

# Family Tasks in 3M (Drain the Tub, Close the Water Container and Bury the Garbage) Plus Behavior with Dengue Hemorrhagic Fever (DHF) Prevention

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## ABSTRACT

**Background:** The spread of dengue hemorrhagic fever can be caused by many factors, one of which is the lack of family duties in preventing. This study aimed to know the role of the family in preventing dengue hemorrhagic fever in the community.

**Methods:** The research design used was observational using cross sectional method and using a questionnaire sheet instrument. The population in this study were 45 respondents. The sample size is 45 respondents using total sampling technique, while to determine the relationship between variables used Spearman rank test with a significant level of 0.05.

**Results:** The results showed that almost all (33%) had not performed the 3M Plus Behavior. The results of the Spearman rank statistical test simultaneously have a family task relationship in 3M Plus behavior with a significant value =  $0.000 < 0.05$ , then reject  $H_0$ . While the individual test only family tasks that affect the behavior of 3M Plus with p value =  $0.035 < 0.05$ .

**Conclusion:** Family tasks affect the behavior of 3M Plus with dengue hemorrhagic fever prevention because the family has done five forms of family tasks. In the future, the family will be able to carry out 3M plus behavior and try to deal with it appropriately through five forms of family tasks.

## I. Introduction

Dengue hemorrhagic fever (DHF) is a disease caused by the dengue virus that enters the body through the bite of the *Aedes aegypti* mosquito (Ishak, 2020). Infected patients will have symptoms ranging from mild to high fever, accompanied by headaches, pain in the eyes, muscles and joints, to spontaneous bleeding (Ishak, 2019). The problem of DHF still occurs because of the increase in the incidence of DHF and its increasingly widespread distribution (Ramadhani, 2017). This is caused by several factors, including the absence of anti-viral drugs for the dengue virus, the lack of community participation in dengue control, the role of the community can be seen in the smallest community groups, namely families, population density, dengue virus virulence, climate change, environment and behavior (Andriani, 2021). lack of community and also very low participation in the prevention of DHF through mosquito nest eradication activities (PSN) and 3M Plus (Kermelita, 2020).

It is estimated that around 2.5 billion people worldwide are at risk of developing dengue hemorrhagic fever (DHF), with an estimated 50 million cases of dengue infection worldwide each year, with 500,000 cases requiring hospital treatment. Of the cases above, about 25,000 deaths occur every year (Wang, 2020). In Indonesia, from 2016 to mid-December, there were 71,668 people with dengue

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hemorrhagic fever (DHF) in 34 provinces in Indonesia, and 641 of them died. This figure is lower than the previous year, namely in 2013 with 112,511 sufferers and 871 deaths ([Rio, 2016](#)).

Based on the East Java provincial health office, there was an increase in cases of dengue hemorrhagic fever (DHF) in 2016, which was 980 cases. In total there are 15 regencies/cities that have the status of extraordinary events (KLB), namely Sumenep Regency, Jombang Regency, Trenggalek Regency, Banyuwangi Regency, Probolinggo City, Tulungagung Regency, Kediri Regency, Madiun Regency, Pamekasan Regency, Madiun City, Magetan Regency, Ponorogo Regency, Lamongan Regency, and Mojokerto City. In addition, the East Java Provincial Health Office also submitted data on 10 regencies/cities with the highest number of dengue hemorrhagic fever (DHF) sufferers, namely Sumenep Regency with 286 cases, Jember Regency with 199 cases, Jombang Regency with 110 cases, Bondowoso Regency with 100 cases, Banyuwangi Regency with 96 cases, Probolinggo Regency with 90 cases, Kediri Regency with 87 cases, Tulungagung Regency with 86 cases, Trenggalek Regency with 85 cases, and Mojokerto City with 59 cases.

Based on data obtained at the Sambi Health Center, there were 106 patients with dengue hemorrhagic fever (DHF) in the last 4 months. In April 2019 in the village of Purwodadi there were 45 patients. Then from the interview data based on a preliminary study of 10 patients with dengue hemorrhagic fever (DHF) there were 7 family tasks that had less role in the behavior of 3M Plus in the prevention of dengue hemorrhagic fever (DHF) due to a lack of family knowledge about the prevention of dengue hemorrhagic fever (DHF) so that it increased patients with dengue hemorrhagic fever (DHF), while 3 other family duties play a good role in handling them by doing the right 3M Plus behavior ([Sujono, 2021](#)). Prevention of dengue fever is a shared responsibility of all elements of society, with one of the smallest elements being the family ([Sukesi, 2018](#))

Based on these factors, the government has made a DHF control program, one of which is to break the chain of transmission by controlling the DHF vector, controlling the DHF vector by implementing Mosquito Nest Eradication (PSN), PSN aims to break the life cycle of mosquitoes which are the vectors of dengue disease. The main goal is to eliminate mosquito larvae which will later become adult mosquitoes. In the absence of mosquito larvae, there are no adult mosquitoes, which means that there are no dengue vectors ([Susianti, 2017](#)). This PSN activity is often known as the 3M motto, namely, draining, closing, and utilizing water reservoirs. Currently, 3M's activities are developing into 3M Plus.

