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Level of Knowledge and Dengue Hemorrhagic Fever (DHF) Prevention Among Community Health Cadres and PKK Mothers in Cermen Village

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A B S T R A C T

Dengue Hemorrhagic Fever (DHF) is an acute disease that can lead to death. Mortality cases caused by this disease are still reported in Indonesia, indicating that DHF remains a significant public health concern that requires continuous vigilance and prevention efforts. The flagship community service program conducted by the Community Service Program (KKN) group aimed to improve community knowledge regarding the causes, prevention, and management of DHF. The methods employed included lectures and discussions. The lecture session covered the theoretical aspects of DHF, including its etiology, modes of transmission, prevention strategies, and management. This was followed by a demonstration on how to construct a mosquito trap, which was subsequently practiced directly by community health cadres and PKK mothers. The effectiveness of the program was evaluated using a pretest–posttest design. The results demonstrated an increase in participants' knowledge regarding DHF and its prevention, with the average pretest score of 85 improving to an average posttest score of 100.

INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is a disease caused by infection with the dengue virus. It is an acute illness characterized by hemorrhagic clinical manifestations that may lead to shock and death (Sukohar, 2014). The virus is transmitted through the bites of Aedes aegypti and Aedes albopictus mosquitoes. These mosquito species are distributed throughout almost all regions of Indonesia, except in areas located at altitudes above 1,000 meters above sea level. Consequently, all regions of Indonesia are at risk of dengue transmission, as both the virus and its vectors are widely spread across the country, entering residential areas in both urban and rural settings. The incidence of DHF typically increases and warrants heightened vigilance during the rainy season.

DHF remains a significant public health problem in Indonesia. The disease can affect individuals of all ages, from children to adults, without discrimination. Cases continue to be reported annually, a situation closely associated with increased population mobility and the advancement of transportation systems across the country.

Considering that the most severe outcome of DHF is death, preventive measures constitute the most effective defense. Prevention efforts focus primarily on controlling mosquito breeding. This can be achieved through several strategies, including the "3M Plus" program (draining, covering, and recycling

water containers, plus additional preventive measures), placing betta fish in standing water, fogging, and using larvicide (abate) powder. These methods can be implemented by mothers at home to control mosquito proliferation. Based on these considerations, the Community Service Program (KKN) aimed to provide educational outreach on DHF prevention by enhancing mothers' knowledge and addressing the increasing mosquito population during the rainy season. The program also included a demonstration on how to construct an environmentally friendly mosquito trap as an alternative mosquito control method, conducted at the Cermen Village Hall.

METHOD

The method employed in this Community Service Program (KKN) consisted of educational counseling delivered through structured presentations to community health cadres and members of the Family Welfare Movement (PKK). Program evaluation was conducted using a pre-test and post-test design to assess participants' knowledge regarding the causes, prevention, and management of Dengue Hemorrhagic Fever (DHF), utilizing a structured questionnaire. The respondents comprised 26 health cadres and PKK mothers. The activity was carried out at the Cermen Village Hall Office, Kedamean District, Gresik Regency.

RESULT AND DISCUSSION

a. Mothers' Knowledge Regarding the Causes of Dengue Hemorrhagic Fever (DHF)

Based on the pre-intervention assessment, 92% of mothers were categorized as knowledgeable about the causes of DHF, while 8% were categorized as not knowledgeable. Following the educational intervention, the results showed that 100% of participants answered correctly, and none (0%) answered incorrectly, indicating an overall improvement in mothers' knowledge regarding the causes of DHF.

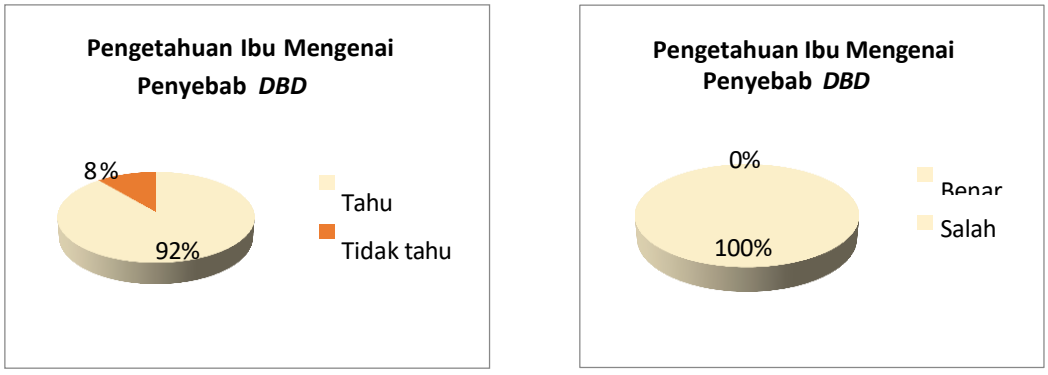

Figure 1. Mothers' Knowledge Regarding the Causes of Dengue Hemorrhagic Fever (DHF)

b. Mothers' Knowledge Regarding the Prevention of Dengue Hemorrhagic Fever (DHF)

Based on the assessment of mothers' knowledge regarding the prevention of Dengue Hemorrhagic Fever (DHF), prior to the educational intervention, 58% of participants were categorized as knowledgeable, 21% as not knowledgeable, and 21% as uncertain. After the health education session on DHF prevention, 78% of participants answered correctly, while 22% provided incorrect responses. These findings indicate an improvement in mothers' knowledge following the intervention.

