Community Perception to Risk of Dengue Infection and Treatment Seeking Behaviour

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Abstract

Dengue Virus (DENV) infection is still an important public health problem including in Indonesia. Dengue prevention and control program must be based on integrated knowledge also related to public perceptions of this disease. The aim of this study is to find out community perception on their risk to have dengue infection and also their treatment seeking behaviour. This is qualititative study which involved 9 informants from community in Banyumas Regency, Central Java, Indonesia. Data collection was obtained by indept interview to the informants and data was analyzed by content analysis. Result of this study highlighted that most informants feel that they had less risk to contract with DENV infection. This perception could affect the less prevention and control effort which carried out in community. However, for they tend to seek treatment to health facility promptly after the symptoms of dengue appeared. Informants also emphasize that they support the prevention and control for minimize the dengue cases.

Keywords: dengue, prevention, qualitative, treatment, Dengue virus, DENV, DHF

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INTRODUCTION

Various efforts to control and eradicate dengue virus (DENV) infection have been carried; however the number of dengue cases is still increase. DENV infection is still become a problem in several areas in Indonesia, including Banyumas regency. Several efforts had been carried out by the Regional Government and the Banyumas District Health Office, namely; 1) Declaration of DHF by the Regent of Banyumas, 2) Circular Letter on early awareness of dengue disease in all Puskesmas and related institutions, 3) Foccus Fogging Implementation. Until now DHF is still one of the main public health problems in Banyumas Regency. Aside from being an endemic area for dengue fever, Banyumas Regency also experienced several times epidemic event that occurred in 2016. This problem could be the possibility of a very wide gap between the eradication breeding site program and public acceptance of the eradication breeding site method to prevent dengue fever. The program of prevention and control of dengue fever must be based on integrated knowledge also related to preventive behavior towards this disease. Community behavior towards the eradication of breeding site program is still very lacking so it has the potential to transmit dengue disease. The low level of community behavior is influenced by several factors. According to Notoadmodjo (2003) factors that influence behavior are knowledge, perception, emotions, motivation and others. Motivation of person to participate in implementing a health program is influenced by public perceptions. Perception shapes a person’s view of an event. This individual view motivates a person to behave and act in the majority of his life activities. The existence of a public perception that is wrong with an illness can cause the health program to run less intensively, inconsistently and not sustainably. As research conducted by Respati, et al (2017) found that respondents’ perceptions of the disease had an influence on the incidence of DHF in the city of Bandung.

One model that can predict community health behavior towards prevention of dengue is the Health Belief Model (HBM) which was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels from the United States. HBM produces a series of perceptual patterns that give rise to possible behaviors of preventive measures (Glanz, K, et al, 2008). The application of HBM in community behavior research in the prevention of dengue according to Hayden (2009) is able to predict the possibility of preventive health action.

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based on the results of a study of perceived susceptibility to diseases, perceptions of seriousness perceived seriousness of diseases, perceptions of the benefits of preventive action and perceived barriers to preventive action. Considering the high number of DHF cases in Banyumas Regency and the lack of community participation in mosquito eradication breeding site activities, the researchers were interested in knowing more deeply about community perceptions and behavioral treatment of DHF in Banyumas Regency.

METHODS

Overview of Research Sites

Banyumas Regency is part of the Central Java Province in the southwest with an area of about 1,327.60 km² consisting of flat and mountainous regions. Administratively, Banyumas Regency is divided into 27 sub-districts, 301 villages and 30 sub-districts. The most extensive sub-district is Cilongok Subdistrict with an area of 10,534 Ha divided into 20 villages while the smallest sub-district is West Purwokerto with an area of 740 Ha divided into seven villages (Central Statistics Agency, 2016). Banyumas Regency is one of the endemic areas of DHF in Banyumas Regency. There are 47 endemic villages / kelurahan in 27 Sub-districts. The highest cases were found in three sub-districts namely East Purwokerto District, West Purwokerto District and South Purwokerto District (Banyumas Health Office, 2016).

Study Design

This is qualitative study, which carried out in Banyumas Regency on April to September 2018. The data collection was obtained by deep interview with informants. 9 informants were included in this study. Collection data is carried out through an in-depth interview process using interview guidelines. While secondary data was obtained from the Puskesmas and Banyumas District Health Office.

Data Analysis

The results of the study are presented in the form of content analysis.

RESULTS AND DISCUSSION

Characteristics of Informants

Based on the results of the study, the age of most informants was between 20-35 years. The education level of the informants consisted of 31.8% of elementary / junior high school education, 40.90% of high school students, and 27.3% of tertiary education institutions. Based on the results of the study it was found that most of the informants were housewives (68.20%), as traders (13.33%), a small proportion were civil servants (9.1%) and farmers (4.5%).

