0.140, so the respondents who have good knowledge were at risk of experiencing Hepatitis A of 0.140 times compared to respondents who have less knowledge.

Table 4. Relationship between attitudes and hepatitis A incidence

Attitude	Hepatitis A incidence						p-value	OR
	Case		Control		Total			(95% Cl)
	f	%	f	%	n	%		
Positive	19	54.3	32	91.4	51	72.9		0.111
Negative	16	45.7	3	8.6	19	27.1	0.000	(0.029-0.433)
Total	35	100	35	100	70	100		

Table 4 shows that of the 51 respondents who had a positive attitude in hepatitis A patients (cases) of 54.3% while those who did not have hepatitis A (control) by 91.4%. The data also showed that of the 19 respondents who had a negative attitude in hepatitis A patients (cases) of 45.7% while those who did not have hepatitis A (control) by 8.6%%. The p-value was 0.000, so there was a relationship between attitude and incidence of hepatitis A in students of Universitas Jember. The OR was 0.111, so the respondents who have a positive attitude have the risk of hepatitis A incidence by 0.111 times compared to respondents who have a negative attitude.

Table 5. Relation between actions and the incidence of hepatitis A

Action	Hepatitis A incidence						p-value	OR (95% Cl)
	Case		Control		Total			
	f	%	f	%	n	%		
Good	23	65.7	34	97.1	57	81.4	0.001	0.056 (0.007-0.464)
Less	12	34.3	1	2.9	13	18.6		
Total	35	100	35	100	70	100		

Table 5 shows that out of 57 respondents who had good action on hepatitis A sufferers (cases) amounted to 65.7% while those who did not suffer from hepatitis A (control) were 97.1%. The data also shows that of the 13 respondents who had insufficient action, the hepatitis A sufferers (cases) were 34.3% while those who did not suffer from hepatitis A (controls) were 2.9%. The p-value was 0.001, so there was a relationship between action and the incidence of hepatitis A in students of the Universitas Jember. The OR was 0.056, so the respondents who had good actions had a risk of experiencing hepatitis A incidence of 0.056 times compared to respondents who had bad actions.

The results of the logistic regression test for the main factors associated with the incidence of hepatitis A in Universitas Jember can be seen in table 6.

Tabel 6. Main factors related to hepatitis A incidence

Variable	B (bias)	Sig.	OR (95% Cl)
Knowledge	1.588	0.018	0.204 (0.055-0.763)
Attitude	2.096	0.006	0.123 (0.028-0.546)
Action	2.508	0.029	0.081 (0.009-0.773)

Based on table 6, the main factors associated with the incidence of hepatitis A in Universitas Jember obtained the strength of the knowledge relationship had an exponential value of the largest OR (OR = 0.204). The results of this test indicate that the variable most related to the incidence of Hepatitis A was knowledge.

DISCUSSION

The results of the research on the relationship between knowledge and the incidence of hepatitias A were divided into groups of cases / respondents affected by hepatitis A and control groups / respondents who were not affected by hepatitis A at the Universitas Jember that the level of knowledge of respondents was mostly in the good category, namely 65.7% . Meanwhile, respondents who had a low level of knowledge were 34.3%. The level of knowledge of students at the Universitas Jember about hepatitis A is less likely to be at risk of experiencing / contracting hepatitis A compared to students who have good or sufficient knowledge. Most of the respondents have good knowledge related to hepatitis A, but there is still a small proportion of respondents who have less knowledge about hepatitis A, this does not support the process of knowledge into healthy behavior. The results of this study are in accordance with the theory which states that good knowledge is needed to have a healthy behavior so that it makes it easier to achieve healthy behavior[3].

According to Green (2000) a person's level of knowledge determines the actions that will be taken against him / her in order to maintain their health status. Good knowledge of hepatitis A makes a person know about his health condition and makes efforts to find a cure for him. A person with good knowledge about hepatitis A has a higher concern for health conditions than a person with less knowledge. Knowledge is obtained through reality (facts) by seeing and hearing it yourself, as well as through communication means such as reading newspapers, listening to radio, watching movies or TV and others. Knowledge or cognitive is a very important domain in shaping one's action.

The results of this study are supported by research conducted by Aniko P, entitled the relationship between knowledge, attitudes and practices of hepatitis a prevention with the incidence of hepatitis A at SMAN

4 Depok. Where in this study there was a relationship between knowledge and the incidence of hepatitis A at SMAN 4 Depok with a p-value of 0.037 (<0.005) with an OR value (5.96) which stated that respondents with low knowledge were at risk of contracting hepatitis A as much as 5.69 times compared to highly knowledgeable respondents[7].

