



## Relationship between Knowledge and Attitude of Mothers on Prevention of Dengue Hemorrhagic Fever in Children in the Work Area of the Kawatuna Health Center

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### Abstract

Dengue Hemorrhagic Fever (DHF) is a viral infectious disease transmitted by the *Aedes Aegypti* mosquito as the main vector and *Aedes Albopictus* as a potential vector. The knowledge and attitudes of a mother become a benchmark for the mother's awareness of preventing transmission. Efforts to prevent transmission need to be made to reduce the risk of this disease. The purpose of this study was to determine the relationship between knowledge and mothers' attitudes regarding the prevention of dengue fever in children in the work area of the Kawatuna Health Center 2022. The research method used was quantitative using a cross-sectional approach with a sample of 25 mothers with children 6-12 years old. respondents. The measuring instrument in this study is a questionnaire and the analysis used Fisher Exact. The results showed that the level of knowledge of the respondents in the good category, namely 22 respondents (88%), and for attitudes, namely there were 20 respondents (80%) who had a positive attitude, and there was a significant relationship between the level of knowledge of mothers' attitudes about preventing dengue fever in children. 6-12 years old in the work area of the Kawatuna Health Center with a p-value of  $0.001 < 0.05$ . It can be concluded that mothers in the work area of the Kawatuna Health Center are in the independent category, and have a positive attitude, and there is a significant relationship between the level of knowledge and the attitude of mothers toward preventing dengue fever.

**Keywords:** Dengue Hemorrhagic Fever (DHF), Knowledge, Attitude of mothers

### Key Messages:

- The mother's level of knowledge is already good so it encourages a positive attitude too, where the better a person's knowledge, the more positive the attitude they have toward preventing DHF in children

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## 1. Introduction

Dengue Hemorrhagic Fever (DHF) is a viral infectious disease transmitted by the *Aedes Aegypti* mosquito as the main vector and *Aedes Albopictus* as a potential vector (1). The World Health Organization (WHO) states

that Dengue Hemorrhagic Fever (DHF) is still one of the world's health problems. The number of sufferers and the extent of their distribution area is increasing along with the increase in mobility and population density (2).

In Indonesia, cases of DHF in men and women are 53.11% in men and 46.89% in women. Based on the age of 1 year and over as much as 3.13%, age 1-4 years 14.88%, age 5-14 years 33.97%, age 15-44 37.45 %, age 44 and over 11.57 % (3). In Central Sulawesi Province, dengue cases are increasing every year and the morbidity rate is increasing and the distribution of the affected area is getting wider, while the case fatality rate (CFR) can still be reduced below 1%. The 13 districts/cities that reported data on dengue cases until December 2018 recorded 1070 cases (IR 35.54/100,000 population) with 7 deaths (CFR 0.65%), while the number of cases in 2017 was 821 cases (IR 27.36. / 100,000 population) with 8 deaths (CFR 0.97%), in 2016 the number of cases was 2302 (IR 77.91/100,000 population), with 22 deaths (CFR 0.96%), in 2015 the number of cases was 1579 (IR 53.71/100,000 population) with 11 deaths (CFR 0.70%), and in 2014 the number of cases was 1307 (IR 45.68/100,000 population) with 9 deaths (CFR 0.69%). When compared to the previous year, namely 2017, in 2018 there was an increase or additional cases of 249 cases (30%), however, when referring to the indicator that the target case is expected to be IR 49/100,000 population, it is still achieved, which is 35.54 per 100,000 population, while the CFR is still below 1%, which is 0.65% (4) (5).

The high rate of dengue fever can also be caused by a lack of knowledge by the family about early detection and signs or symptoms of dengue fever (6). Community behavior is closely related to clean living habits and awareness of the dangers of DHF(7). Therefore, the handling of DHF in children is very dependent on the role of parents, especially mothers. Mother's knowledge is needed so that the correct action is given, namely how the mother determines the action when the child begins to detect signs and symptoms of DHF, and when the mother brings the health officer (8).

A mother's tendency to take action in an effort to prevent transmission is strongly influenced by knowledge. Therefore, it is important for mothers to have good knowledge so that they can take appropriate actions to prevent disease transmission to children (9). The relationship between knowledge and attitudes about DHF, it is stated that having good knowledge will certainly show a good attitude as well (10). The attitude of the mother in caring for the child plays an important role as a decision-maker in taking measures to prevent transmission(11). For this reason, the role of nurses is very important in providing support to a mother for knowledge about Dengue Hemorrhagic Fever (DHF) so that she is motivated in preventing DHF in children. If the mother's lack of handling and knowledge will result in the child experiencing dengue fever which causes continuous fever for 2-7 days, manifestations of plasma leakage can also occur as hypotensive shock(12).

The purpose of this study was to determine the relationship between knowledge and mothers' attitudes about preventing Dengue Hemorrhagic Fever (DHF) in children (6-12 years) in the working area of the Kawanuna Public Health Center.

