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The Relationship between Attitudes, Community Behavior, and Water Dispensers with the Incidence of Dengue Hemorrhagic Fever (DHF) in the Working Area of the Bebesen Primary Health Care, Bebesen District, Central Aceh Regency in 2024

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Abstract

Dengue Hemorrhagic Fever (DHF) is a serious infectious disease with high mortality, especially when treatment is delayed and the patient is in shock. This study aimed to assess the relationship between community attitudes, behaviors, and the presence of water dispensers with the incidence of DHF in Bebesen District, Central Aceh Regency, in 2024. Using a cross-sectional design, 55 respondents were selected randomly. Data was collected from August 4 to August 19, 2024. The study employed descriptive analytics and Chi-square tests for statistical analysis. The results showed a significant relationship between community attitudes and the incidence of DHF, with a P value of 0.003, indicating statistical significance. Similarly, the presence of water dispensers was found to significantly affect DHF incidence, with a P value of 0.002. These findings highlight the importance of positive community attitudes and behaviors, as well as the management of water sources, in preventing DHF. It is anticipated that this research will lead to a change in the community's behavior and enhance DHF prevention measures. Additionally, interdisciplinary collaboration within the Bebesen Primary Health Care is essential for addressing the issue effectively.

Keywords: *DHF, Community Attitudes, Water Dispenser, Community Behavior, Preventive.*

Introduction

Dengue fever remains a significant public health concern in Indonesia, with annual case numbers exhibiting fluctuations. According to data from the Directorate of Prevention and Control of Vector-Borne and Zoonotic Diseases, Ministry of Health of the Republic of Indonesia, the number of patients reached 129,650 in 2015, with 1,071 deaths reported. In 2016, the figure stood at 202,314 patients and 1,593 deaths, and in 2017, the number of DHF cases reported in Indonesia was 68,407 cases, with 493 deaths. The incidence rate (IR) in 34 provinces in 2015 reached 50.75 per 100,000 population, and the IR in 2016 reached 78.85 per 100,000 population. This figure is still higher than the national IR target of 49 per 100,000 population (Kementerian Kesehatan Republik Indonesia, 2017).

Dengue hemorrhagic fever (DHF) is a severe disease caused by the dengue virus, of which four serotypes are known: DEN-1, DEN-2, DEN-3, and DEN-4. Genetic variation plays an important role in influencing susceptibility to DHF (Kanan et al., 2024). Dengue fever (DF) is a disease caused by the dengue virus (DENV), which belongs to the arthropod-borne virus genus, flavivirus, and the family flaviviridae. Dengue Fever is found throughout the tropical and subtropical part of Africa, North and Douth America, Australia, Eastern Mediterranean, Western Pacific, and Asia (Bola Olajide et al., 2024).

The transmission of dengue occurs through the bite of mosquitoes belonging to the genus Aedes, particularly Aedes aegypti or Aedes albopictus. DHF manifests at any point throughout the year and has

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the capacity to affect individuals of all age demographics. The onset of the disease is characterized by an elevated fever within 2 to 7 days following the bite of an infected mosquito. The initial symptoms of DHF include signs of bleeding, a decrease in platelets less than 100,000/mm3, an increase in hematocrit to a level of ≥ 20 percent, indicating plasma leakage, and positive results on serological examination (ELISA or Rapid Diagnostic Test Dengue). DHF (Dengue Hemorrhagic Fever) or severe hemorrhagic fever has been observed to manifest in a wide spectrum of bleeding symptoms. DHF has been documented to have a mortality rate of 26% . Neurologic involvement, including encephalopathy and intracranial hemorrhage, has been shown to have a mortality rate of 26%. Neurologic involvement, including encephalopathy, intracranial hemorrhage, or infarction, are fairly rare but fatal complications of dengue (Chang et al., 2021). The incidence of dengue encephalopathy ranges from 0.5 to 6.2%. The occurrence of DHF is influenced by various factors, including but not limited to: low community immunity and increased mosquito population due to the presence of breeding sites during the rainy season (Kementerian Kesehatan Republik Indonesia, 2020). Precipitation stimulates the formation of breeding grounds for Aedes mosquitoes through the accumulation of standing water. However, excessive rainfall has been observed to result in the elimination of mosquito eggs and larvae, thereby leading to a population decline in specific regions (Zhu et al., 2024).

