Jurnal Promkes: The Indonesian Journal of Health Promotion and Health Education
Vol. 14 No. 1 (2026) 84-90 *doi: 10.20473/jpk.V14.I1.2026.84-90*

Predisposing Factors Associated with Dengue Prevention Behavior in Pagelaran Health Center Lampung 2025

Dina Dwi Nuryani✉[1)], Dhiny Easter Yanti[1)], Lolita Sary[1)], Jheni Anggeriani[1)]
[1] Public Health, Faculty of Health Science, Malahayati University, Lampung, Indonesia 35152
✉Email: dinanuryani@gmail.com

ABSTRACT

***Background**: Dengue hemorrhagic fever (DHF) is a serious and potentially fatal disease caused by the dengue virus, transmitted through the bite of the Aedes aegypti mosquito.* ***Objectives**: The purpose of this study was to determine the relationship between predisposing factors and dengue fever prevention behavior in the Pagelaran Health Center work area in 2025.* ***Methods**: This type of research is quantitative with a cross-sectional approach. The study population consisted of the community residing in and covered by the Pagelaran Health Center work area, with a sample size of 100 respondents selected using proportional stratified random sampling techniques. Data were collected using a questionnaire as a tool.* ***Results** : The study showed that most people in the Pagelaran Health Center work area had limited knowledge (81%), negative attitudes (90%), negative perceptions (88%), and poor dengue prevention behaviors (89%). The results indicated a relationship between knowledge and dengue prevention behavior (p-value = 0.032; OR = 4.464), attitudes and dengue prevention behavior (p-value = 0.012; OR = 7.905), and perceptions and dengue prevention behavior (p-value = 0.025; OR = 5.786).* ***Conclusion**: These findings imply the need to strengthen health promotion through regular socialization and education, the application of persuasive communication, and active community involvement in dengue fever prevention activities.*

***Keywords**: Attitude, Behavior, DHF, Knowledge, Perception*

INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by dengue virus infection, which is transmitted to humans through the bite of *Aedes aegypti* or *Aedes albopictus* mosquitoes (Ministry of Health of the Republic of Indonesia, 2017). These mosquitoes can spread widely across various locations, so every family or community has the potential to be affected by DHF (Hidayani, 2020).

In 2023, the number of dengue cases increased globally, with the spike in cases nearly reaching a record high. More than five million cases and over 5,000 deaths were reported, involving 80 countries across five WHO regions: the Eastern Mediterranean, Africa, the Western Pacific, the Americas, and Southeast Asia (World Health Organization, 2023) . In Indonesia, dengue fever cases also increased compared to previous years. In 2023, the number of dengue cases again showed a significant rise, with a total of 119,709 cases recorded .

Lampung Province is one of the regions most affected, contributing to the increasing number of DHF cases, with 3,316 cases reported (Lampung Provincial Health Office, 2024). In 2023, Pringsewu Regency ranked fifth among regencies with the highest number of DHF cases in Lampung Province, reporting 297 cases (Pringsewu Central Statistics Agency, 2024). Several areas within Pringsewu Regency contributed to these cases, including the Pagelaran Health Center's work area, which was the fourth-highest contributor to DHF cases in the regency. In 2024, the number of DHF cases in the Pagelaran Health Center's work area increased to 58 cases.

DHF is classified as an infectious disease transmitted through vectors, and the incidence of this disease is influenced by individual health behaviors (Hartono, 2019). A person's quality of life is affected by their behavioral patterns. According to Lawrence Green's theory, as cited by Priyoto (2020), there are three main factors that influence a person's health behavior. The first factor, known as predisposing factors, includes individual knowledge, attitudes, and perceptions. The second factor is the enabling factor,

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

which consists of elements that support or facilitate behavior, such as the availability of facilities and infrastructure. The third factor is the reinforcing factor, which functions to encourage or strengthen behavior, such as the influence of community leaders, health workers, and religious leaders.

Based on this theoretical framework, predisposing factors play an essential role in influencing a person's health behavior. These are the most fundamental factors originating from within the individual, including knowledge, attitudes, and perceptions.

Knowledge is an understanding or information about something obtained through experience or learning processes, both at the individual and community levels. Knowledge is a crucial domain that underpins the formation of an individual's actions (Effendi *et al.*, 2023). Knowledge about dengue fever significantly influences a person's attitude and behavior in recognizing potential dangers and taking preventive measures against the disease (Swarjana, 2022) .

