

The Relationship Between Knowledge and Attitudes Towards Dengue Fever Prevention Measures: Literature Review

Ika Hidayani^{1*}, Roza Asnel¹¹Faculty of Health & Informatics, Payung Negeri Pekanbaru Health Institute, Riau, Indonesia

ARTICLE INFO

Received: 11 December 2025

Reviewed: 12 February 2026

Accepted: 15 March 2026

Keywords:

Dengue Prevention,
Knowledge, Attitude,
Behavior, Community health

ABSTRACT

Background: Dengue fever remains a major public health challenge in tropical and subtropical countries, including Indonesia. Community-based prevention efforts, particularly the implementation of the 3M Plus strategy, are essential for controlling dengue transmission. Knowledge and attitudes are considered important determinants influencing individuals' engagement in dengue prevention practices. This review aimed to synthesize current evidence regarding the relationship between knowledge, attitudes, and dengue prevention measures.

Methods: A literature review was conducted in accordance with the PRISMA 2020 guidelines. Articles were retrieved from PubMed, ScienceDirect, Google Scholar, and OpenAlex databases using relevant keywords related to knowledge, attitudes, and dengue prevention. Eligible studies were full-text articles published between 2020 and 2025 that examined the association between knowledge, attitudes, and dengue preventive behaviors. A total of 25 studies met the inclusion criteria and were analyzed using narrative synthesis.

Results: Most studies reported a significant positive association between knowledge, attitudes, and dengue prevention practices. Individuals with higher levels of knowledge and more positive attitudes were more likely to engage in preventive measures, including environmental management, eliminating mosquito breeding sites, and participating in vector control activities. However, several studies indicated that knowledge and attitudes alone were insufficient to ensure consistent preventive behavior. Factors such as social support, resource availability, environmental conditions, and the role of health workers also influenced the adoption of dengue prevention measures.

Conclusion: Knowledge and attitudes play a significant role in promoting dengue prevention practices. Effective dengue control programs should combine health education with community empowerment and environmental support to achieve sustainable behavioral change and reduce dengue transmission.

*Corresponding author:

Ika Hidayani

Email:

ikahidayani979@gmail.com

INTRODUCTION

Dengue Hemorrhagic Fever (DHF) is an infectious disease that remains a public health challenge in many tropical and subtropical countries. The disease is caused by the dengue virus, which is transmitted by the bites of *Aedes aegypti* and *Aedes albopictus* mosquitoes. According to the World Health Organization, Dengue infection can cause clinical symptoms such as sudden



high fever, muscle and joint pain, skin rash, and severe complications in the form of bleeding that can potentially lead to death [1]. In Indonesia, this disease continues to show an upward trend. According to a report from the Indonesian Ministry of Health, as of the 43rd week of 2024, there have been 210,644 cases with 1,239 deaths, a higher number than the previous year. The high number of dengue fever cases is influenced by various factors, including population growth, unplanned urbanization, lack of vector control, and high population mobility, which can facilitate the spread of the disease [2].

In the context of health behavior, knowledge is defined as the result of a person's cognitive processes following the acquisition of information through the five senses, especially sight and hearing. Meanwhile, attitude refers to an individual's tendency to respond positively or negatively to an object or situation [2]. These two aspects are interrelated because a person's understanding of a health issue often influences their perspective and response [3].

Efforts to prevent dengue fever are generally implemented through the 3M Plus program, which involves draining and cleaning water storage containers, tightly covering water containers, properly disposing of unused items that may serve as mosquito breeding sites, and applying additional measures such as larvicides, mosquito nets, and mosquito repellents. Although this strategy has been implemented for a long time, its application in the community remains suboptimal. According to the PRECEDE-PROCEED model, health behavior is influenced by predisposing factors such as knowledge and attitudes, enabling factors, and reinforcing factors [4]. In the context of dengue prevention, knowledge and attitudes are important elements in shaping sustainable health practices [3].