A multitude of factors have been identified as influential in the incidence of DHF, including environmental, age-related, and knowledge and attitudes-related factors. The environmental factors that can affect the occurrence of DHF are as follows: the physical environment (frequency of container draining, availability of lids on containers, house density); the biological environment (vector density, presence of larvae in containers); and the social environment (house occupancy density, support from health workers, experience of receiving health counseling, occupation, education, experience of dengue fever, habit of hanging clothes) (Saputra et al., 2023).

The practice of clean and healthy living can be considered a manifestation of a healthy paradigm within the context of individual life. Personal hygiene, or the practices associated with it, serves as a salient indicator within the context of household settings. One such practice is the hanging of clothes in the house, which, in this context, becomes a resting place for the aedes aegypti mosquito. These mosquitoes typically seek out perching and resting locations within the residential structure, particularly in areas characterized by darkness or the presence of hanging garments (Akbar & Maulana Syaputra, 2019).

In an effort to prevent and control DHF disease in Indonesia, the Minister of Health has issued a decree (No. 581/MENKES/SK/VII/1992) concerning the eradication of DHF disease, which emphasizes prevention through the implementation of the PSN (Mosquito Nest Eradication) movement.The PSN involves the following measures: closing all water reservoirs or water sources, draining bathtubs, and recycling used goods. In addition, the following measures should be taken to mitigate the risk of mosquito-borne diseases: the larvicide powder should be applied to water reservoirs that are difficult to clean, the use of mosquito repellent or anti-mosquito products is recommended, the use of mosquito nets is advised when sleeping, the presence of mosquito-eating fish is encouraged, the planting of mosquito-repellent plants is beneficial, the regulation of light and ventilation in the house is essential, and the avoidance of hanging clothes in the house that can become mosquito resting places is advisable (Kementerian Kesehatan Republik Indonesia, 2020).

A study by Dwi Ratna Angraiani, Syamsul Huda, and Farid Agushybana in 2023, titled "Behavioral Factors with the Incidence of Dengue Hemorrhagic Fever (DHF) in Endemic Areas of Semarang City," revealed that the study of behavioral factors with DHF incidence included water behavior >1 time in. water, used goods, so as to prevent the formation of mosquito nests, the use of abate powder in water reservoirs to eliminate larvae, the presence of mosquito nests in clothing at home, the installation of wire mesh to prevent mosquito entry, the use of anti-mosquito lotion, and the adherence to good practices (Anggraini et al., 2021). The occurrence of DHF is influenced by behavioral factors, including the management of water containers, the closure of water containers, the utilization of used goods, the application of Abate powder, the hanging of clothes, the installation of wire mesh, the wearing of anti-mosquito lotion, and the adherence to good practices.

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According to the World Health Organization (WHO), the incidence of dengue was minimal prior to 1970, with only nine countries experiencing severe dengue endemic conditions. However, the disease has since spread to more than 100 countries in Africa, the Americas, the Eastern Mediterranean, Southeast Asia, and the Western Pacific (Yousuf et al., 2023). The regions of the world that have experienced the most severe epidemics include the Americas, Southeast Asia, and the Western Pacific, with Asia accounting for 70% of the global disease burden. The number of dengue cases reported to the World Health Organization (WHO) increased more than eightfold from 2000 to 2019, with 505,430 cases in 2000 and 5.2 million cases in 2019. However, a decline in cases was observed in 2020 and 2021, likely attributable to the underreporting resulting from the impact of the pandemic (World Health Organization, 2022).

According to data from the Indonesian Ministry of Health, the number of dengue cases in Indonesia was 143,266 in 2022, with 1,237 deaths. As of May 2023, the number of dengue cases had decreased to 31,380, and the number of deaths had increased to 246 (Kementerian Kesehatan RI, 2023).