A person with a positive attitude usually recognizes the importance of preventing dengue fever and responds to related incidents through concrete actions, such as maintaining a clean living environment. If the influencing factors are positive, individuals tend to develop a positive attitude. Conversely, if the factors are negative, individuals are more likely to have a negative attitude (Irwan, 2017). Attitude is not an external or observable response and does not necessarily constitute action; rather, it is a predisposition to act or behave in a certain way. Attitude differs from behavior, and behavior does not always reflect an individual's attitude. Individuals may sometimes display actions that contradict their actual attitudes. Although a person may hold a positive attitude, without translating it into concrete action, no real change will occur (Anggaini *et al.*, 2023).

Perception is an active process that involves recognizing, interpreting, and understanding stimuli received through the five human senses, whether in the form of individuals, objects, events, situations, or activities (Hendayani, 2016). Family perceptions of DHF, such as understanding of the risks and impacts, can influence prevention efforts. Families with higher perceptions of DHF risk tend to be more active in implementing effective preventive measures (Adhani, Arneliwati and Tampubolon, 2023).

Behavioral factors also play an important role in efforts to improve health within the community. Therefore, efforts to enhance public knowledge, attitudes, and perceptions can ultimately encourage people to adopt healthier behaviors (Rachmawaty, 2019). By possessing good knowledge, attitudes, and perceptions related to health maintenance, the quality of life can increase, which in turn contributes to reducing health problems.

The area under the guidance of Pagelaran Health Center is at risk of dengue fever transmission due to unhealthy community behaviors and a lack of adherence to preventive measures such as the 3M Plus, which includes draining, covering, and recycling (or proper waste management) of water containers and discarded items. Additional preventive measures, such as using mosquito nets and insecticide spraying, are also often neglected, and the community still exhibits unhealthy behaviors, such as neglecting environmental cleanliness. Health problems can arise from community behaviors influenced by knowledge, attitudes, and perceptions.

Based on this, the researcher conducted this study to determine the relationship between predisposing factors and preventive behaviors against dengue fever in the area under the guidance of Pagelaran Health Center in 2025.

METHODS

This study uses a quantitative approach with a cross-sectional research design. It was conducted in the working area of the Pagelaran Health Center, Pringsewu Regency, Lampung Province, Indonesia. The research was carried out from November 2024 to March 2025. The study population consisted of residents domiciled in the Pagelaran Health Center service area, totaling 27,865 people, with a research sample of 100 respondents selected using the Slovin formula. The sampling technique employed was a probabilistic method, specifically proportional stratified random sampling, which involves dividing the population into several subgroups or strata proportionally, then randomly sampling within each stratum (Sinaga, 2019).

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

The independent variables in this study include knowledge, attitudes, perceptions, and behavior. The dependent variable is community behavior related to the prevention of dengue fever (DHF). All variables were measured using a validated and reliable questionnaire.

Data collection was conducted through interviews using structured questionnaires as research instruments. Data processing involved several stages, namely editing, coding, processing, and cleaning (Hastono, 2020). Data analysis was performed using computer software applications, utilizing both univariate and bivariate analysis.

This research has received ethical approval from the Ethics Committee of Malahayati University, Bandar Lampung, with approval number 4587/EC/KEP-UNMAL/I/2025.

RESULTS AND DISCUSSION

Univariate Analysis Results

Table 1. Characteristics of Respondents (n=100)

Characteristic	Results
Age	
17-25	13 (13%)
26-35	21 (21%)
36-45	27 (27%)
46-55	23 (23%)
56-65	11 (11%)
66-76	5 (5%)
Gender	
Man	38 (38%)
Woman	62 (62%)
Level of education	
SD	21 (21%)
Junior High School	19 (19%)
High School/Vocational School	44 (44%)
D3/S1	16 (16%)
Work	
Housewife	44 (44%)
Farmer	20 (20%)
Student	9 (9%)
Laborer	15 (15%)
Village of Apparatus	5 (5%)
government employees	7 (7%)

Univariate analysis of respondent characteristics showed that most respondents were aged 36-45 years, totaling 27 people (27.0%). Meanwhile, the age group with the fewest respondents was 66-76 years, with a total of 5 people (5.0%). The most respondents were female, totaling 62 people (62.0%). The highest educational level among respondents was high school/vocational school, with 44 respondents (44.0%), while the fewest respondents had a D3/S1 degree, totaling 16 respondents (16.0%). The majority of respondents worked as housewives, totaling 44 people (44.0%), whereas the fewest were village officials, with 5 respondents (5.0%).

