

# Analysis of Household Environmental Sanitation with Dengue Fever Incidents in Kemu Village, Working Area of Pulau Beringin Public Health Center, South OKU Regency

Marza Nopriandi<sup>1</sup>, Handry Darussalam, M.Sc<sup>2</sup>, Pratiwi Ratih Halimatus Sya'diah<sup>3</sup>

<sup>1,2</sup>Al-Ma'arif Health College, Baturaja

<sup>3</sup>AAKM

Email address: handrydmisc10@gmail.com

**Abstract**—Dengue Hemorrhagic Fever (DHF) is a growing global public health problem, with incidences surging dramatically in recent decades, driven by climate and environmental factors. In Indonesia, DHF remains a serious threat, and household sanitation is believed to play a significant role in its transmission. Based on data from the UPTD Pulau Beringin Community Health Center (Puskesmas) in South OKU Regency, the incidence of dengue fever (DHF) is the highest compared to other community health centers. In 2022, there were 15 cases of DHF, while in 2023, this number increased drastically with 45 cases reported, and in 2024, there was an increase of 39 cases. The research design was quantitative with approach using cross sectional. There were 88 participants in the study sample, which included both DHF patients and non-DHF patients at the UPTD Pulau Beringin Health Center in South OKU Regency (Purposive Sampling). Analysis data use chi square test at 95% confidence level. Results This study examines the relationship between ventilation and incidents DBD in Kemu Village, Beringin Island Health Center Work Area, South OKU Regency. with p-value 0.00 1. The Relationship between Bathroom Conditions and Dengue Fever Incidents in Kemu Village, Beringin Island Health Center Work Area, South OKU Regency p-value 0.00 5. The Relationship Between Home Cleanliness and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency with p-value 0.0 19. The Relationship Between Humidity and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency with p-value 0.00 0. Conclusion from study This namely There is a Relationship Between Ventilation and Incidents DBD in Kemu Village, the Working Area of the Beringin Island Health Center, South OKU Regency, there is a Relationship Between Bathroom Conditions and Incidents of Dengue Fever in Kemu Village, the Working Area of the Beringin Island Health Center, South OKU Regency, there is a Relationship Between House Cleanliness ... The Relationship Between Humidity and Dengue Fever Incidence in Kemu Village, Beringin Island Health Center Working Area, South OKU Regency.

**Keywords**— Dengue Fever, Ventilation, Bathroom Condition, House Cleanliness, Humidity.

## I. INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is a viral disease transmitted through the bite of a female mosquito of the *Aedes aegypti species*. This disease is characterized by sudden fever, headache, pain behind the eyes, nausea, and bleeding manifestations such as nosebleeds or bleeding gums, as well as the appearance of a reddish rash on the surface of the sufferer's body. The WHO states that DHF is widespread throughout the world, especially in tropical and warm climates. This disease is a global concern because dengue virus infection causes not only illness but also significant mortality in various countries. (Vanessa Fadlillah Azzahra et al., 2025) .

There is a strong link between home sanitation and dengue fever. Poor sanitation can create breeding grounds for the *Aedes aegypti mosquito*, the primary vector of dengue fever. Factors such as improper waste management, which leads to stagnant water, open water reservoirs, and poor home hygiene can create ideal habitats for mosquitoes to lay eggs and breed. Houses located close to each other can also facilitate mosquito migration from one house to another, increasing the risk of dengue transmission if one of the residents is infected. (Shella

Agustin & Wuri Ratna Hidayani, 2025) .

The Health Profile of South Sumatra Province for DHF has always increased from 2023-2024. In 2023 the number of DHF cases was 2,754 ( 23.83 % ) , in 2024 the number of DHF cases was 6,263 (39.02%), with an increase of 15.19% from 2023. Meanwhile , in South Ogan Komering Ulu Regency, DHF is the 3rd most common disease in the South OKU Regency Health Office. In 2023 the number of cases was 134 (20.55%) cases and data on Dengue Hemorrhagic Fever (DHF) cases in South OKU increased. In 2024, 152 (41.20%) cases of DHF were recorded in South OKU, there were 2 deaths due to DHF in South OKU in 2024 (South Sumatra Provincial Health Office, 2025) .

