ORIGINAL ARTICLE

Determinant Factors Related To Hepatitis A Incidence Outbreaks In Depok City, Indonesia

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ABSTRACT

Introduction: The third ranked country with the highest hepatitis cases in the world is Indonesia. The incidence of Hepatitis A in Indonesia has increased since 2007 amounted to 19.3% and infected many people aged over 15 years old. In 2010 there were 6 outbreaks with 279 sufferers, in 2011 there were 9 outbreaks with 550 patients, in 2012 there were 8 outbreaks with 369 sufferers, in 2013 there were 13 outbreaks with 504 cases. In 2019, 262 cases of hepatitis were found at Depok City. **Methods:** This research uses Case Control design and analytic survey method. The respondents of this study were elementary school students who were affected and not affected by Hepatitis A, amounted to 60 respondents. **Results:** The results showed the respondents hand washing behaviour is not good, amounted to 34 respondents (56.7%), junk food consumption is high, amounted to 30 respondents (50%). and respondents who are not knowledgeable amounted to 46 respondents (76.7%). The analysis of Bivariate shows that the relationship between hand washing behaviour (P-value = 0.037), junk food consumption (P-value = 0.039), knowledge (P-value = 0.015) with the incidence of hepatitis A is significant. **Conclusion:** There is significant relationship between all independent variable (hand washing behaviour, and junk food consumption and knowledge) with the incidence of hepatitis A.

Keywords: Behavioral factors, Knowledge, Outbreak, Hepatitis A

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INTRODUCTION

In the world, hepatitis A is also known as the most common type of acute viral hepatitis (1). Hepatitis occurs when there is a viral infection causing an inflammation of the liver. The five main viruses that cause hepatitis are hepatitis viruses type A, B, C, D and E. Those five types have great concern because they've got burden of death and disease that can cause outbreaks or can potentially be epidemics and epidemic spread (2-5). There isestimates from WHO, that in 2016 hepatitis A caused approximately 7134 deaths (6). In 2019 there was an outbreak of Hepatitis in the United States (7).

Hepatitis is a society health problem in emerging countries, one of which is in Indonesia. (8-9). Hepatitis A and E can cause outbreak/epidemic and have similar symptoms. In general, hepatitis A and E are transmitted through fecal-oral route and are strongly associated with clean and healthy living behaviour. The difference is that Hepatitis E outbreaks are often found in pregnant women. While Hepatitis B, C, and D are a parenteral transmission and can develop from chronic diseases to liver cancer (10).

The habit of not washing hands with soap before eating can be a risky behaviour that causes transmission of Hepatitis A, this can occur if someone touches an object or hand of a contaminated person and then does not wash his hands with soap before consuming food then the food can be a medium for hepatitis transmission A (11). While the habit of not always washing hands with soap after defecation can also be a risky behaviour that causes Hepatitis A (2). This can occur if people with Hepatitis A do not wash their hands with soap after defecation and then contaminate food, drink or drinking and eating equipment used by others (12) (13).

Based on data from the Basic Health Research the incidence of Hepatitis A in Indonesia has increased since 2007 amounting to 19.3% and the infected people are aged over 15 years. Hepatitis A can cause Outbreak/epidemic. In 2010 there were 6 outbreaks with 279 patients, in 2011 there were 9 outbreaks with 550 patients, in 2012 there were 8 outbreaks with 369 sufferers, in 2013 there were 13 outbreaks with 504 cases (10).

Based on data from the WHO in 2011, Indonesia is a country with a high prevalence of hepatitis A. Other countries classified as high prevalence include countries in West Asia, Africa, Latin America and Greenland. WHO estimates that in the world every year there are around 1.4 million sufferers of Hepatitis A. In America the incidence of Hepatitis A is 1 per 100.000population with an estimated 21,000 people in 2009. While in Europe the incidence of Hepatitis A is 3.9 per 100,000 population (10). In 2019, there were 262 cases of hepatitis A found at Depok City (14).