Table 2. Univariate Variable Research Results (n=100)

Variables	Results
Knowledge	
Good	19 (19%)
Not Good	81 (81%)
Attitude	
Positive	10 (10%)
Negative	90 (90%)
Perception	
Positive	12 (12%)
Negative	88 (88%)
Behavior	
Good	11 (11%)
Not Good	89 (89%)

The results of univariate analysis based on the variables of knowledge, attitude, perception, and behavior indicate that the majority of respondents have poor knowledge, totaling 81 people (81.0%). Additionally, most respondents have negative attitudes, totaling 90 people (90.0%). The majority also have negative perceptions, totaling 88 people (88.0%), and most exhibit undesirable behavior, totaling 89 people (89.0%).

Bivariate Analysis

Table 3. Bivariate Analysis of Predisposing Factors and Dengue Fever Prevention Behavior Using Chi-square Test

Variables	OR	p value
Knowledge	4,464	0.032
Attitude	7,905	0.012
Perception	5,786	0.025

DISCUSSION

Relationship between Knowledge and Dengue Fever Prevention

The bivariate analysis using the Chi-square test showed a significant relationship between knowledge and dengue prevention behavior, with a p-value of 0.032 (< α 0.05). This indicates that there is an association between community knowledge and dengue prevention behavior. An odds ratio (OR) of 4.464 was obtained, meaning that respondents with poor knowledge were

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

4.464 times more likely to exhibit poor dengue prevention behavior.

Based on the results of interviews using questionnaires, it was found that many respondents still lacked knowledge and answered incorrectly on several questions. The respondents' lack of understanding regarding dengue fever was attributed to insufficient information received from health centers, village governments, or related agencies. Specifically, the District/City Health Office did not provide clear information about dengue fever. Additionally, respondents did not receive the latest information about DHF, such as the updated 3M Plus approach—draining, covering, and recycling (Ministry of Health of the Republic of Indonesia, 2019).

Respondents' knowledge about how to drain a bathtub properly was also inadequate; many believed that draining once a month or only when it is dirty was sufficient, whereas daily draining is recommended. Furthermore, respondents held misconceptions about mosquito breeding grounds, assuming that mosquitoes causing DHF only breed in dirty water, when in fact they also breed in clean water. They also mistakenly thought that mosquitoes causing DHF are Chikungunya mosquitoes or those breeding in gardens, whereas the correct vector is Aedes aegypti (Ministry of Health of the Republic of Indonesia, 2022).

Likewise, respondents showed a lack of understanding regarding questions such as "What is the name of the red spot on a DHF sufferer?", "What is the curve of Dengue Hemorrhagic Fever?", and "What are the characteristics of the Aedes aegypti mosquito?" indicating gaps in their knowledge about these aspects.

The results of the study showed that individuals with good knowledge still exhibited poor behavior in preventing dengue fever. Knowledge can influence an individual, as it supports their ability to take appropriate action (Nabila et al., 2023). The researchers suggest that individuals who have adequate knowledge about dengue prevention but still engage in poor preventive behaviors may lack sufficient awareness or concern regarding the risks associated with dengue. Although they are aware of preventive measures, they often fail to implement them due to a lack of public awareness and concern about the risks of dengue fever.

Additionally, based on the study results, 81% of respondents had poor knowledge, which was attributed to a lack of information or education received regarding dengue fever prevention. The community stated that they had never received comprehensive and effective educational socialization on dengue prevention behaviors. According to Purnama (2021), effective IEC (Information, Education, and Communication) provision can be carried out 1 to 4 times per month, depending on the capabilities of the health center, the readiness of personnel, facilities, and the needs of the target population.

Relationship between Attitude and Dengue Fever Prevention Behavior

Bivariate analysis using the Chi-square test showed a significant association between attitude and dengue prevention behavior ($p = 0.012$, $< \alpha\ 0.05$). This indicates that community attitudes are significantly related to dengue prevention practices. An odds ratio (OR) of 7.905 was obtained, suggesting that respondents with negative attitudes were 7.905 times more likely to engage in poor dengue prevention behaviors.

Respondents' negative attitudes towards dengue fever are often caused by a lack of knowledge and understanding of the disease. For example, in the statement "places that can hold water need to be covered," most respondents chose to disagree, citing that they did not know or believed water reservoirs do not need to be covered. In the statement "Healthy people are unlikely to be infected with dengue fever," most respondents agreed, reasoning that someone who is healthy would find it difficult to contract dengue. Conversely, in the statement "I will sprinkle abate powder on water reservoirs," most respondents disagreed, believing that applying abate powder is toxic and could pollute the water.