## 2. Methods

The research made is quantitative with a cross-sectional research design. The sample size used is 25 respondents. The research variables were the mother's knowledge and attitudes regarding the prevention of DHF which were measured by the knowledge and attitude questionnaire. Knowledge variables in this study are related to DHF disease and efforts to eradicate dengue mosquito nests, including: 1). causes, transmission, symptoms, characteristics of breeding sites, and characteristics of mosquitoes that cause DHF; 2). Definition, method, time, type, target, implementer of Mosquito Nest Eradication (PSN). The assessment for positive questions about knowledge uses a discontinuous scale, namely if the correct answer gets a score of one and if the answer is wrong it does not get a value (0). The results of measuring knowledge are divided into two, namely good and bad. The attitude referred to in this study is the tendency of families to acknowledge/accept DHF prevention measures such as the 4M movement (closing, draining, burying and monitoring) places that are breeding facilities for dengue vectors. The attitude questionnaire contains 10 closed-ended questions about family attitudes regarding dengue prevention and its assessment uses a Likert scale. The results of the attitude measurement are divided into two, namely positive and negative. The analysis used is the Fisher Exact test with a significance level of  $p < 0.05$ .

### 3. Results

Table 1 shows that there are 20 respondents (80%) who have good knowledge with a positive attitude, and 2 respondents (8%) have a good level of knowledge with a negative attitude about preventing DHF in children (6-12 years), so that the total respondents who have Good knowledge level as many as 22 respondents (88%), while respondents who have a low level of knowledge with a positive attitude are 0 respondents (0%) and 3 respondents (12%) have less knowledge with a negative attitude, so that the total respondents whose knowledge level is less as many as 3 respondents (12%). From the results of the Chi-Square test, a p-value of  $0.001 < 0.05$  was obtained, which indicates that there is a relationship between the level of knowledge of mothers' attitudes about preventing Dengue Hemorrhagic Fever (DHF) in children (6-12 years) in the work area of the Kawatuna Health Center.

**Table 1 Relationship Between Knowledge and Mother's Attitude About Prevention of Dengue Hemorrhagic Fever (DHF) in Children (6-12 Years) in the Kawatuna Health Center Work Area**

Knowledge level	Attitude				Total		P-value
	Positive		Negative		n	%	
	n	%	n	%			
Good	20	80	2	8	22	88	0,001
Bad	0	0	3	12	3	12	
Total	20	80	5	20	25	100	

### 4. Discussion

The results showed that from 25 respondents, it was known that 22 respondents (88%) had a good level of knowledge about the prevention of DHF in children (6-12 years). The results of this study are in line with previous research conducted by Harapan et al (2018), with the results of the study showing that there is a significant relationship between knowledge and attitudes toward preventing dengue disease and people who had good knowledge were 2.7 times more likely to have good attitudes, and people who had good attitudes were 2.2 times more likely to have good practices regarding dengue (13). Previous research conducted by Mbani et al (2021) showed that there is a relationship between the knowledge and attitudes of the head of the family and the prevention measures of DHF in the Oesapa Health Center working area in 2020 (14). The results of the study using Chi-Square get a p-value  $< 0.0001$ . Knowledge is one of the most important factors in the formation of attitudes or behavior to prevent dengue. In Beti Village, South Indralaya District, Ogan Ilir Regency, there is a significant relationship between knowledge (p-value = 0,004), attitude (p-value = 0,001), and behavior (p-value = 0,004) in preventing DHF and according to the findings of this study, the community already has a fairly good level of knowledge and attitude toward DHF prevention, but behavior in terms of preventing DHF still needs to be improved (15). Knowledge is one thing that becomes the basis for dealing with DHF in reducing numbers so as to provide awareness in efforts to prevent DHF, especially for children. Knowledge is also everything that a person knows based on his own personal experience and that knowledge will always increase through processes that occur and are experienced directly.

Good parental knowledge of something that will be easy to determine decision making to deal with a health problem (16). Knowledge is the result of knowing, and this occurs after a person has sensed either through the sense of hearing, the sense of sight or other senses, and also from one's personal experience. Mother's attitude shows that from 25 respondents, it is known that 20 respondents (80%) have a positive attitude. Other research shows that the poor practice toward dengue despite good knowledge and attitude level may be due to ignorance (17). The mother's level of knowledge is already good so it encourages a positive attitude too, where the better a person's knowledge, the more positive the attitude they have toward preventing DHF in children.

### 5. Conclusion

The conclusion is that there is a relationship between a mother's knowledge and attitude towards preventing Dengue Hemorrhagic Fever (DHF) in children (6-12 years), so mother's knowledge is very important in preventing DHF in children because mothers who have knowledge will reduce the transmission rate so as to provide

awareness in the prevention of dengue fever in children. A good mother's knowledge will affect ma other's attitudes regarding the prevention of dengue disease.

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**Conflicts of Interest:** The authors declare no conflict of interest

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