According to data from the Aceh Provincial Health Office profile, the incidence of dengue hemorrhagic fever (DHF) in Aceh province in 2020 amounted to 891 cases, with 1 death. In the subsequent year, a decline in dengue cases was observed, with the total number of cases in 2021 amounting to 366. However, there was an escalation in the mortality rate, with seven fatalities reported. The following year, the number of DHF cases increased from the previous year, reaching a total of 2,079 cases, with 16 deaths (Dinas Kesehatan Provinsi Aceh, 2022).

According to data from the profile of the Central Aceh District Health Office, the incidence of dengue in Central Aceh in 2021 amounted to eight cases, and in 2022, dengue cases in Central Aceh experienced an increase, namely to 58 cases. The ongoing upward trend in DHF cases in Central Aceh is a matter of concern. In 2023, the province recorded 220 cases of DHF, indicating a persistent challenge in dengue management and the need for ongoing surveillance and response strategies ((Dinas Kesehatan Kabupaten Aceh Tengah, 2023).

According to the findings of the Bebesen Primary Health Care in 2021, the incidence of dengue hemorrhagic fever (DHF) in the primary health care's service area was recorded at one case. However, in 2022, there was a notable surge in DHF cases, with the number rising to 34 cases. This figure further increased to 88 cases in 2023 (Puskesmas Bebesen, 2023).

Method

This study employs a descriptive, cross-sectional design. In essence, this design involves the examination of the relationship between two variables within a given context or a group of subjects. This approach is employed to elucidate the association between one symptom and another, or one variable and another. The population of this study comprised all family heads residing within the Bebesen Health Center Working Area. The total population of the study area was 12,107 family heads. The random sampling technique was employed to select the study participants. The final sample size was 55 respondents.

Result

Incidence of Dengue Fever (DHF)

Table 1. Frequency Distribution of Dengue Hemorrhagic Fever (DHF) Incidence in the Working Area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

DHF Incidence	Frequency	Percentage (%)
Yes	20	36.3
No	35	63.7
Total	**55**	**100**

(Source: primary data, processed year 2024)

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Based on **Table 1.** above, it shows that of the 55 respondents, the majority experienced DHF events in the Yes category, namely 37 respondents (63.7%).

Community Attitude

Table 2. Frequency Distribution of Community Attitudes in the Working Area of the Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

Attitude	Frequency	Percentage (%)
Positive	21	38.1
Negative	34	61.9
Total	**55**	**100**

(Source: primary data, processed year 2024)

Based on **Table 2.** above shows that of the 55 respondents, the majority of farmers' attitudes are in the negative category as many as 33 respondents (61.1%).

Community Behavior

Table 3. Frequency Distribution of Community Behavior in the Working Area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

Behavior	Frequency	Percentage (%)
Positif	20	36.4
Negatif	35	63.6
Jumlah	**55**	**100**

(Source: primary data, processed year 2024)

Table 3. shows that out of 55 respondents, the majority of community behavior is in the negative category, namely 35 respondents (63.3%).

Water Dispenser

Table 4. Frequency Distribution of Water Dispensers in the Work Area of the Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

Water Dispenser	Frequency	Percentage (%)
Yes	18	32.8
No	37	67.2
Total	**55**	**100**

(Source: primary data, processed year 2024)

Based on **Table 4.** above, out of the 55 respondents, the majority of water dispensers are in the No category, namely 37 respondents (67.2%).

Relationship between Attitude and the Incidence of Dengue Fever (DHF)

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Table 5. Frequency Distribution of the Relationship between Attitude and the Incidence of Dengue Hemorrhagic Fever (DHF) in the Work Area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

Attitude	DHF Incidence				Total		P-value
	Yes		No				
	F	%	F	%	F	%	
Positive	10	18.1	11	20.0	21	38.1	0,003
Negative	27	49.1	7	12.8	34	61.9	
Total	**37**	**67.2**	**18**	**32.8**	**55**	**100**	

(Source: primary data, processed year 2024)

Based on **Table 5.** above, it shows that out of 55 respondents, Positive community attitudes and Yes experiencing DHF incidents amounted to 10 respondents (18.1%), Positive community attitudes and No experiencing DHF incidents amounted to 11 respondents (20.0%). While Negative community attitudes and Yes experiencing DHF incidence amounted to 27 respondents (49.1%), and Negative community attitudes and No experiencing DHF incidence amounted to 7 respondents (12.8%).