In addition to the habit of not washing hands with soap, before eating can cause hepatitis A, careless habit can cause hepatitis A. Children aged 6-12 years old must be educated about healthy snacks and reduce the habit of consuming unhealthy snacks. A regular eating habits in the family will form good habits for children (15).

MATERIALS AND METHODS

A quantitative approach has been used through a questionnaire. This research uses case control design with an analytic survey method. Data collection tools are in the form of a questionnaire. The respondents of this study were elementary school students who were affected and not affected by Hepatitis A, amounted to 60 respondents. Sampling is done by simple random sampling. Data collection was carried out in Sukamaju Village and Mekarjaya Village, Depok, Province West Java. Ethical approval for this study was obtained from the Widya Dharma Husada Ethics Committee (Ref No: KE/128/01/2019).

RESULTS

Univariate Analysis

According to the Table I, it shows that respondents aged 9 years old which amounted to 5 respondents (8.3%), aged 10 years old amounted to 13 respondents (21.7%), aged 11 years old amounted 29 respondents (48.3%), aged 12 years old amounted to 13 respondents (21.7%). Based on gender, it shows that there are 37 male (61.7%) and 23 female (38.3%).

Based on hand washing behaviour variable, it shows that the respondent's hand washing behaviour is not good, amounting to 34 respondents (56.7%). There is good hand washing behaviour which amounts to 26 respondents (43.3%). Based on junk food consumption variable, shows that the respondent's junk food consumption is high, amounted to 30 respondents (50%). Meanwhile 30 respondents (50%) don't like to consume junk food. Based on knowledge variable, shows that respondents who are not knowledgeable amounted to 46 respondents (76.7%), well-informed amounted to 14 respondents (23.3%). Based on incidence of hepatitis A variable, shows that the respondents has never been exposed to hepatitis A, amounting to 30 respondents (50%).

Table II Frequency Distribution of Characteristics and Variables

Variable	Total (n)	Persentage (%)
Age		
9 - 10	18	30
11 – 12	42	70
Gender		
Male	37	61.7
Female	23	38.3
Handwashing Behavior		
Poor	34	56.7
Good	26	43.3
Junk Food Consumption		
Poor	30	50.0
Good	30	50.0
Knowledge of Hepatitis A		
Poor	46	76.7
Good	14	23.3
Incidence of Hepatitis A		
Yes	30	50.0
No	30	50.0
Total	60	100.0

Bivariate Analysis

According to the Table II, the analysis results using cross table shows that respondents who behaved poorly in washing their hands were 21 respondents (61.8%). It shows that the statistical test results obtained a P-value = 0.037. This indicates that there is a correlation between variable handwashing behaviour with the incidence of hepatitis A.

Analytical results using a cross table obtained the results that respondents who like to consume junk food as many as 19 respondents (63.3%) showed that the statistical test results obtained P value = 0.039. It means there is a correlation between the junk food consumption and the incidence of hepatitis A.

The results of analysts using the cross table shows that 27 respondents (58.7%) have poor knowledge of respondents, indicating that the results of the statistical test are P value = 0.015. It means there is a correlation between the variables the incidence of hepatitis A and knowledge about hepatitis A.

DISCUSSION

Correlation between Hand washing Behavior with Hepatitis A

Hand washing, also known as hand hygiene, is the act of cleaning one's hands with soap (or equivalent materials) and water to remove viruses/ bacteria/ germs/ microorganisms, dirt, grease, or other harmful and unwanted substances stuck to the hands (16). Hand washing is a process of mechanical cleaning and removing dust and also dirt from the skin of both

Table II: Analysis of the Relationship between Independent variables with Insidence Hepatitis A