Several studies have shown a relationship between knowledge and attitudes and dengue prevention measures. Previous studies have found that although some communities have sufficient knowledge of dengue, prevention practices remain inconsistent [5,6]. Similar results were found in other studies that reported significant relationships among knowledge, attitude, and action [7,8]. However, other studies in the community health centers and Rempoa reported different findings, finding no relationship between the two variables and preventive behavior, indicating a discrepancy in results or a research gap [9][10].

Although numerous primary studies have examined the associations among knowledge, attitudes, and dengue prevention practices, findings remain inconsistent across populations and settings. Some studies report strong associations, whereas others show weak or non-significant relationships. To date, no comprehensive synthesis has systematically examined these inconsistencies and explored contextual factors influencing dengue preventive behavior. Therefore, this review aims to synthesize current evidence on the relationship between knowledge, attitudes, and dengue prevention practices, and to identify factors that moderate this relationship.

METHODS

This study uses a literature review method, which involves collecting, selecting, reading, and analyzing relevant scientific articles to obtain an overview and draw conclusions from previously published research. The implementation of this literature review follows well-planned, structured steps, so the method is very different from methods that only present literature studies [11]. The literature review focused on the relationship between knowledge and attitudes towards dengue fever prevention measures, using the PRISMA 2020 approach, which was chosen for its ability to identify, evaluate, and synthesize prior research [12].

The article search was conducted in October 2025 across four scientific databases: Google Scholar, PubMed, OpenAlex, and ScienceDirect. The search process employed a combination of Medical Subject Headings (MeSH) terms and free-text keywords related to dengue prevention, knowledge, attitudes, and preventive behaviors. The primary search string used was: *("dengue fever" OR "dengue hemorrhagic fever" OR dengue) AND (knowledge OR awareness) AND (attitude OR perception) AND ("preventive behavior" OR practice OR prevention OR control)*. Additional searches were performed using database-specific modifications to optimize retrieval. Reference lists of selected articles were also manually screened to identify potentially relevant studies. All retrieved records were exported, duplicates were removed, and articles were screened against predefined inclusion and exclusion criteria, following the PRISMA 2020 guidelines. Articles were included in the analysis if they met the following criteria: published between 2020 and 2025, available in full text, written in Indonesian or English, and relevant to the research focus. Articles that did not meet these criteria were excluded from the analysis.

Articles that passed the selection were then analyzed using narrative synthesis. This method was used because the research results were heterogeneous and could not be analyzed quantitatively. Narrative synthesis compares results between studies to identify patterns, similarities, or differences in findings, including social, behavioral, and environmental factors related to the relationship between knowledge and attitudes toward dengue prevention measures [13,14].

In this study, dengue fever prevention measures are defined as behaviors and practices carried out by individuals or communities to prevent dengue transmission. These measures include the implementation of Mosquito Breeding Site Control (PSN) through the 3M Plus principle, namely draining and covering water containers, reusing or disposing of used items that have the potential to become mosquito breeding sites, and additional measures such as the use of larvicides, mosquito nets, mosquito repellent lotion, and efforts to maintain environmental cleanliness. This definition serves as the basis for reviewing and comparing the results of the studies analyzed.

Data on knowledge, attitudes, and practices related to dengue fever prevention in the articles reviewed in several studies were collected using structured or semi-structured KAP (Knowledge, Attitude, Practice) questionnaires. However, in this study, practices or preventive measures were treated as the main dependent variable. The knowledge component generally assesses respondents' understanding of dengue transmission, symptoms, and prevention. The attitude component measures perceptions, beliefs, and willingness to engage in preventive behaviors. In contrast, the practice component assesses the implementation of preventive measures, including 3M Plus, vector control, and environmental sanitation. Although most studies applied validated instruments, variations in questionnaire structure and assessment were observed, which may contribute to differences in the results reported across studies.