Based on the results of statistical analysis using Chi-Square test, the p-value = 0.003 <0.05 indicates that there is a relationship between community attitudes and the incidence of dengue fever (DHF) in the working area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency in 2024.

Relationship between Behavior and the Incidence of Dengue Fever (DHF)

Table 6. Frequency Distribution of Behavioral Relationships with the Incidence of Dengue Hemorrhagic Fever (DHF) in the Bebesan Primary Health Care Working Area, Bebesen District, Central Aceh Regency

Behavior	DHF Incidence				Total		P-value
	Yes		No				
	F	%	F	%	F	%	
Positive	11	20.0	9	16.4	20	36.4	0,002
Negative	28	50.9	7	12.7	35	63.6	
Total	**37**	**67.2**	**18**	**32.8**	**55**	**100**	

(Source: primary data, processed year 2024)

Based on **Table 6.** above, it shows that out of 55 respondents, positive community behavior and yes experiencing DHF incidence were 11 respondents (20.0%), positive behavior and no experiencing DHF incidence were 9 respondents (16.4%). While negative community behavior and yes experiencing DHF incidence were 28 respondents (50.9%), and negative community behavior and no experiencing DHF incidence were 7 respondents (212.7%).

Based on the results of statistical analysis using Chi-Square test, the P-value = 0.002 <0.05 indicates that there is a relationship between community behavior and the incidence of dengue fever (DHF) in the working area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency in 2024.

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Table 7. Frequency Distribution of the Relationship between Water Dispensers and the Incidence of Dengue Hemorrhagic Fever (DHF) in the Working Area of the Bebesen Primary Health Care, Bebesen District, Central Aceh Regency

Water Dispensers	DHF Incidence				Total		P-value
	Yes		No				
	F	%	F	%	F	%	
Ada	5	9.1	13	23.7	18	32.8	0,002
Tidak Ada	32	58.1	5	9.1	37	67.2	
Total	**37**	**67.2**	**18**	**32.8**	**55**	**100**	

(Source: primary data, processed year 2024)

Based on **Table 7.** above, it shows that of the 55 respondents who had a water dispenser and experienced DHF incidence were 5 respondents (9.1%), and those who had a water dispenser did not experience DHF incidence were 13 respondents (23.7%), while those who did not have a water dispenser and experienced DHF incidence were 32 respondents (58.1%), and those who did not have a water dispenser did not experience DHF incidence were 5 respondents (9.1%).

Based on the results of statistical analysis using Chi-Square test, the P value = 0.002 <0.05 indicates that there is a relationship between water dispensers and the incidence of dengue fever (DHF) in the working area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency in 2024.

Discussion

Relationship between Community Attitudes and the Incidence of Dengue Fever (DHF)

The results of the study, which included 55 respondents, revealed several noteworthy findings. Firstly, positive community attitudes, coupled with the absence of DHF incidents, accounted for 10 respondents (18.1%), while positive attitudes, devoid of DHF experience, constituted 11 respondents (20.0%). Conversely, negative community attitudes, concomitant with DHF occurrence, comprised 27 respondents (49.1%), and negative attitudes, excluding DHF experience, totaled 7 respondents (12.8%).

The statistical analysis, employing the Chi-Square test, yielded a P-value of 0.003, which is less than 0.05. This finding suggests a relationship between community attitudes and the incidence of dengue fever (DHF) in the Puskesmas Bebesen working area in Bebesen District, Central Aceh Regency, in 2024.

This finding aligns with the research conducted by Tuba et al. (2023) on the subject of dengue fever, which was published under the title "Relationship between Knowledge, Attitudes, and Family Experience of Dengue Fever with its Prevention." The findings indicated that the majority of respondents had encountered dengue hemorrhagic fever (61.2%) and exhibited a less than optimal attitude towards dengue fever prevention (73.3%). Furthermore, the study revealed that more than half of the respondents exhibited suboptimal practices in terms of mosquito nest eradication (56%) and demonstrated limited knowledge (54.3%) (Tuba et al., 2023). The study identified variables associated with the practice of mosquito nest eradication, including experience with dengue fever (p=0.003, POR=3.4), knowledge (p=0.007, POR=3.0), and attitude (p=0.013, POR=3.1). The findings underscore the potential for enhancing the knowledge and attitudes of housewives to promote effective dengue prevention, with the experience of illness serving as a catalyst for behavioral change, leading to the eradication of mosquito nests.