In addition to a lack of knowledge, negative attitudes can also stem from habits. For instance, in the statement "Drain the bathtub when it is dirty," this attitude reflects the respondents' daily habits of rarely draining the bathtub and only doing so when it is visibly dirty. Similarly, in the statement "The water in the flower vase does not need to be replaced," most respondents strongly agreed, indicating that they are unaware

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

that water in flower vases should be regularly replaced. This habitual behavior of rarely changing water in the vase has become ingrained in their daily routines.

Attitude plays a crucial role in preventive behavior because it influences how individuals respond to health risks (Pakpahan, 2021). A positive attitude towards disease prevention generally leads to greater awareness and willingness to take protective actions (Mahzura et al., 2020). The research indicates that negative attitudes in society often result from habits and a lack of understanding about dengue fever prevention. Knowledge is fundamental in shaping a person's attitude towards their behaviors. Interestingly, the study also revealed that individuals with positive attitudes might still engage in poor dengue prevention practices. This discrepancy can be attributed to ingrained habits—despite recognizing the importance of prevention, respondents often postpone or neglect preventive measures due to their daily routines (Dewi et al., 2022).

For example, respondents drained the bathtub only when it was dirty, which reflects habitual behavior rather than proactive prevention. Similarly, the belief that water in flower vases does not need to be changed stems from a habitual neglect to do so. Therefore, relevant authorities should implement persuasive communication strategies aimed at influencing attitudes positively, encouraging behavioral change regarding dengue fever prevention—by conveying messages that can modify existing habits and promote healthier practices (Setiawan et al., 2023).

Relationship between Perception and Dengue Fever Prevention Behavior

The bivariate analysis using the Chi-square test showed a significant association between perception and dengue fever prevention behavior, with a p-value of 0.025 (< α 0.05). This indicates a relationship between community perception and dengue prevention practices. Additionally, the odds ratio (OR) was 5.786, meaning respondents with negative perceptions were 5.786 times more likely to exhibit poor dengue prevention behavior.

A lack of understanding and motivation from related parties influence a person's perception. For example, the study revealed that respondents did not know that tightly closing water reservoirs in the house could reduce mosquito breeding sites. They also were unaware that repairing clogged or damaged water channels or gutters could help decrease breeding sites. Some believed that used tires, cans, and bottles were not breeding grounds for Aedes aegypti mosquitoes and therefore did not need to be buried. Furthermore, respondents thought that pet drinking water, which is often not cleaned or replaced, would not contribute to mosquito breeding, and they believed that spraying abate powder in the bathtub was unnecessary because it is toxic and pollutes the water.

Perception plays a crucial role in influencing an individual's behavior in preventing dengue fever. If a person holds a correct and positive perception of the dangers of dengue and the importance of preventive efforts, they are more likely to take appropriate actions. However, the study also showed that individuals with positive perceptions could still engage in poor prevention behaviors. Researchers suggest that environmental factors, such as the community's attitude towards cleanliness, can diminish motivation. If surrounding community members neglect cleanliness, individuals may lose the drive to act proactively.

Furthermore, negative public perceptions often stem from insufficient or unclear information and a lack of motivation to take action. For example, the study found that some respondents believed that "sprinkling abate powder in the bathtub should not be done because it is toxic and pollutes the water," reflecting a misunderstanding about the proper use of abate. To address this, it is hoped that relevant parties can provide practical examples and involve the community in promoting healthy living behaviors, such as regular environmental cleaning through mutual cooperation activities. If authorities actively maintain environmental cleanliness, the community is likely to follow suit, fostering positive habits that help prevent dengue fever.

CONCLUSION

Based on the results of the study on the relationship between predisposing factors and dengue fever prevention behavior in the Pagelaran Health Center work area in

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

2025, it can be concluded that most people have limited knowledge, with 81 (81.0%) exhibiting insufficient understanding. Additionally, most people have negative attitudes, totaling 90 (90.0%), and most also have negative perceptions, amounting to 88 (88.0%). Furthermore, a majority of the population demonstrates poor dengue prevention behavior, with 89 (89.0%) engaging in ineffective practices.

The study also revealed significant relationships between these factors and dengue prevention behavior. Specifically, there was a relationship between knowledge and dengue prevention behavior (ρ = 0.032; OR = 4.464), between attitudes and dengue prevention behavior (ρ = 0.012; OR = 7.905), and between perception and dengue prevention behavior (ρ = 0.025; OR = 5.786).