According to data from the Beringin Island Community Health Center (UPTD) in South OKU Regency, the number of dengue fever cases is the highest compared to other community health centers. In 2022, there were 15 cases, while in 2023, there was a drastic increase, with 45 cases reported, and in 2024, there was an increase of 39 cases (Dinkes OKUS, 2025) .

Based on the data description above, the researcher is interested in researching " Analysis of Home Environmental Sanitation with Dengue Fever Incidence in Kemu Village,

Beringin Island Health Center Work Area, South OKU Regency".

II. RESEARCH METHODS

The research design used in this study is quantitative with approach using cross sectional Darussalam et al., ( 2019) . Sample The research subjects were DHF sufferers and non-DHF sufferers in the working area of the Pulau Beringin Health Center, South OKU Regency, totaling 88 respondents (Purposive Sampling). Analysis data Which used in the research is a *chi square* test at a 95% confidence level.

III. RESEARCH RESULT

1. Frequency Distribution of Respondents' Dengue Fever Status

TABLE 1. Frequency Distribution of Respondents' Dengue Fever Status

No	Dengue Fever Status	Frequency (n)	Percentage (%)
1	Dengue Fever	45	51.1
2	No dengue fever	43	48.9
	<b>Total</b>	<b>88</b>	<b>100.0</b>

Table 1 shows that of the 88 respondents, 45 people (51.1%) had DHF status, while 43 people (48.9%) did not suffer from DHF.

2. Distribution of Respondents' Home Ventilation Frequency

TABLE 2. Distribution of Respondents' Home Ventilation Frequency

No	Home Ventilation	Frequency (n)	Percentage (%)
1	Good	45	51.1
2	Not good	43	48.9
	<b>Total</b>	<b>88</b>	<b>100.0</b>

Based on Table 2, the results show that 45 houses (51.1%) have good ventilation, and 43 houses (48.9%) have poor ventilation.

3. Frequency Distribution of Respondents' Bathroom Conditions

Table 3. Frequency Distribution of Respondents' Bathroom Conditions

No	Bathroom Condition	Frequency (n)	Percentage (%)
1	Good	46	52.3
2	Not good	42	47.7
	<b>Total</b>	<b>88</b>	<b>100.0</b>

Table 3 shows the results of the study. The respondents had good bathroom conditions, namely 46 people (52.3 %), and 42 respondents (47.7%) had poor bathroom conditions.

4. Frequency Distribution of Respondents' Home Cleanliness

TABLE 4. Frequency Distribution of Respondents' Home Cleanliness

No	House Cleaning	Frequency (n)	Percentage (%)
1	Good	42	47.7
2	Not good	46	52.3
	<b>Total</b>	<b>88</b>	<b>100</b>

Table 4 shows the results of the study, namely 46 respondents (52.3%) had poor home hygiene, while 42 respondents (47.7%) had good home hygiene.

5. Frequency Distribution of Humidity in Respondents' Homes

TABLE 5. Frequency Distribution of Humidity in Respondents' Homes

No	Home Humidity	Frequency (n)	Percentage (%)
1	Qualify	39	44.3
2	Not eligible	49	55.7
	<b>Total</b>	<b>88</b>	<b>100</b>

Based on Table 5, the research results show that the humidity level does not meet the requirements, namely 49 houses (55.7 %), and the humidity level that meets the requirements is 39 houses (44.3%).

6. The Relationship Between Ventilation and Incidents DBD in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

TABLE 6. The Relationship Between Ventilation and Incidents DBD in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

No	Home Ventilation	Dengue Fever		Total	p-value
		Yes	No		
1	<b>Not good</b>	30 (69.8 %)	13 (30.2 %)	43 (100%)	<b>0.001</b>
2	<b>Good</b>	15 (33.3 %)	30 (66.7%)	45 (100%)	
	<b>Total</b>	<b>45</b>	<b>43</b>	<b>88</b>	

In table 6, the relationship between ventilation and incidents DBD in Kemu Village, Beringin Island Health Center Work Area, South OKU Regency, the results of the study show that the proportion of respondents with poor home ventilation who suffered from dengue fever was 69.8%, which is greater than the proportion of respondents with good home ventilation who suffered from dengue fever, namely 33.3%.