Based on the description of the problem above, the researcher wants to research with the title "Family tasks in 3M Plus behavior with the prevention of dengue hemorrhagic fever (DHF) in the Purwodadi village community, Ringinrejo district, Kediri district".

## II. METHODS

Design uses an *observational research design* with a quantitative research design using a "cross sectional" approach. The relationship between two variables is known as *bivariate correlation*, while the relationship between more than two variables is called *multivariate correlation*. This study uses *bivariate analysis* by measuring the relationship between family duties (X) and 3M Plus behavior (Y) using the "*spearman rank correlation*" data analysis technique. The participants were assured that their engagement was voluntary, and that anonymity, privacy, and confidentiality of the data were guaranteed. Furthermore, they were informed about the purpose and the method of the study before signing a written informed consent. The study was approved by the Health Research Ethics Committee of Komisi Etik Penelitian Kesehatan Institute of Health Science STRADA Indonesia (Reference number LB.02.06/2/190/2020).

## III. RESULTS

The results showed that most of the respondents 56% (25 people) were female, most of the respondents were aged 21-30 years as many as 16 respondents (37%) of the total of all respondents, mostly farmer occupations respondents were 18 respondents (40%) of the total of all respondents, most of the respondents had the latest education, namely elementary school as many as 20 respondents (45%)

of the total respondents, and that most of the respondents were fathers as many as 17 respondents (38%) of the total of all respondents.

Cross tabulation of Relationships in the Family with Family Duties, Based on the results of the research, some respondents almost half of the total respondents in the relationship between family as mothers get enough family duties, namely 12 respondents (26%).

Cross tabulation of Gender with Family Tasks, Based on the results of the research, most of the respondents, almost half of the total female respondents, received sufficient family assignments, namely 18 respondents (40%).

Cross tabulation Age with Family Tasks, Based on the results of the research, most of the respondents, almost half of the total respondents aged 31-40 years, received sufficient family assignments, namely 9 respondents (20%).

Cross tabulation of Jobs with 3M Plus Behavior, Based on the results of the study, almost half of the total Farmer Job respondents did 3M Plus Less Good Behavior, namely 10 respondents (22%).

Cross-tabulation of Recent Education with 3M Plus Behavior, Based on table 4.7, almost half of the total respondents with the last primary education practice 3M Plus Behavior Less Good, namely 12 respondents (27%).

Cross Tabulation Between Variables, Based on the results of the study, most of the respondents (40%) had good family duties as many as 18 respondents, 3M Plus behavior was found in the Good category, namely almost half of the respondents (27%) with 12 respondents and 3M Plus behavior in the moderate category, a small percentage of respondents (9%) a total of 4 respondents, and 3M Plus behavior was found in the poor category, a small number of respondents (4%) a number of 2 respondents.

The results of the statistical test of Family Tasks in 3M Plus Behavior with Prevention of Dengue Hemorrhagic Fever (DHF) in the Purwodadi Village Community, Ringinrejo District, Kediri Regency using the Spearman rank correlation statistic test showed the *spearman rank test results* with  $p\text{-value } 0.035 < 0.05$ , meaning that  $H_1$  was accepted, namely there is a relationship between family duties on the behavior of 3M Plus with the prevention of *dengue hemorrhagic fever* (DHF) in the community of Purwodadi Village, Ringinrejo District, Kediri Regency.

#### IV. DISCUSSION

##### Identifying Family Duties in Preventing Dengue Hemorrhagic Fever Study in Purwodadi Village, Ringinrejo District, Kediri Regency

The results obtained during the study showed that the total number of respondents according to the inclusion criteria was 45 people. Family tasks in preventing Dengue Hemorrhagic Fever Study in Purwodadi Village, Ringinrejo District, Kediri Regency, from 45 respondents, 18 respondents (40%) found family tasks in the good category and 27 respondents (60%).

Based on the results of the study, it was found that the family tasks in the good category were 18 respondents (40%), it can be proven from the answers to the family health task questionnaire which were divided into 5 indicators given by the researcher to 45 respondents, indicating that: 1). The first family health task is to recognize the health development disorders of each member, from 4 questions, the answer score of 4 is 43 respondents from 45 respondents. The second family health task is to make a decision to take the right action, from 3 questions, the answer score 3 is 38 respondents from 45 respondents. The third family health task is to provide nursing to family members who are sick and who cannot help themselves, from 6 questions obtained an answer score of 5 totaling 15 respondents from 45 respondents. The fourth family health task is to maintain an atmosphere at home that benefits the health and development of family members, from 9 questions, an answer score of 8 was obtained, a total of 11 respondents from 45 respondents.