The researchers suggest that health promotion activities such as routine socialization and education should be implemented continuously. Persuasive communication aimed at improving community attitudes, coupled with real-life examples and involving the community through mutual cooperation activities, can effectively foster positive behavioral change.

ACKNOWLEDGENT

The author expresses his sincere thanks to everyone who assisted in the preparation and completion of this article.

REFERENCE

Adhani, N. R., Arneliwati, A. and Tampubolon, M. M. (2023) 'The Relationship between Perceptions and Family Behavior in Preventing Dengue Hemorrhagic Fever', *QISTINA: Jurnal Multidisiplin Indonesia*, 2(2), pp. 1398–1406.

Anggaini, F. D. P. *et al*. (2023) 'Hubungan Pengetahuan Dan Sikap Dengan Perilaku Pencegahan DBD Di Puskesmas Rowosari Kota Semarang', in *Prosiding Seminar Informasi Kesehatan Nasional*, pp. 161–167.

Badan Pusat Statistik Pringsewu (2024) *Kasus Demam Berdarah Dengue (DBD) Kabupaten Pringsewu, Badan Pusat Statistik Kabupaten Pringsewu*, *Badan Pusat Statistik Kabupaten Pringsewu*.

Dinas Kesehatan Provinsi Lampung (2024) *DBD Lampung 2024*, *Dinkes Provinsi Lampung*.

Effendi, S. U. *et al*. (2023) 'Hubungan Pengetahuan dengan Perilaku Pencegahan Demam Berdarah Dengue (DBD)', *Jurnal Sains Kesehatan*, 30(3), pp. 142–149.

Hartono (2019) 'Buku Saku Stop Demam Berdarah', in *Husada Mandiri*. Semarang: Husada Mandiri, pp. 1–14.

Hidayani.(2020). *Dengue Hemorrhagic Fever (DF)*. Banyumas: Pena Persada

Irwan .(2017). *Ethics and Health Behavior.Yogyakarta* : Media absolut.

Mahzura, N. F., Muntaz, K. C., Opipa, W., Pulungan, A. S., Nst, C. C., & A., D. A. (2020). *Overview of community knowledge, attitudes, and behavior*. Jurnal Dunia Kesmas.

Ministry of Health of the Republic of Indonesia. (2019). *Dengue Fever Prevention Efforts with 3m Plus* . Jakarta: Ministry of Health of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. (2017). *Guidelines for Prevention and Control of Dengue Fever* . Jakarta: Ministry of Health of the Republic of Indonesia.

Ministry of Health of the Republic of Indonesia. (2022). *Signs and Symptoms of Dengue Fever* . Palembang: Ministry of Health.

Nabila, A. S., Widiarini, R., & Wasito, E. (2024). The relationship between knowledge and attitudes and community behavior. *Journal of Health Science*.

Pakpahan .(2021). *Health Promotion & Health Behavior*. Jakarta: Our Foundation writes .

Priyoto . (2020). *Lawrence Green's theory* . Jakarta: Nuha Medika.

Purnama,w . (2021). *Effective Communication, Information and Education. Scribd* Paramita.

Rachmawaty .(2019). *Health promotion & behavioral science.Jakarta* : Rineka Cipta.

Dewi, r., Satriani., & Pranata. (2022). *The relationship between knowledge and attitudes toward dengue fever prevention behavior in the community of Buleleng Regency*. Jurnal Riset Kesehatan Nasional.

Rokom .(2024). *Dengue Hemorrhagic Fever in Indonesia.Jakarta* : Ministry of Health of the Republic of Indonesia.

Setiawan, y, l., Sila, g .e., Hasim., Putra, r. e., Bintang, g., Suhaeri.(2023). *Persuasive Communication and Negotiation*. Padang: Gita Lentera.

Swarjana, I. ketut (2022) 'Konsep Pengetahuan, Sikap, Perilaku, Persepsi',

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026

Andi (anggota IKAPI). Yogyakarta, pp. 2–20.

World Health Organization (2023) *Demam Berdarah Dengue Dunia Situasi Global*, *World Health Organization*.

Sinaga, d. (2019). *Basic Statistics Textbook*. Yogyakarta: Ukii Press.

Swarjana, I. Ketut.(2022). *Concept of Knowledge, Attitude, Behavior, Perception.Yogyakarta* :IKAPI.

World Health (2023). *Global Dengue Fever Situation. Jakarta* :WHO .

Received: 22-05-2025, Accepted: 25-06-2025, Published Online: 05-03-2026