*chi-square* statistical test, a *p-value* of 0.001 ( $p < 0.05$ ) was obtained. This means there is a significant relationship between ventilation and the incidence of DBD

7. The Relationship Between Bathroom Conditions and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

TABLE 7. The Relationship Between Bathroom Conditions and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

No	Bathroom Condition	Dengue Fever		Total	p-value
		Yes	No		
1	<b>Not good</b>	28 (66.7 %)	14 (33.3 %)	42 (100%)	<b>0.005</b>
2	<b>Good</b>	17 (37.0 %)	29 (63.0 %)	46 (100%)	
	<b>Total</b>	<b>45</b>	<b>43</b>	<b>88</b>	

In table 7 The Relationship between Bathroom Conditions and Dengue Fever Incidents in Kemu Village, Beringin Island Health Center Work Area, South OKU Regency, the results of the study showed that the proportion of respondents with poor bathroom conditions who suffered from dengue fever was 66.7%, which was greater than the proportion of respondents with good bathroom conditions who suffered from dengue fever, which was 37%.

Based on the *Chi Square* statistical test, the *p value* was obtained. 0.005 ( $p < 0.05$ ). This means there is a significant relationship between bathroom conditions and dengue fever incidence.

8. *The Relationship Between Home Cleanliness and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency*

TABLE 8. The Relationship Between Home Cleanliness and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

No	House Cleaning	Dengue Fever		Total	p-value
		Yes	No		
1	Not good	29 (63.0 %)	17 (37.0 %)	46 (100%)	0.019
2	Good	16 (38.1 %)	26 (61.9 %)	42 (100%)	
<b>Total</b>		<b>45</b>	<b>43</b>	<b>88</b>	

In table 8, the relationship between home cleanliness and dengue fever incidents in Kemu Village, Beringin Island Health Center Work Area, South OKU Regency, the results of the study showed that the proportion of respondents with poor home cleanliness who suffered from dengue fever was 63.0%, which was greater than the proportion of respondents with good home cleanliness who suffered from dengue fever, which was 38.1%.

Chi Square statistical test, the p value obtained was 0.019 ( $p < 0.05$ ). Thus, statistically there is a significant relationship. Relationship between House Cleanliness and Dengue Fever Incidence

9. *The Relationship Between Humidity and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency*

TABLE 9. The Relationship Between Humidity and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency

No	Number of Families	Dengue Fever		Total	p-value
		Yes	No		
1	Not eligible	41 (83.67 %)	8 (16.32 %)	49 (100%)	0,000
2	Qualify	4 ( 3.56 %)	35 (89.74 %)	39 (100%)	
<b>Total</b>		<b>45</b>	<b>43</b>	<b>88</b>	

Based on Table 9 , the proportion of respondents with a large number of families who suffered from dengue fever was 82.98%. This is greater than the proportion of respondents with a small number of families who suffered from dengue fever, which was 32.97%.

Chi Square statistical test, the p value of 0.000 was obtained, which is smaller than  $\alpha 0.05$ , meaning that there is a significant relationship between the number of families and the incidence of dengue fever.

IV. DISCUSSION

1. *The Relationship Between Ventilation and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency*

The results of this study showed that the proportion of respondents with poor home ventilation who suffered from dengue fever was 69.8 %, which was greater than the proportion of respondents with good home ventilation who suffered from dengue fever, namely 33.3%. The results of the Chi-Square statistical test produced a p-value of 0.001. This means that there is a significant relationship between

ventilation and incidents DBD in Kemu Village, the working area of the Pulau Beringin Health Center, OKU Regency.