Attitude is defined as a predisposition to perform or refrain from performing a specific behavior. Attitudes are comprised of a cognitive component, which consists of ideas that are generally related to speech and are learned, while behavior tends to influence appropriate or inappropriate responses. This cognitive

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process is influenced by direct experience, encompassing positive and negative encounters. Attitude is defined as an individual's awareness of events in the environment, as well as the attitude of the community towards dengue prevention behavior. Attitudes, therefore, facilitate the understanding of the awareness process that determines the actions individuals take in their social lives (Rastika Dewi et al., 2022).

The researcher's assumption is that attitude is in accordance with previous behavior. People have a positive or negative attitude towards an object formed through observation of their own behavior. This attitude, in turn, exerts a significant influence on an individual's behavior. It can be posited that respondents exhibiting a poor attitude are less likely to engage in optimal dengue prevention measures compared to those with a favorable attitude.

Attitude is influenced by socio-demographic factors and public awareness. Research findings indicate significant variations in public knowledge regarding dengue fever, including its etiology, symptoms, and the role of the Aedes mosquito vector (Narendran et al., 2024). Education level and socio-economic status have been demonstrated to influence comprehension of the significance of prevention measures, such as the elimination of mosquito breeding sites . A significant proportion of the study's participants exhibited limited knowledge regarding the symptoms and behavior of the vector, with only 26.1% being aware of the causative agent and 22.8% recognizing key symptoms such as high fever, joint pain, and rash.

Relationship between Behavior and Dengue Fever Incidence

The results of the survey, which included 55 respondents, indicated that 11 respondents (20.0%) exhibited positive community behavior and also experienced DHF incidents, while 9 respondents (16.4%) exhibited positive behavior but did not experience DHF incidents. Conversely, negative community behavior and DHF incidence were observed in 28 respondents (50.9%), while negative community behavior and non-DHF incidence were noted in 7 respondents (212.7%).

The statistical analysis, employing the Chi-Square test, yielded a P-value of 0.002, which is less than 0.05. This finding suggests a relationship between community behavior and the incidence of dengue fever (DHF) in the Bebesen Primary Health Care working area in Bebesen District, Central Aceh Regency, in 2024.

This finding aligns with the research conducted by Retang et al. (2021), which was titled "Behavioral Relationship with the Incidence of Dengue Fever Disease in the Bakunase Primary Health Care Working Area, Kupang City." The study's findings indicate the presence of a correlation between specific health behaviors and the occurrence of dengue fever (DHF) in the Bakunase Primary Health Care in 2020, including cleaning water reservoirs, closing water reservoirs, draining water reservoirs, burying used items, disposing of garbage properly, hanging clothes, and wearing anti-mosquito lotion. The findings underscore the critical role of health behaviors and daily habits in the transmission and spread of DHF (Retang et al., 2021). This underscores the need for health workers to prioritize these behaviors and to explore further research in this area.

Behavior is defined as a set of actions that arise from awareness and habits, making it impossible to separate one behavior from another. This implies that behaviors are intricately intertwined, both reinforcing and being reinforced by broader social dynamics. This complexity is further accentuated by the notion that behavior constitutes the comprehensive entity of an individual's awareness and actions, a multifaceted phenomenon influenced by a myriad of intrinsic and extrinsic factors (Notoatmodjo, 2012).

The researcher's hypothesis is that the majority of community respondents already exhibit sufficient DHF prevention behaviors, attributable to their conducive environmental conditions. These conditions encompass the adoption of behaviors associated with healthy homes, such as regular cleaning, ensuring proper ventilation, lighting, and the removal of mosquito nests, which serve as the primary vector for DHF. Conversely, individuals exhibiting suboptimal behaviors are primarily attributed to a deficiency in comprehension of clean and healthy living practices (PHBS), particularly with regard to environmental hygiene. This is partly due to a lack of knowledge and socialization about the proper methods for implementing these efforts.

