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 THE NEW NORMAL : Creating a Pleasant Virtual Communication

The roles of Jumantik-PSN (*Larvae Monitor*) to prevent Dengue Hemorrhagic Fever (DHF)

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The World Health Organization reported the Dengue Hemorrhagic Fever (DHF) outbreak has now become a major threat to global public health. More than 2.5 billion people in the world are at risk of developing dengue fever, with the majority of 70% of the population living in the Asia Pacific region. Compared to other regions, Southeast Asian countries are most seriously affected by DHF, the potential for the spread of DHF in Southeast Asian countries is due to many tourists going in and out of one country to another (Ministry of Health, 2007).

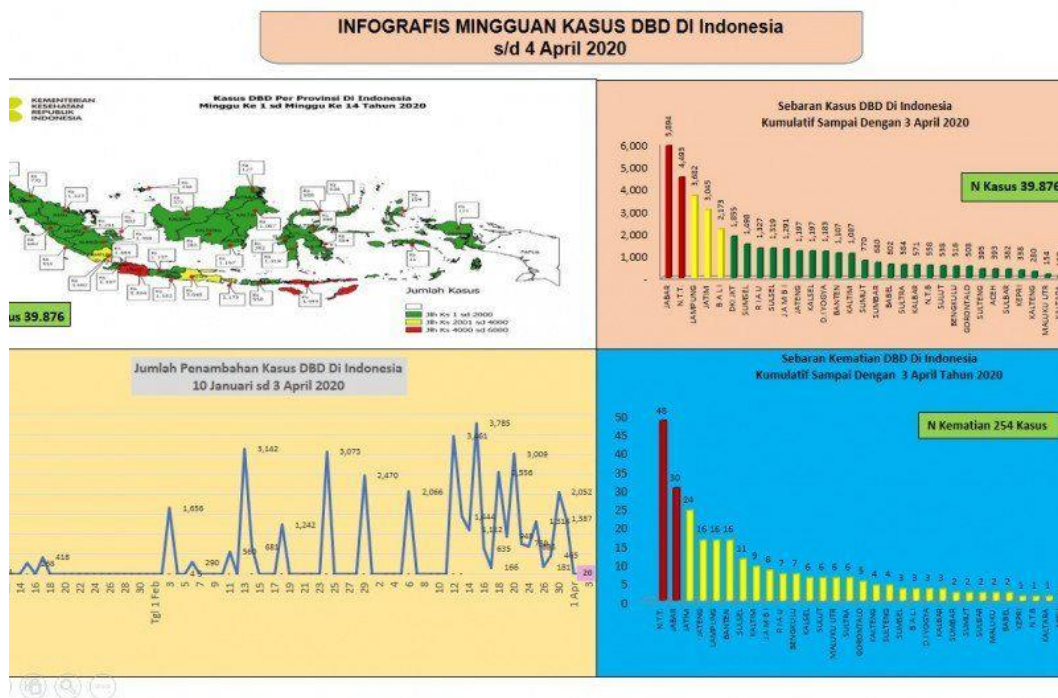


Figure 1 Infographics of Dengue Cases in Indonesia in 2020

Dengue Hemorrhagic Fever (DHF) is a contagious disease and a major public health problem in Indonesia. DHF is a disease caused by the dengue virus which belongs to the Arthropod-Borne Virus, genus *Flavivirus*. DHF is transmitted through the bite of mosquitoes from the genus *Aedes*, especially *Aedes Aegypti* or *Aedes albopictus*. Diseases can occur throughout the year and can affect all age groups. This disease is related to environmental conditions and community behavior (Ministry of Health, 2015). Mild dengue fever can cause a high fever, rash, and muscle and joint pain. While severe dengue fever, also known as dengue hemorrhagic fever, can cause serious bleeding, a sudden drastic drop in blood pressure, and even death.

According to the Ministry of Health (2020), this year the number of dengue cases in January July reached 71,633 cases, in 2019 the number of cases was higher at 112,954. Likewise with the number of deaths, this year there were 459, while in 2019 there were 751 (Ministry of Health, 2019). Various factors are related to the presence of larvae, including the implementation of PSN DHF which is an activity to eradicate the vector of DHF which requires an active role from the community, then the breeding place (Breeding Place), and environmental factors are closely related to the presence of larvae is humidity, while the temperature is not relationship (Mardiyani et al, 2010).



Figure 2 Health Education Regarding DHF

According to the Ministry of Health (2014) that in implementing the seven main activities of controlling dengue fever, five program development plans are determined which include: increasing community participation, reactivating the operational working group (*Pokjandal*) of DHF at various administrative levels, encouraging mosquito nest eradication activities (PSN) by schoolchildren and scouts, support vaccine development and improve the ability of human resources (HR) to control diseases originating from arboviruses (Ministry of Health, 2014).