The results of this study are in accordance with the research of Saleh, Ikhtiar and Syam, 2024; Zhang *et al.* , 2025 There is a significant relationship between ventilation and incidence DBD seen from the p-value = 0.016. Strengthened by Aisyah, 2025 entitled Analysis of Factors Related to the Incidence of Dengue Fever Thesis Analysis of Factors Related to the Incidence of Dengue Hemorrhagic Fever ( DHF ) in the Work Area , states that there is a significant relationship between ventilation and the incidence DBD. Also supported by research conducted by Ashari *et al.* , 2023 in the journal *Holistic Health* , entitled The Presence of Aedes Aegypti Mosquito Larvae and the Incidence of Dengue Hemorrhagic Fever (DHF) stated there was significant relationship between ventilation and incidents DBD.

The relationship between home ventilation and dengue fever incidence can be better understood through the theoretical framework discussed in the literature. Various books on sanitation and environmental health emphasize that the physical environment of the home, including ventilation, is a major determinant of public health (Agnesia *et al.*, 2023) . Poor ventilation, often resulting from inadequate home design or a lack of awareness among homeowners, directly contributes to unhealthy environmental conditions (Robinson, 2024) . The book " *Environmental Health and Vector Control* " (Johnson, 2023) explains that good ventilation can reduce temperature and humidity, making it less suitable for mosquitoes. The book " *Public Health in Practice: Dengue Prevention* " (Williams, 2024) emphasizes the need for environment-based interventions. " *Housing and Health: Guidelines for Living* " (World Health Organization, 2023) states that ventilation is a key component in a healthy home. Finally, " *Epidemiology of Dengue Hemorrhagic Fever* " (Thompson, 2025) linking poor ventilation to increased dengue fever cases.

2. *The Relationship Between Bathroom Conditions and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency*

From the results of the study, the proportion of respondents whose bathroom conditions were less than good who suffered from dengue fever was 66.7%, greater than the proportion of respondents whose bathroom conditions were good who suffered from dengue fever (37%). The results of the Chi-Square test showed a p-value = 0.005. This means that there is a significant relationship between bathroom conditions and dengue fever incidents in Kemu Village, the working area of the Pulau Beringin Health Center, South OKU Regency.

The results of this study are in line with research conducted by Rahmawati, in the *Journal of Geovisualization and Spatial Analysis* Jamil and Hidayah, 2025 , entitled " A Spatial Analysis on Heterogeneous Determinants of Dengue Fever Cases in Indonesia . " The results of her research are significant relationship between bathroom conditions and dengue fever incidence. The results of this study are also the same as Salim *et al.* , 2024; Rahmawati, Jamil and Hidayah,

2025 who stated that there is significant relationship between bathroom conditions and dengue fever incidents . Strengthened by (Nurseni et al., 2020) in the Environmental Health Journal entitled The Relationship between Mosquito Nest Eradication Behavior (P SN) and the Incidence of Dengue Hemorrhagic Fever (D DB) in the Community in the Work Area of the Wua-Wua Health Center, Kendari City, stated that the results were significant relationship between bathroom conditions and dengue fever incidents.

A book discussing environmental sanitation and the epidemiology of dengue fever provides a theoretical framework for understanding why bathroom conditions are such a significant risk factor. The book "Risk Factors Causing Dengue Hemorrhagic Fever (DHF)" highlights various determinants that influence the spread of the disease, including aspects of the physical environment (Ivan Elisabeth Purba; Adiansyah; Eddy Surya Kaban, 2023) . This bathroom issue is specifically related to the concept of Clean and Healthy Living Behavior (PHBS) and the 3M Plus program (Draining, Covering, Recycling) launched by the Ministry of Health of the Republic of Indonesia (Kemenkes, 2023) . Poor bathroom conditions are a reflection of people's behavior that does not consistently implement PHBS, such as not draining the bathtub regularly or not closing water reservoirs tightly (Ester, 2024) .