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Other research suggests that poverty can also be a behavioral factor that is often a major barrier to the adoption of preventive behaviors. Many households lack the financial resources to purchase water container covers or the time to clean their surroundings. Consequently, other pressing needs frequently supersede dengue prevention efforts (Trostle et al., 2024).

The Relationship between Water Storage and the Incidence of Dengue Fever (DHF)

The results of the study, which included 55 respondents, revealed that 5 respondents (9.1%) experienced dengue incidence in qualified water reservoirs, while 10 respondents (18.1%) did not experience dengue incidence in these reservoirs. Conversely, 32 respondents (58.1%) experienced dengue incidence in water reservoirs that did not meet the requirements, and 8 respondents (14.7%) did not experience dengue incidence in these reservoirs.

The findings of the statistical analysis, which employed the Chi-Square test, revealed a p-value of 0.001 < 0.05. This outcome suggests a correlation between water reservoirs and the occurrence of dengue fever (DHF) in the Bebesen Primary Health Care operational area, situated in Bebesen District, Central Aceh Regency, during the year 2024.

This study aligns with the findings of Lee's research conducted in Sungai Jawi Village in 2014, which established a correlation between the closure of water reservoirs and the occurrence of DHF, with a p-value of 0.000. It is imperative to emphasize that the closure of water reservoirs should be implemented only after the complete utilization of the reservoir's contents, and the reservoir should be securely sealed to ensure the containment of water.

The aedes aegypti mosquito's breeding cycle necessitates stagnant water or water reservoirs due to its inability to reproduce in the absence of water. However, the eggs of the aedes aegypti mosquito demonstrate resilience in dry environments, with the ability to persist for up to one month. Subsequent to becoming larvae, the development of adult mosquitoes necessitates sufficient water conditions, underscoring the importance of addressing stagnant water sources to prevent the proliferation of the aedes aegypti mosquito population (Anggraini et al., 2021).

The color and type of water reservoir influence the presence or absence of mosquito larvae within it. Water reservoirs with darker colors harbor a greater number of aedes aegypti mosquito larvae than light-colored reservoirs. This phenomenon can be attributed to the ability of the mosquito's black body with white stripes to render it invisible to the naked eye (Sulistyawati, 2023).

Furthermore, plastic water reservoirs have been observed to contain a higher prevalence of aedes aegypti mosquito larvae, and the color of the reservoir has been found to influence the preference of the aedes aegypti mosquito for laying its eggs. The aedes aegypti mosquito exhibits a propensity for environments that are both open and dark (Kinansi & Pujiyanti, 2020).

Uncleaned water reservoirs thus become conducive to the proliferation of aedes aegypti mosquitoes. The practice of maintaining bathtub cleanliness can serve as a preventative measure against the occurrence of dengue hemorrhagic fever (DHF). Uncleaned water reservoirs have been found to harbor a 4-fold elevated risk of DHF (Handayani & Cholik, 2019).

The presence of uncovered water reservoirs, inadequate maintenance practices, and lack of direct ground connection significantly elevate the risk of dengue hemorrhagic fever (DHF) incidence. Aedes aegypti mosquitoes have been observed to proliferate in clean, stagnant water sources, such as open containers, old tires, cans, or plastics that store water. Research has demonstrated that homes with uncovered water reservoirs exhibit a 3.3 times higher risk of DHF compared to homes with covered water reservoirs. These environments provide optimal conditions for mosquitoes to lay eggs and breed, particularly if they are not maintained through regular cleaning (Zulfikar et al., 2023). Consequently, effective prevention measures should include covering water containers and cleaning them at least once a week to disrupt the life cycle of mosquitoes and reduce the risk of dengue transmission within the community.