The results of the research on the relationship between attitudes and the incidence of hepatitis A which are divided into cases and control groups against hepatitis A at the Universitas Jember show that respondents have a positive attitude of 72.9% and respondents who have a negative attitude of 27.1%. Respondents who have negative attitudes are still not good at practicing clean and healthy living habits (PHBS). One of them is the use of cutlery such as straws, glasses, spoons, or plates simultaneously which often conducted by students who live in boarding houses. By sharing eating utensils by friends infected with hepatitis A, it is easy to contract hepatitis A. The results of this study are in accordance with the theory that a positive attitude will facilitate the realization of healthy behavior[3]. This may be because respondents are positive but not accompanied by good actions so that they are still affected by hepatitis A.

Attitude has 3 main components, namely, belief, ideas and concepts about an object, emotional life or evaluation of an object and tendency to act (tend to behave). These three components together form a complete attitude. According to Allaport in O'Sears, attitude is a mental and nervous state of readiness that is regulated through experience which provides a dynamic or directed influence on the individual response process to all objects and situations related to[6]. This research is in accordance with that conducted by Aniko, entitled The Relationship between Knowledge, attitudes and practices of Hepatitis A prevention with the incidence of Hepatitis A at SMAN 4 Depok. Where in this study there is a relationship between knowledge and the incidence of Hepatitis A at SMAN 4 Depok. Where in this study there was a relationship between knowledge and the incidence of Hepatitis A at SMAN 4 Depok which stated that respondents with low knowledge were at risk of contracting Hepatitis A as much as 5.69 times compared to respondents with high knowledge.

The results of the research on the relationship between the action and the incidence of hepatitis A which were divided into cases and control groups against hepatitis A at the Universitas Jember showed that most respondents had good action by 81.4% and respondents who had less action were 18.6%. The good action taken by respondents is to maintain personal hygiene to stay healthy and avoid all diseases, especially hepatitis A. Hepatitis A can be transmitted through the feces or feces of patients infected with HAV, the spread is fecal-orally through contaminated food. The transmission rate is high in poor hygiene and sanitation.

The results of this study are in accordance with the basic theory developed by Lawrence Green (1991) in Nursalam, the health of a person or society is influenced by two main factors, namely behavior causes and non-behavior causes. While behavioral factors (behavior causes) is affected by three factors namely[8]: predisposing factors which include age, occupation, education, knowledge, and attitudes; enabling factors which are manifested in the physical environment and distance to health facilities, and reinforcing factors which are manifested in the support provided by families and community leaders[3].

Behavior is an individual response to a stimulus or action that can be observed and has a specific frequency, duration and purpose, whether consciously or not[9]. Health behavior is all activities or activities of a person, both which can be directly observed related to the maintenance and improvement of health. Therefore, these health behaviors are broadly grouped into two, namely: health behavior, which is the behavior of healthy people to stay healthy or their health improves and health seeking behavior, which is the behavior of people who are sick or have been affected. health problems to obtain healing or solving health problems[3].

Hepatitis A transmission occurs through food and drink contaminated by the hepatitis A virus. Taking precautions by maintaining personal hygiene such as drinking boiled water first, not exchanging cutlery with friends and washing food to be eaten can prevent a person contracting hepatitis A. In Indonesia, there is no detailed data regarding the risk factors for hepatitis A transmission, but it is estimated that the most frequent is due to food contaminated with the hepatitis A virus and low socio-economic conditions according to Noer, several ways to prevent hepatitis A are through vaccination. According to Yulvitrawasih, immunization is an effective way to prevent infection of a disease[11]. The body will produce the necessary immunity against the disease some time after immunization is carried out. Hepatitis A immunization is given to children aged 2-18 years once. In adults, booster immunization is needed after 6-12 months from theimmunization first. The immunity generated by hepatitis A immunization can last 15-20 years. However, 2 weeks after hepatitis A immunization, a person is still susceptible to hepatitis A because the body is not able to produce enough antibodies

This research it is in accordance with what was done by Siti R, entitled The Relationship between Behavior Factors and Hepatitis A Incidence in Depok District. Where in this study there is a relationship between behavioral factors and the incidence of Hepatitis A in Depok District, Sleman Regency, which states that there are variables that are significantly related, namely not washing hands with soap, not washing food utensils with soap, changing cutlery, and often eating at home. stalls that only wash with one place.

CONCLUSION

Based on the research results found, it can be concluded that: in Universitas Jember; knowledge, attitude and action have significant relationship with the incidence of hepatitis A in students.

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