### 3. *The Relationship Between Home Cleanliness and Dengue Fever Incidence in Kemu Village, Beringin Island Community Health Center Work Area, South OKU Regency*

The results of the bivariate analysis showed that the proportion of respondents who did not meet the requirements and suffered from dengue fever was 89.74%, greater than the proportion of respondents who met the requirements and suffered from dengue fever 3.56%. The results of the Chi-Square test showed a  $p$ -value = 0.000. This proves that there is a very significant relationship between humidity and the incidence of dengue fever in Kemu Village, the working area of the Beringin Island Health Center, South OKU Regency.

The results of this study are in line with research conducted by (Angelita Oktavia Permadi et al., 2024) in the *International Assulta Of Research And Engagement (IARE) journal* by title *Community Assistance Through Environmental Maintenance To Overcome Dengue Disease In Waterlogged-Prone Environments Season* , which shows that there is a very significant relationship between Humidity and the Incidence of Dengue Fever . The results of this study are also the same as the study (Cortés et al., 2025) entitled *Relationship Between Environmental Sanitation and Dengue Hemorrhagic Fever Incidents* stated that there is a significant relationship between humidity and the incidence of dengue fever . (Fiqi Aprianto, Ramadhan Tosepu, La Ode Liaumin Azim, La Ode Muhammad Sety Irma, 2025) in the *Kendari Public Health Journal (JKKM)* entitled *The Relationship Between Environmental Sanitation Conditions and Family Behavior on the Incidence of Dengue Hemorrhagic Fever in the Lepo-Lepo Health Center Work Area of Kendari City in 2024*, states that there is a significant relationship between

Humidity and the Incidence of DHF.

The issue of household hygiene is closely related to the concept of housing sanitation and infectious disease prevention discussed in the literature (Agnesia et al., 2023) . The book "Dengue Hemorrhagic Fever: Determinants & Prevention" outlines that environmental factors, including poor sanitation, are one of the main determinants of dengue fever incidence. The issue of household hygiene can also be viewed from a sociological and ecological perspective, where the increase in dengue fever cases is often influenced by population growth, unplanned urbanization, and the lack of adequate public health infrastructure (Cromar & Cromar, 2021) . Therefore, poor household hygiene is not only an individual problem, but also a reflection of broader social and environmental challenges. Effective prevention programs must include collaboration from various stakeholders, as emphasized in the literature on disease prevention (Ester, 2024). This is in line with the Indonesian government's efforts through the PSN 3M Plus program (Draining, Covering, Recycling, and other actions), which invites the public to take an active role in maintaining environmental cleanliness as a fundamental step in eradicating mosquito nests (Ministry of Health, 2023) .

### 4. *The Relationship Between the Number of Families and the Incidence of Dengue Fever at the Muara Dua Community Health Center UPTD, OKUS Regency*

The results of the study showed that the proportion of respondents' house humidity who did not meet the requirements and suffered from dengue fever was 89.74%, which was greater than the proportion of respondents' house humidity who met the requirements and suffered from dengue fever, which was 3.56%. The results of the Chi-Square test showed a  $p$ -value = 0.000. This proves that there is a very significant relationship between humidity and the incidence of dengue fever in Kemu Village, the working area of the Beringin Island Health Center, South OKU Regency.

The results of this study are in line with research (Rahayuningtyas et al., 2025) entitled *Dengue Fever Case Prediction Model Based on Climate Change: Cohort Study with NASA Data in Bantul Regency*, in the *Indonesian Environmental Health Journal* , the results of the study There is a very significant relationship between Humidity and Dengue Fever Incidence . Strengthened by research (Wheaton et al., 2025) in the journal *Frontiers In Epidemiology* entitled *Uncovering The Surge: Dengue Fever On The Rise* , which states that there is a significant relationship between humidity and dengue fever incidence . And supported by (WHO, 2025) , the World Health Organization also notes that climate change, which leads to increased temperature and humidity, is one of the main driving factors in the increase in dengue fever cases globally.