Susceptibility Perception of DHF

Based on the results of in-depth interviews, it was found that the majority of informants considered not vulnerable to dengue. They believe that DHF is only found in dirty areas and as long as they maintain cleanliness, they will avoid transmission of DHF. As quoted by the following interview:

"No, because it's clean, it's always keeping cleanliness ..." (M2)

... I'm not going to hopefully hopefully don't hehehe, because I like cleaning the house ... (M7)

In addition, there are still informants who think that everyone can be affected by dengue:

"... all of them can get the name and the mosquitoes will fly everywhere" (M8)

"... Eeee, how come all the people of the mosquito can do it, they say there are people who say they are happy to find clean ones ..." (M9)

Perception of vulnerability actually refers to subjective judgments of risks to health problems. Individuals who believe that they have a low risk of disease are more likely to take unhealthy actions, and individuals who consider themselves at high risk will be more likely to carry out behaviors to reduce their risk of disease (Onoruoiza, 2015). Likewise according to Conner (2005) which states that perceptions of vulnerability are
related to the process of thinking involved in individual decision making in determining how healthy individuals are.

The assumption that dengue is only found in dirty environments is not appropriate. The risk of dengue transmission depends on the presence of larvae of Aedes sp. The larvae have habitat around human habitation, breed in clean and stagnant water in artificial containers found in residential environments (Ferdouzi et al, 2015). The results of the research conducted by Imawati and Sukesi in 2015 showed that there were very few containers in the house and the presence of solid waste was not related to the presence of larvae in the Mandingan Hamlet, KebonagungInomigiri Village, Bantul. Physical environmental factors such as number, volume, lighting, materials, influence of sunlight, closure, location, water conditions and habits of the community such as the use of abate, and maintenance of fish in water reservoirs have a significant relationship with the presence of larvae of Aedes sp (Morin et al, 2013).

**Seriousness Against DHF**

Generally people consider DHF to be a serious disease. According to them, DHF is very dangerous especially in children because it can result in death and can be transmitted to others as quoted in the following interview:

"... what's the danger, if you don't get treated right away, you can die too?" (M7)

"... dangerous dangerous, can it cause death if so, especially if for small children, if possible, if you have grown up, your body's immune system is rather small if you have grown up ..." (M5)

They also realized that if DHF was not immediately treated it would result in death

"... As a result, it is possible to die, if we don't get treated quickly, the problem is waiting for a long time like it continues and the blood platelets drop so soon ..." (M6)

The perceived seriousness included the public's understanding of Dengue Hemorrhagic Fever (DHF), the severity of Dengue Hemorrhagic Fever (DHF), and anxiety about the condition of family members suffering from Dengue Hemorrhagic Fever (DHF).

Assessment of severity addresses individual beliefs about the severity of an illness. Perception of severity is often based on medical information or other knowledge. There are also possibilities that will come from one's beliefs about the level of a disease that has an impact on life in general (McCormick Brown, 1999).

Notoatmodjo (2002) states that the perceived seriousness comes from the number of symptoms, anxieties, and difficulties faced when the disease does not get good and proper care and care. In this case, the informant assumed that if the illness suffered by family members was considered quite serious or considered dangerous by the family, the family decided to go to the Practice Doctor because the treatment was faster. Conversely, if the family's illness is not taken seriously by the family, the family decides to go to the Puskesmas because it does not require serious treatment. This affected the family's decision to visit the Puskesmas in the early treatment of patients with Dengue Hemorrhagic Fever (DHF) as quoted in the following interview:

"Yes, I'm afraid, I have to get medical treatment so that it doesn't get worse ..." (M6)

"Panic, hurry to go to the doctor ..." (M8)

The statement shows that people really take this DHF seriously and must immediately get care from health workers. Research conducted by Sholiha (2014) corroborates the results of this study. Where the severity of the disease that is felt causes the individual to believe that the consequences of the severity that is felt is a threat to his life. So that individuals will take action to seek treatment and prevention of disease as the Health Belief Model theory (Rosenstock, 1977), stated that taking action to prevent the occurrence of a disease or seeking treatment is influenced by the perception of perceived seriousness.

**Benefits of DHF Prevention and Control Activities**

In general, the form of prevention and control of dengue that was known to informants was PSN carried out by Jumantik cadres. According to most informants the perceived benefits of the existence of jumantik cadres are preventing DHF and reducing dengue cases. In addition there are also those who say that the presence of cadres
can improve cleanliness in their environment, especially in homes. Here are some quotes from the interviewer's interview:

"... yes it is PSN in every house, so that the house is clean, the title is all clean, so insya allah the mosquitoes do not come because every 2 weeks eh 2 days what is the place for mosquitoes to clean and the tubs every 2 days is cleaned up ..."

"... I agree, I agree ... the benefits are really good, because what is it to prevent dengue fever is because to reduce the dengue sufferers themselves, because the purpose is good for the community ...

According to Notoatmodjo (2007), the greater the benefits obtained will strengthen individuals to make the decision to take such actions, namely to choose to take preventive and countermeasures against dengue.

The shaper of benefits in this study is based on people's opinions about the use value of a new behavior in reducing the risk of the development of a disease. Communities tend to adopt healthier behaviors when the community in them has a belief that the behavior adopted will reduce the chance of developing more severe disease in them.

**Obstacles in Prevention and Control of DHF**

Constraints in Prevention of DHF in general according to the community is the awareness and motivation of the community in conducting PSN activities.