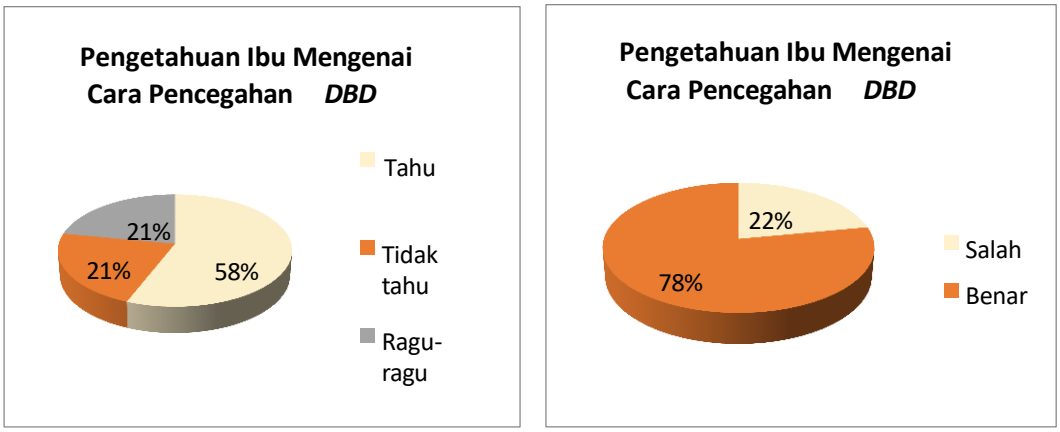

Figure 2. Mothers' Knowledge of Dengue Hemorrhagic Fever (DHF) Prevention

c. Mothers' Knowledge Regarding the Management of Dengue Hemorrhagic Fever (DHF)

Based on the assessment of mothers' knowledge regarding the management of DHF, prior to the health education session, 40% were categorized as knowledgeable, 20% as not knowledgeable, and 40% as uncertain. Following the educational intervention, 74% of participants answered correctly, while 26% answered incorrectly, indicating an improvement in mothers' knowledge after the counseling session.

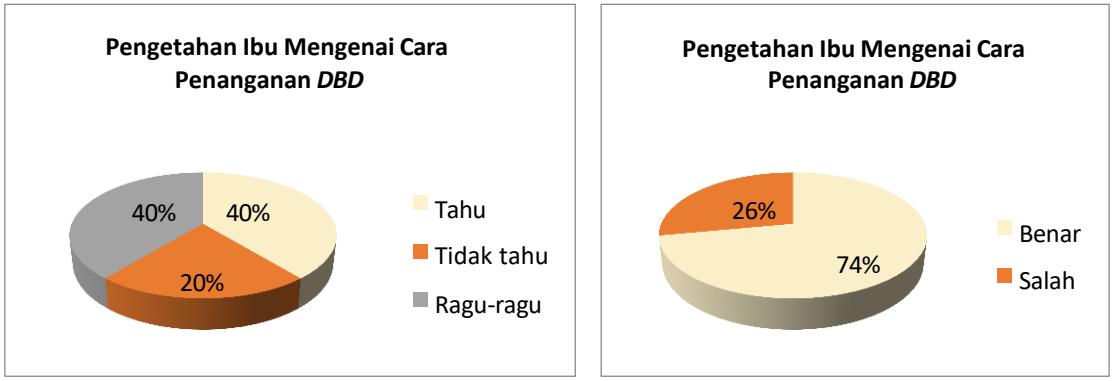

Figure 3. Mothers' Knowledge Regarding the Management of Dengue Hemorrhagic Fever (DHF)

In this Community Service Program (KKN), an educational session was conducted for community health cadres and PKK mothers regarding the causes, management, and prevention of Dengue Hemorrhagic Fever (DHF). In addition, a live demonstration was provided on how to create mosquito traps using recycled household materials that are easily accessible. The purpose of this demonstration was to enhance

participants' understanding of how used materials can be repurposed into effective mosquito traps for DHF prevention. This method was advantageous because it was simple to understand, encouraged active observation, and allowed participants to practice independently. By engaging multiple senses, the demonstration improved participants' comprehension, knowledge, and practical skills. Based on the questionnaire results, most cadres and PKK mothers demonstrated a good overall understanding of DHF theory, including its causes, management, and prevention. On average, 75% of participants were already aware of the causes of DHF. Moreover, there was a notable increase in knowledge regarding DHF management, with the percentage rising from 40% before the intervention to 80% afterward.

CONCLUSION

Prior to the educational intervention, 92% of mothers demonstrated knowledge regarding the causes of Dengue Hemorrhagic Fever (DHF), 58% understood its prevention methods, and 40% were aware of its management. The provision of health education on DHF significantly improved mothers' knowledge regarding the disease, its associated problems, and the construction of mosquito traps as a preventive measure. Following the intervention, the percentage of mothers who understood the causes of DHF increased from 92% to 100%. Knowledge regarding DHF prevention rose from 52% to 79%, while knowledge of initial DHF management increased substantially from 40% to 80%. These findings indicate that the educational program effectively enhanced participants' understanding of DHF prevention and control strategies.

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