## V. CONCLUSION AND SUGGESTIONS

Based on the results of the research that has been carried out, it can be concluded that:

1. There is a relationship between ventilation and the incidence of dengue fever in Kemu Village, the working

- area of the Pulau Beringin Health Center, South OKU Regency, with a *p-value* of 0.001.
- There is a relationship between bathroom conditions and the incidence of dengue fever in Kemu Village, the working area of the Pulau Beringin Health Center, South OKU Regency, with a *p-value* of 0.005.
  - There is a relationship between house cleanliness and the incidence of dengue fever in Kemu Village, the working area of the Pulau Beringin Health Center, South OKU Regency, with a *p-value* of 0.019.
  - There is a relationship between humidity and the incidence of dengue fever in Kemu Village, the working area of the Pulau Beringin Health Center, South OKU Regency, with a *p-value* of 0.000.

Based on results study Which has done so suggestions as following:

- Encourage home design improvements that allow for better air circulation, such as ensuring adequate ventilation areas meet health standards.
- Carrying out a mosquito nest eradication program (PSN), maintaining bathroom cleanliness by carrying out the 3M Plus program,
- Conducting education that focuses on the importance of installing wire mesh on ventilation and windows in houses, conducting regular health education programs for the community about bathroom conditions regarding dengue fever incidents.
- Education should be expanded to not only focus on the bathtub, but also on waste management and used goods.
- Strong outreach and education to the public about practical ways to reduce humidity in the home, such as ensuring good air circulation, not allowing water to pool, and drying clothes outside the home.

REFERENCES

- Agnesia, Y., Sari, SW, & Ramadhani, DW (2023). *Dengue Hemorrhagic Fever (DHF): Determinants & Prevention* . NEM Publisher.
- Aisyah, P. (2025). *Analysis Of Factors Related To The Incident Of Dengue Fever Thesis Analysis Of Factors Related To The Incident Of Dengue Hemorrhagic Fever (Dhf) In The Work Area* .
- Angelita Oktavia Permadi, Wardoyo, AA, Putri, IWS, Balkis, NN, & Puspitasari, BL (2024). Community Assistance through Environmental Maintenance to Overcome Dengue Disease in Waterlogged Environments Season. *International Association of Research and Engagement (IARE)* , 2 (2), 193–202. <https://doi.org/10.70610/iare.v2i2.501>
- Ashari, I, Kurrohman, T., Aba, M., Surjati, E., & Efendi, E. (2023). The presence of *Aedes aegypti* mosquito larvae and the incidence of dengue hemorrhagic fever (DHF). *Holistic Health Journal* , 17 (1), 23–29. <https://doi.org/10.33024/hjk.v17i1.9257>
- Cortés, R.R., Thanjangreed, W., & Chertenko, T. (2025). *Relationship Between Environmental Sanitation and Dengue Hemorrhagic Fever Incidents* . 2 (1), 43–51. <https://doi.org/10.37251/jhiec.v2i1.1736>
- Cromar, L., & Cromar, K. (2021). *Dengue Fever and Climate Change* (pp. 273–310). [https://doi.org/10.1007/978-3-030-54746-2\\_13](https://doi.org/10.1007/978-3-030-54746-2_13)
- Darussalam, H., Hidayat, A., & Agustina, F. (2019). *Effectiveness of Tahongai (Kleinhosvia Hospita L.) Leaf Extract in Killing Larvae*

*Anopheles sp.* 3 (1), 45–48.