From the initial search, 169,218 articles were retrieved from the four electronic databases. The articles were then exported to CSV, RIS, and NBIB formats for further screening using reference management software. After applying the inclusion and exclusion criteria, 109,992 articles were excluded. From the final selection process, 25 articles met the criteria and were analyzed as the main sources in this study (Figure 1).

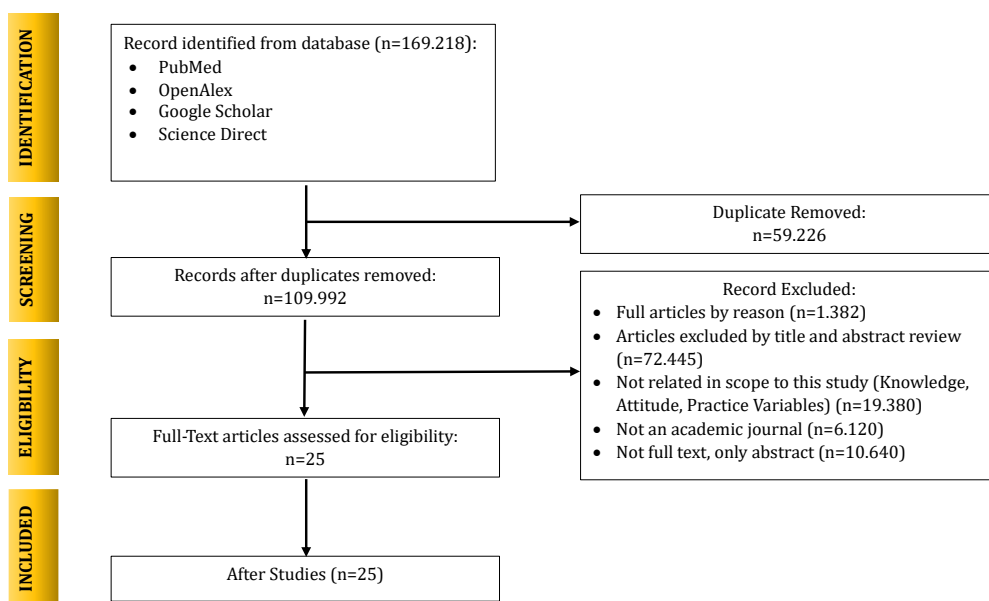


Figure 1. PRISMA Flowchart

RESULTS

We synthesized 25 articles that discuss the relationship among knowledge, attitudes, and preventive actions against dengue fever (DF) across various communities in Indonesia, Bangladesh, Pakistan, Yemen, Nepal, and India. Most studies used a cross-sectional design and KAP (Knowledge, Attitude, Practice) questionnaires as the main measurement tools. Most studies show a significant relationship between knowledge and attitudes and dengue prevention

practices as measured by respondents' behavior scores or practice categories. The most commonly used statistical analyses include the chi-square test, Spearman's Rho, Fisher's Exact Test, and bivariate regression. However, a small number of studies report that good knowledge and attitudes are not always followed by adequate prevention practices, particularly in populations with limited access to information, health facilities, or environmental support.

Overall, the results of the study show that increasing public knowledge and positive attitudes play an important role in shaping preventive behavior against DHF. However, effective behavioral change is still influenced by social factors, health worker support, and environmental conditions. A summary of the characteristics and research results is presented in Table 1.