Health education is a dynamic process of behavior change, the change process is not only the transfer of material or delivery of material from one person to another, but changes in health education occur because of the awareness of each individual or from a group of people themselves (Mubarak, 2009).



Figure 3 Implementation of The Lecture Method in Conducting Health Education on DHF

Schoolchildren can play an important role in controlling dengue fever in Indonesia, among others, as supervisors of *Jumantik* larvae and as implementers of mosquito nest eradication (PSN) in their respective schools and homes. The number of elementary, junior high, and high school students are up to 20% of Indonesia's population so if they can play a role in controlling dengue it will have a significant impact in reducing cases and deaths of dengue (Ministry of Health, 2014).

A larvae observer (*Jumantik*) is a person who checks periodically and continuously larvae and moves the community in implementing PSN DHF. Through larvae monitoring, it is hoped that the mosquito population that transmits dengue hemorrhagic fever and its larvae can reduce by increasing community participation in the PSN DHF. Where there is a *jumantik*, it can be seen that the density of *Aedes aegypti* mosquito larvae periodically and continuously can be used as an indicator of the success of PSN DHF in the community/environment for implementing PSN DHF (Ministry of Health, 2006).



Figure 4 Collecting Data at The *Jumantik* Student's House

Larva Monitoring Students (*sismantik*) are the empowerment of elementary school students to become larva monitors. Students come from these schools with an age range of 9-12 years, which is more precisely grade 5 elementary school students. Students who have been able to read and understand what they read, see, and hear. They monitor larvae in the school environment. Activities or tasks of larva monitoring students are carried out in rotating groups based on the class hygiene picket group (Ministry of Health, 2006).



Figure 5 Activities to Eradicate Mosquito Nests in Water Reservoirs

Facilities in carrying out activities to eradicate dengue hemorrhagic fever mosquito nests consist of facilities for cleaning the bath (scoop, soap, brush, water), facilities for closing water reservoirs, facilities for burying or storing used items, giving abate powder, giving fish. larva monitors, and so on. The provision of these facilities is a means of supporting the implementation of PSN DHF activities (Soekidjo, 2005).

The PSN DHF activity is an activity to eradicate the dengue vector which requires an active role from the community. Several factors that influence the active role of the community in the implementation of PSN DHF are according to research conducted by Laksmono Widagdo et al. (2008) which states that there is a relationship between social characteristics, namely education, employment, number of residents in the house, and average income with PSN 3M plus, whereas age, knowledge and attitude, there is no relationship. Research conducted by Arif (2009) states that there is a relationship between knowledge and the implementation of PSN DHF activities, while attitudes do not have a significant relationship.



Figure 6 Examination of Larvae in The Bath

According to research conducted by Mardiyani et al. (2010) states that there is a relationship between the rain channel which is not smooth and the existence of water containers with the presence of *Aedes aegypti* larvae. This is also supported by research conducted by Setyobudi (2011) which states that the existence of breeding placemats has a significant effect. It is quite significant for the presence of mosquito larvae. In the research area, it is stated that the presence of breeding places that are mostly infected with larvae in endemic and non-endemic areas of DHF is a bathtub. The bathtub is owned by almost the entire community.



Figure 7 Jumantik Student Home Environment

According to research conducted by Mardiyani et al. (2010) states that the environmental factor associated with the presence of larvae is humidity, while temperature has no relationship. According to Suprijanto's research (2004) that there is a significant relationship between the amount, volume, lighting, materials, the influence of sunlight, cover, location, water conditions, use of abate, and fish maintenance in water reservoirs, and the presence of larvae.



Figure 8 Community Service Activities in Classroom 6 of SDN Petuk Katimpun

Community Services at the community with a location in Petuk Katimpun Kelurahan was carried out by Lecturers together with the Pustu Officer on Tuesday, October 16, 2018, at the Study Room-Class 6 Elementary School Petuk Katimpun. Activities carried out from 08.30 to 10.00 am attended by the school community, teachers, students in grades 5 and 6 as many as 30 people, 2 Puskesmas officers, 4 students of the III semester D-IV Nursing Study Program.



Figure 9 Closing of The Jumantik PSN Activities at Elementary School Petuk Katimpun

Based on the results of statistical analysis, there was an increase in the average score of knowledge (1.57 x points) about DHF after being given counseling on community service activities. The results of community service are in line with the results of research by Natalansyah et al. (2017), that there is a difference in the form of an increase from the average value before the intervention of 5.03 to 8.1 after the intervention with P. value: 0.0005 ($p < 0.05$). This study is in line with research by Zullaekah (2012) which shows that booklet media can increase knowledge about nutrition by 17.44 points ($p = 0.001$). Kirkpatrick (2006) revealed that the second level of training evaluation is a type of evaluation that is relatively easy, usually using pre and post-tests.

Consent

The children and adults (identifiable) photographed have given their consent for their pictures to be used in the publication of this research.

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