- OKUS Health Office. (2025). *Health Profile of South OKU Regency* .
- South Sumatra Provincial Health Office. (2025). *Profile of South Sumatra Provincial Health Office* .
- Ester. (2024). *Health Promotion Textbook* .
- Fiqi Aprianto, Ramadhan Tosepu, La Ode Liaumin Azim, La Ode Muhammad Sety Irma, JR (2025). The Relationship Between Environmental Sanitation Conditions and Family Behavior and the Incidence of Dengue Hemorrhagic Fever in the Working Area of Lepo-Lepo Community Health Center, Kendari City in 2024. *Kendari Journal of Public Health (JKKM)* , 4 (2).
- Ivan Elisabeth Purba; Adiansyah; Eddy Surya Kaban. (2023). *Risk Factors Causing Dengue Hemorrhagic Fever (DHF)* . UMSU Press.
- Johnson, R. (2023). *Environmental Health and Vector Control*.
- Ministry of Health. (2023). *Eradicating Mosquito Nests with 3M Plus* . Ministry of Health of the Republic of Indonesia.
- Nurseni, Tosepu, R., & Nurmaladewi. (2020). The Relationship between Mosquito Nest Eradication (PSN) Behavior and the Incidence of Dengue Hemorrhagic Fever (DHF) in the Community in the Work Area of the Wua-Wua Health Center, Kendari City. *Journal of Environmental Health* , 1 (1), 26–35.
- Rahayuningtyas, D., Pascawati, NA, Alfanan, A., & Dharmawan, R. (2025). Dengue Fever Case Prediction Model Based on Climate Change: Cohort Study with NASA Data in Bantul Regency. *Indonesian Journal of Environmental Health* , 24 (1), 84–94.
- Rahmawati, Y., Jamil, IR, & Hidayah, I. (2025). A Spatial Analysis on Heterogeneous Determinants of Dengue Fever Cases in Indonesia. *Journal of Geovisualization and Spatial Analysis* . <https://doi.org/10.1007/s41651-024-00212-1>
- Robinson, D. (2024). *Handbook of Vector Ecology* . McGraw-Hill.
- Saleh, MF, Ikhtiar, M., & Syam, N. (2024). The Relationship Between Home Environmental Conditions and Tuberculosis Incidence in the Segeri Community Health Center Work Area, Pangkep Regency. *Window of Public Health Journal* , 5 (6), 923–933.
- Salim, K., Álvarez, F., Chan-Golston, A., Naughton, C., Cisneros, R., & Joyce, A. (2024). Socioeconomic and environmental factors associated with dengue fever incidence in Guatemala: Rising temperatures increase dengue risk. *PLOS ONE* , 19 . <https://doi.org/10.1371/journal.pone.0308271>
- Shella Agustin, & Wuri Ratna Hidayani. (2025). Risk Factors for Dengue Hemorrhagic Fever in the Pangandaran Community Health Center Work Area. *Bulletin of Midwifery and Nursing (BIKK)* , 4 (01), 34–45. <https://doi.org/10.56741/bikk.v4i01.843>
- Thompson, E. (2025). *Epidemiology of Dengue Hemorrhagic Fever* . Baltimore: Johns Hopkins University Press.
- Vanesya Fadlillah Azzahra, Nurmalia Yusri, Siti Hartina Hamid, Inriyani Sapsuha, Fatah, S., Irma Renmaur, Riswan Buton, & Tutik Lestari. (2025). Inspection Of Mosquito Larvae-Free Environment In Sangaji Village RT8-RT10. *Indonesian Journal of Community Empowerment* , 2 (3), 148–159.
- Wheaton, N., Wong, C., Gasmelseed, H., Zinabu, S., Sood, A., Rajendran, R., Shead, M., Sanders, A., Norton, T., & Michael, M. (2025). Uncovering the surge: dengue fever on the rise. *Frontiers in Epidemiology* , 5 (February), 1–9. <https://doi.org/10.3389/feqid.2025.1478425>
- WHO. (2025). *Dengue* . World Health Organization.
- Williams, H. (2024). *Public Health in Practice: Dengue Prevention* . Sage Publications.
- World Health Organization. (2023). *Vector Control in Urban Areas*. WHO Press.
- Zhang, W.-X., Zhao, T.-Y., Wang, C.-C., He, Y., Lu, H.-Z., Zhang, H.-T., Wang, L.-M., Zhang, M., Li, C.-X., & Deng, S.-Q. (2025). Assessing the global dengue burden: Incidence, mortality, and disability trends over three decades. *PLoS Neglected Tropical Diseases* , 19 (3), e0012932. <https://doi.org/10.1371/journal.pntd.0012932>