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# DENGUE HEMORRHAGIC FEVER PREVENTION EFFORT WITH 4M PLUS (COVERING, DRAINING, RECYCLING, MONITORING, AND PLUS SPRINKLING) IN SIDOARJO

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**ABSTRACT**

The health education activity on efforts to prevent dengue fever with 4M plus (draining water reservoirs, closing water reservoirs, burying used goods, monitoring containers where mosquitoes breed and the plus is sprinkling abate powder) given to housewives in Ngaban Village, Tanggulangin Sidoarjo is a form of community service activity in the form of delivering material on efforts to prevent dengue fever with 4M plus as a way to prevent the occurrence of dengue fever. Implementation of outreach activities on December 17 2023 at the Ngaban Village Hall, Tanggulangin Sidoarjo. The target of this health education activity is housewives in Ngaban Village, Tanggulangin, Sidoarjo. In implementing extension activities, there is a process of preparing activities starting from making proposals and submitting permits to related parties. As a form of evaluation, this activity was attended by 17 participants. Participants were very enthusiastic about taking part in the activity and 95% of the audience could understand the efforts to prevent dengue fever with 4M Plus.

Keywords: *Prevention, DHF, 4M Plus*



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## INTRODUCTION

Dengue disease or known to the public as dengue fever has become a public health problem in Indonesia which has not been well controlled to date. This is a concern for the Indonesian people

regarding recurring dengue fever outbreaks.

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by the dengue virus and transmitted by the Aedes Aegypti and Ae. Albopictus is characterized by fever lasting 2-7 days accompanied by manifestations of bleeding, decreased platelets and plasma leakage which is characterized by an increase in hematocrit ≥20% of the normal value (Ministry of Health of the Republic of Indonesia, 2017).

According to the World Health Organization (WHO), in 2023, around half of the world's population is currently at risk of experiencing dengue hemorrhagic fever, with an estimated 100-400 million infections occurring each year. Dengue hemorrhagic fever in Indonesia until DHF in August 2023 reached 57,884 cases with the number of deaths throughout Indonesia reaching 422 deaths (Ministry of Health of the Republic of Indonesia, 2023). In East Java, the number of dengue fever cases in 2022 is considered high at 13,236 people with an incidence rate of 32.8 per 100,000 population and the number of deaths is 154 people (CFR= 1.2%), while in 2023 dengue cases in East Java will decrease. with a total of 7,235 cases with an incidence rate of 17.96 per 100,000 population and a death toll of 65 people (CFR=0.9%) (East Java Health Service, 2023).

Dengue fever prevention relies on vector control which requires active community involvement. The national movements that have been carried out to prevent dengue fever are larvicide, fogging, mosquito nets and 3M (covering, draining and recycling used goods), larva monitoring (jumantik), eradicating mosquito nests (PSN), communication for behavioral impact (COMBI) to with the 1 house 1 jumantik movement or what is known as G1R1J (Sulistyawati, 2023). Preventing dengue fever using 4M plus activities is by draining water reservoirs, closing water reservoirs, burying used goods, monitoring containers where mosquitoes breed and the plus is sprinkling abate powder, keeping larvae-eating fish in ponds/water reservoirs.

## OBJECTIVES

*General Purpose*

After being given health education about efforts to prevent dengue fever with 4M plus, it is hoped that housewives can understand and apply it in their daily lives.

*Special Purpose*

After being given health education about efforts to prevent dengue fever with 4M plus, it is hoped that housewives will be able to:

1. Know the definition of dengue fever
2. Know the signs and symptoms of dengue fever
3. Know locations that have a high risk of being a breeding ground for mosquitoes
4. Know how to prevent dengue fever using the 4M plus method

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## PLAN OF ACTION

*Strategy Plan*

The implementation strategy plan for this extension is:

1. Prepare activity proposals
2. Coordinate with village heads and local health centers
3. Determine the implementation time contract with targets in Ngaban village, Tanggulangin Sidoarjo
4. Carrying out outreach activities in Ngaban Village, Tanggulangin Sidoarjo.

*Implementation*

The counseling activities were carried out after receiving a letter of assignment to carry out community service by the Kerta Scholar Sidoarjo Health Polytechnic with letter number 287/SPPD/D/XII/2023.

The actions taken in implementing this activity are:

1. Contact the village head of Ngaban Village, Tanggulangin District to request permission to carry out dengue prevention activities with 4M Plus
2. Prepare a place and equipment for counseling
3. Implementation of outreach activities on dengue prevention efforts with 4M plus.

*Setting*

This outreach activity was carried out at the Ngaban Village Hall, Tanggulangin Sidoarjo on December 17 2023.

*Target*

The target of activities in outreach activities on dengue prevention efforts with 4M Plus are housewives in Ngaban Village, Tanggulangin Sidoarjo.

## RESULTS AND DISCUSSION

Outreach activities regarding efforts to prevent dengue fever with 4M plus for housewives at the Ngaban Village, Tanggulangin Sidoarjo went well and smoothly. The counseling process started at 10.00 WIB to 11.30 WIB and received a good response from participants. This outreach activity was attended by 17 housewives who are members of the PKK management team in Ngaban Village, Tanggulangin Sidoarjo.

Participants listen to the explanation of the counseling material carefully. The education material presented includes the definition of dengue fever, signs and symptoms of dengue fever, locations that have a high risk of being a breeding ground for the Aedes Aegypti mosquito and prevention of dengue fever with 4M plus.

The media used during counseling are leaflets, LCD, projector, PPT and questionnaires.

The method used in this extension activity is in the form of lectures and questionnaires for evaluation.

**Table 1. Distribution of Respondents Based on Age**

| Age group | N (%) |
|---|---|
| 25 – 30 years | 1 (6) |
| 31 – 35 years | 3 (17) |
| 36 – 40 years | 5 (29) |
| 41 – 45 years | 4 (24) |
| 46 – 50 years | 4 (24) |
| **Total** | **17 (100)** |

Based on table 1, it can be seen that of the 17 people present, the largest age group was 36-40 years, 5 people.

After the counseling material was provided, a question and answer and discussion session opened. Audience members who ask questions and can answer questions asked by the presenters will be given door prizes.

Health education is a form of promotive and at the same time preventive effort in preventing disease. Health education is an effort to help individuals, groups and communities improve their

behavioral abilities to achieve health (Notoatmojo, 2012). Carrying out dengue prevention health education activities with 4M Plus will change people's daily behavior which does not support their health for the better, especially in terms of dengue prevention behavior

Participants were very enthusiastic in asking questions and almost all of them were able to answer questions from the presenter. This outreach activity ended with a final evaluation, namely that 95% of the audience could understand the efforts to prevent dengue fever with 4M Plus. All respondents were interested in the counseling material and would apply it in their daily lives and would convey it to neighbors around the house. This extension activity can be said to have been quite effective and successful.

## CONCLUSION

The activity to prevent dengue fever with 4M Plus in Ngaban Sidoarjo village was considered successful because the participants were able to explain material related to preventing dengue fever with 4M plus..

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