The fifth family health task is to maintain a reciprocal relationship between families and health institutions which shows that by using existing health facilities, from 3 questions, a score of 2 answers is obtained, a total of 25 respondents from 45 respondents.

### **Identifying 3M plus behavior in families suffering from dengue hemorrhagic fever in a study in Purwodadi Village, Ringinrejo District, Kediri Regency**

The results obtained during the study showed that the total number of respondents according to the inclusion criteria was 45 people. 3M Plus Behavior in Prevention of Dengue Hemorrhagic Fever Study in Purwodadi Village, Ringinrejo District, Kediri Regency, from 45 respondents, 3M Plus behavior was found in the good category as many as 22 respondents (48.9%), in the medium category as many as 8 respondents (17.8%) and in the poor category. good as many as 15 respondents (33.3%).

The results of the cross tabulation between age and 3M Plus behavior in this study are known to almost half of the respondents (31.1%) aged 51-60 years with a total of 14 respondents, 3M Plus behavior in the good category of 4 respondents (8.9%), moderate category a total of 4 respondents (8.9%) and the unfavorable category of 6 respondents (13.3%)

The results of the tabulation between gender and 3M Plus behavior in this study found that most of the respondents (57.8%) were female with a total of 26 respondents, showing 3M Plus behavior in the good category of 8 respondents (17.8%), the moderate category of 4 respondents (8.9%) and the unfavorable category were 7 respondents (15.6%). Meanwhile, almost half of the respondents (42.2%) were male with a total of 19 respondents, 3M Plus behavior was found in the good category of 14 respondents (48.9%), the moderate category of 4 respondents (8.9%) and not good a number of 8 respondents (17.8%).

The problem of dengue fever has not been well resolved. Various factors that support the existence of this disease are also increasing, including climate change which is now a world problem, uncontrolled urbanization, poverty, and environmental degradation. Efforts to control DHF by using chemicals have failed to eliminate DHF ([Ariawan, 2020](#)). Evidence shows that community involvement in reducing *Aedes aegypti* breeding grounds and collaboration among various sectors of society are the most effective methods for preventing dengue fever.

The failure of several efforts to control DHF to date can be used as a lesson that the DHF control process cannot run alone ([Firmansah, 2020](#)). There must be a very good cooperative relationship between the government, the ministry of health and its staff, relevant ministries and their staff with the community and families. The government that has the program but who runs it is the family, if the family is not provided with sufficient provisions to implement the program then the sustainability of the program will not be possible ([Chandra, 2021](#)).

Families will also not be able to implement the program if they do not understand that DHF is a threat that must be prevented. To raise awareness that DHF must be prevented, knowledge about DHF must be increased, the dangers of DHF disease must be known, for example if exposed to DHF it will cause illness and if severe it can cause death ([Fauzi, 2021](#)). If there is a family member who suffers from dengue fever, it will cause additional costs for treatment, if a neighbor is affected by dengue fever, we may also get dengue fever. Things like this are used to increase early awareness of dengue. If the knowledge is good, then the behavior will gradually change towards good behavior changes that do not support the spread of DHF ([Elvin, 2016](#)).

Implementing an intervention in the community is not an easy thing but it is not impossible either. Dengue control is something that must be done together. The process of family empowerment can be carried out in several stages, namely: (1) building trust, by making the family no longer an object but a subject who will carry out the program. (2) Increasing public awareness of DHF, so far DHF is a disease that is not considered important by the community except for those who have experienced unpleasant things related to DHF ([Ernawati, 2020](#)). To be able to increase this awareness, there must be continuous education in the community. (3) Program development, the program is developed together with the community so that they feel they are important people in the implementation of the program and without the participation of the community, the program will not run. (4) Community organizing. (5) Initiation for program improvement so that this program can be implemented on an ongoing basis with a continuous improvement process as well ([Ernawati, 2021](#)).

## V. CONCLUSION

The results of the study on Family Duties in Preventing Dengue Hemorrhagic Fever (DHF) in the Purwodadi Village Community, Ringinrejo District, Kediri Regency, showed that from a total of 45 respondents, almost all of them did not receive family assignments in the sufficient category, namely 27 (60%).

The results of the research on 3M Plus Behavior in the Prevention of Dengue Hemorrhagic Fever (DHF) in the Purwodadi Village Community, Ringinrejo District, Kediri Regency, showed that most of the respondents had not performed 3M Plus Behavior as many as 15 (33%) respondents. *Spearman rank* test simultaneously obtained  $p$  value data =  $0.035 < 0.05$  so that there is a relationship between family duties and the behavior of 3M Plus with Prevention of Dengue Hemorrhagic Fever (DHF) in the Purwodadi Village Community, Ringinrejo District, Kediri Regency.

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