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Based on the results of the study of 55 respondents who had a water dispenser and experienced DHF incidence as many as 5 respondents (9.1%), and those who had a water dispenser did not experience DHF incidence as many as 13 respondents (23.7%), while those who did not have a water dispenser and experienced DHF incidence were 32 respondents (58.1%), and those who did not have a water dispenser did not experience DHF incidence as many as 5 respondents (9.1%).

Based on the results of statistical analysis using Chi-Square test, the P value = 0.002 <0.05 indicates that there is a relationship between water dispenser and dengue fever (DHF) incidence in the working area of Bebesen Primary Health Care, Bebesen District, Central Aceh Regency in 2024.

The findings of this study are consistent with and corroborated by Arsin's theory (2013) that the prevention of DHF can be achieved through the control of mosquito vectors. This involves the regular draining of bathtubs and water reservoirs, ensuring the tight closure of water reservoirs, the burial of used cans, and the maintenance of a clean home environment. The findings of this study are consistent with those of a previous study (Handayani & Cholik, 2019), where a p value of 0.005 was obtained, indicating that there is a significant relationship between the frequency of container draining and the incidence of DHF. It is therefore recommended that container draining be performed regularly and routinely at least once a week to ensure the absence of mosquito larvae. The collective implementation of this practice by the community is crucial for the effective suppression of Aedes aegypti populations, thereby mitigating the risk of dengue transmission.

The monitoring of mosquito larvae has been identified as an effective strategy for the prevention of dengue hemorrhagic fever. However, the focus of most individuals on the identification of mosquito larvae in bathroom tubs and used cans has led to the neglect of other potential habitats, including dispensers and refrigerators (Ferede et al., 2018).

Contrary to popular belief, the aedes aegypti mosquito, the primary vector of the dengue virus, does not exclusively seek out habitats in close proximity to human dwellings, such as bathrooms and trash cans. These mosquitoes have been observed to establish themselves in a variety of unexpected locations, including the reservoir of a dispenser. It is imperative to note that stagnant water spilled from the dispenser constitutes the most hazardous condition. Individuals who continue to utilize dispensers are advised to undertake regular maintenance by cleaning the reservoir. This practice is crucial to prevent the creation of mosquito breeding grounds. Another frequently overlooked potential breeding site is the clothes hanger. It is also noteworthy that within residential areas, there are instances of former ponds. This environment is conducive to mosquito egg-laying, underscoring the necessity for effective mosquito management strategies. The aedes aegypti mosquito exhibits a preference for clean environments or puddles. This inclination is particularly pronounced during weather conditions conducive to their proliferation. The interplay between nocturnal precipitation and diurnal warmth has been demonstrated to accelerate the development of these pests (Newman et al., 2024).

Another study also mentioned that a factor related to water dispensers that affects the incidence of dengue hemorrhagic fever (DHF) is the condition of stagnant water in dispensers that is rarely noticed by users (Daswito & Samosir, 2021). In numerous instances, water dispensers are designated as controllable sites; however, they are frequently found to harbor Aedes mosquito larvae, a consequence of inadequate monitoring and routine cleaning. This phenomenon can be attributed to the fact that stagnant water in dispensers provides an optimal environment for mosquitoes to lay eggs, particularly if users do not regularly drain and clean their water containers.

Conclusion

This study was conducted from August 4 to August 19, 2024, with a sample size of 55 respondents. The objective of the study was to ascertain the relationship between attitudes, community behavior, and water dispensers with the incidence of dengue fever (DHF) in the working area of the Bebesen Primary Health

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Care, Bebesen District, Central Aceh Regency in 2024. The specific objectives of the study were as follows: The findings of this study indicate a relationship between community attitudes and the incidence of dengue fever in the work area of the Bebesen Health Center, Bebesen District, Central Aceh Regency in 2024, with a p-value of 0. 003 <0.05.

a. There is a relationship between community behavior and the incidence of dengue fever in the working area of Bebesen Primary Health Care, Bebesen Subdistrict, Central Aceh Regency in 2024 with Pvalue = 0.002 <0.05.

b. There is a relationship between water dispensers and the incidence of dengue fever in the work area of Bebesen Primary Health Care, Bebesen Subdistrict, Central Aceh Regency in 2024 with Pvalue = 0.002 <0.05.

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