Variabel	Category n	Incidence of Hepatitis A (Yes)		Incidence of Hepatitis A (No)		*p-value*
		%	n	%		
Handwashing Behavior	Poor	21	61.8	13	38.2	0.037
	Good	9	34.6	17	65.4	
Junk Food Consumption	Poor	19	63.3	11	36.7	0.039
	Good	11	36.7	19	63.3	
Knowledge of Hepatitis A	Poor	27	58.7	19	41.3	0.015
	Good	3	21.4	11	78.6	

hands by using soap and water (17). On the results of the statistical test, the P-value = 0.037, itconcludes that there is a correlation between hand washing behaviour and hepatitis A and OR = 3.051. It was found that students behaved poorly as many as 34 respondents (56.7%), meanwhile the students who behaved well are as many as 26 respondents (43.3%).

This research is in accordance with research conducted by Rahmah and Indriani (2). This research was conducted on 280 respondents in Depok District, Sleman Regency in 2014, showing that the proportions of respondents are mostly male as many as 103 respondents. Statistical test results using the chi-square test at a confidence level of 95% or α = 0.05 obtained p-value <α so that there is a relationship between hand washing behaviour with the incidence of Hepatitis A in Depok District, Sleman Regency. From the results of existing research or theories, researchers can conclude that hand washing behaviour affects the incidence of Hepatitis A. The bad impact of hand washing behaviour causes Hepatitis A (2).

Correlation between Junk Food Consumption with Hepatitis A Incidence

Junk food is food and drink that is processed and then sold or served as ready to eat food for sale to the public other than those served by catering, restaurants, and hotel. Based on the Great Dictionary of Indonesian Language (KBBI) junk food means snacks or snacks sold. According to the Food and Agriculture Organization (FAO), junk food or what is known as street food is defined as food and drinks that are prepared or sold by street vendors on the streets and in other public places that can be directly consumed immediately (18).

From the statistical test results, the P-value = 0.039, it concludes that there is a correlation between junk food consumption and hepatitis A and OR = 2.983. Results show students bad behaviour (consume junk food) as many as 30 respondents (50%) and well-behaved (not consume junk food) as many as 50 respondents (50%). This study is in accordance with the research written by Triasari 2015. This study was conducted on 79 students in Cipayung 2 Elementary School in Depok City, showing that the proportion of students who consumed junk food (food) amounted to 22 people (27.8%) and consumed junk food (drinks) totalling 39 people (49.4%). Statistical test results using the Spearman Rank correlation test obtained p-value = 0.000; r = 0.471 so that there is a correlation of junk food consumption with the incidence of Hepatitis A in SD Negeri Cipayung 2 Depok City. From the results of existing research or theories, researchers can conclude that junk food consumption affects the incidence of Hepatitis A. The impact of junk food consumption causes Hepatitis A.

Correlation between Knowledge about Hepatitis A and Hepatitis A Occurrence

Knowledge is a "knowing" result and this happens after we sense a certain object. It is a very essential domain in shaping people's actions (19-22). On the statistical test results which is the P value = 0.015, it concludes that there is a correlation between Knowledge about Hepatitis A and Hepatitis A and OR = 5.211. It was found that students with poor knowledge were 46 respondents (76.7%) and knowledgeable students were 14 respondents (23.3%). This research is in accordance with research conducted by Sirlida 2018. A study was conducted on 55 respondents in the Cireundeu District of East Ciputat District, showing that the proportion of respondents who had poor knowledge was 60%. The statistical test results use the chi-square test at a confidence level of 95% or α = 0.05 to get a p value <α so that there is a correlation between the level of knowledge and the incidence of diarrhea in the Cireundeu Urban Waste Management Area, Ciputat Timur District. From the results of existing research or theories, researchers can conclude that knowledge influences the incidence of Hepatitis A. It was already known that the impact of lack of knowledge causes the incidence of Hepatitis A (19).

CONCLUSION

The scope of this study is public health, especially epidemiology scope. The research showed that there was a correlation between variable hand washing behaviour, junk food consumption and knowledge about hepatitis A with the incidence of hepatitis A.

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