"... prevention is actually not difficult, the difficult thing is that the people themselves are lazy or not to prevent dengue fever ...." (M3)

Some think that dengue prevention activities require special time, such as the following quote:

"... yeah it's hard yeah hehe ... it's light yes sometimes sometimesulite is rich if it's busy, I'm lazy hahaha, but if it's a regular regiment, I'm diligent, yeah, God willing" (M2)

This statement was also supported by informants from the Puskesmas who were responsible for the prevention and repetition of DHF

"... Inhibiting maybe because awareness from the community itself is lacking ..." (P1)

".... the community is not supportive ... cadres are not active ..." (P8)

Likewise, in the opinion of one of the informants from the Banyumas Health Office who stated that one of the inhibiting factors for the P2 DBD program was the role of the community, especially PSN.

According to Conner and Norman (2012) that the relationship of perceived barriers to healthy behavior is negative. This means that if perceptions of barriers to healthy behavior are high then healthy behavior will not be carried out. Similar opinion also expressed by Maggie Davies and Wendy Macdowall (2006) states that individuals will carry out a preventive and health care action if in an individual there is a belief that the benefits to be obtained from an action are far greater than the obstacles that may be experienced when deciding to carry out these actions. Of all HBM constructs, perceived barriers are the most important in determining a person's behavior change. Glanz and Viswanath (2008) named perceptions as a barrier. Someone about the seriousness of dengue disease (perceived seriousness of diseases) does not have a significant effect on health tasks in preventing dengue. Perceptions of the seriousness / severity of dengue disease will affect perceptions of barriers to prevention of dengue. Jones and Bartlett (2008) also say that to improve people's behavior in preventing dengue fever, the threat of the seriousness / severity of dengue disease will motivate people to take preventive actions by eradicating mosquito nests and preventing the development of the aedes aegypti mosquito larvae. Any obstacles that are felt by the community in eradicating mosquito nests will be overcome if the community feels the high seriousness / severity of dengue disease. There are several things that become supporting factors in the assessment of perceptions of barriers, including the assumption that barriers to health services are difficult to access, difficult environments to be changed, mosquito repellent is very troublesome and unfamiliar, and the act of installing mosquito nets in bed requires expensive and disruptive costs.
DHF Treatment Search Behavior

Based on the results of in-depth interviews, it was found that the DHF treatment carried out by informants was generally the informants immediately went to the doctor or to the hospital when they felt or knew of the symptoms of DHF "... panic, hurry to see a doctor ..." (M8)

"... immediately rush to the hospital ..." (M2)

During a fever and feeling unwell, the patient immediately seeks treatment. Medical treatment targeted by the sufferer is a hospital, a medical doctor and a health center. The hospital is the highest place of treatment chosen by respondents for a variety of different reasons, namely because of the completeness of tools and drugs, short distances, and opening hours. From health facilities, patients know the first time they have been infected with the Dengue virus. This can encourage people to choose medical treatment at health facilities in the future, if there are similar symptoms of illness when they are affected by dengue.

Factors that are thought to be related to treatment seeking behavior include the condition of treatment time, the presence of facilities, the completeness of medical treatment facilities, and medical expenses. Responsiveness to treatment is health behavior which is basically a person's reaction to stimuli related to illness and disease, health care systems, and the environment. Human reactions can be passive (knowledge, perception and attitude), or active (real action, practice). Efforts regarding searchtreatment is one of a person's behaviors towards illness or pain that is present in himself or outside himself. In this case it appears that the Banyumas community is well aware of the dangers of DHF and the importance of immediate handling to prevent undesirable things.The Health Belief Model The theory that individual perceptions about beliefs about disease vulnerability, disease severity encourages individuals to make behavioral changes to reduce disease risk and obstacles to change will be resolved with reasonable effort (Kalangie, 1993).

The interesting thing about this study is that the informant also suggested that other people affected by DHF should immediately see a doctor / hospital when they feel the symptoms of DHF as quoted in the following interview:

"... well what I did told the doctor to keep on hospitalization ..." (M1)

"... must be dealt with quickly, entered the hospital ..." (M2)

However, different behaviors were found when informants tested positive for DHF, where several informants stated that treating DHF was done by taking vitamins, palm juice and guava juice in addition to taking medicine.

"... yes, you have to drink a lot of vitamins, keep drinking what those dates keep drinking with the guava juice ..."

The practice of self-medication needs attention because it is the action most often carried out by the community as the first action when suffering from illness (Khudori, 2012).

Based on the results of research conducted in Banyumas Regency, it can be concluded that the Banyumas Regency community is not fully aware of the vulnerability to dengue infection even though they consider DHF to be a very serious disease because it can be contagious and deadly. Prevention efforts carried out to deal with dengue in Banyumas Regency by the community are not right. This is because there are still many who do not know how the potential environmental conditions for dengue transmission. It is recommended for DHF informants to increase efforts to prevent the disease so that it does not recur. Efforts are still needed to provide more extensive and in-depth information to all residents in Banyumas Regency about the risk of dengue transmission and prevention of DHF, especially appropriate PSN. Cross-sectoral cooperation and involvement is urgently needed to prevent outbreaks of dengue fever in Banyumas District in general.

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