Tabel 1. The following are selected articles analyzed

Author (Year)	Country	Design	Sample Size (n)	Main Findings
Sitorus et al. (2025)	Indonesia	Cross-sectional	35	Knowledge and attitudes were significantly associated with dengue prevention practices.
Rahman et al. (2023)	Bangladesh	Cross-sectional	745	Knowledge and attitudes were positively associated with dengue prevention practices ($p < 0.001$).
Khan et al. (2022)	Pakistan	Cross-sectional	14,745	Good knowledge and attitudes were observed, although preventive practices remained relatively low.
Hermani & Ibadurrahmi (2024)	Indonesia	Cross-sectional	40	No significant association between knowledge, attitudes, and dengue prevention behavior.
Anggrain et al. (2023)	Indonesia	Cross-sectional	30	Knowledge and attitudes were not significantly associated with prevention behavior.
Bhandari et al. (2024)	Nepal	Cross-sectional	429	Positive correlations were observed between knowledge, attitudes, and preventive practices.
Sillia et al. (2022)	Indonesia	Cross-sectional	89	Knowledge, attitudes, and preventive actions were significantly associated with dengue incidence.
Romadhan et al. (2024)	Indonesia	Cross-sectional	86	Poor knowledge and attitudes increased the likelihood of poor prevention behavior.
Ribka et al. (2024)	Indonesia	Cross-sectional	98	Significant associations between knowledge, attitudes, and dengue prevention behavior.

Yuliandari et al. (2022)	Indonesia	Cross-sectional	118	Knowledge and attitudes significantly influenced dengue prevention practices.
Badariati & Sino (2022)	Indonesia	Cross-sectional	25	Knowledge was significantly associated with mothers' attitudes toward dengue prevention.
Sevdo et al. (2022)	Indonesia	Cross-sectional	NR	Knowledge was significantly associated with dengue prevention behavior.
Amelia et al. (2025)	Indonesia	Cross-sectional	318	Knowledge and attitudes were significantly associated with dengue prevention efforts.
Hakim et al. (2023)	Indonesia	Cross-sectional	176	Positive attitudes and adequate knowledge were associated with better prevention practices.
Carolina (2024)	Indonesia	Cross-sectional	47	Better knowledge was associated with more positive attitudes toward dengue prevention.
Dewi et al. (2022)	Indonesia	Cross-sectional	95	Knowledge and attitudes significantly influenced prevention behavior; attitudes showed a stronger effect.
Raisah et al. (2023)	Indonesia	Cross-sectional	74	Knowledge and attitudes were significantly associated with dengue prevention practices.
Mahmudah et al. (2024)	Indonesia	Cross-sectional	97	Good knowledge and positive attitudes were associated with improved prevention behavior.
Apriani & Triana (2024)	Indonesia	Cross-sectional	49	Significant relationships between knowledge, attitudes, and dengue prevention actions.
Ghimire & Pangeni (2024)	Nepal	Mixed-method	636	High knowledge and positive attitudes did not always translate into preventive practices.
Saghir et al. (2022)	Yemen	Cross-sectional	370	Knowledge and attitudes were significantly associated with preventive practices.
Hamed (2024)	Saudi Arabia	Cross-sectional	616	Prevention practices were influenced more by demographic factors than by knowledge and attitudes.
Rindu & Ina (2023)	Indonesia	Case study	NR	Family attitudes were strongly associated with dengue prevention activities.
Putri et al. (2025)	Indonesia	Cross-sectional	100	Knowledge and attitudes significantly increased the

				likelihood of effective dengue prevention.
Bhadaje et al. (2023)	India	Cross-sectional	154	Excellent prevention practices accompanied high knowledge and positive attitudes.

Quantitative Synthesis of Included Studies

A total of 25 studies were included in this review. Most studies were conducted in Indonesia (17 studies), while the remaining studies originated from Bangladesh, Pakistan, Nepal, Yemen, Saudi Arabia, and India. Cross-sectional design was the predominant study design, accounting for 23 of the 25 included studies. Most studies employed Knowledge–Attitude–Practice (KAP) questionnaires as the primary data collection instrument. Overall, 21 studies reported a significant association between knowledge and dengue prevention practices, whereas 20 studies found a significant association between attitudes and dengue prevention practices. Four studies reported weak or non-significant associations, indicating that adequate knowledge and positive attitudes do not always translate into preventive behavior. Several studies highlighted the influence of external factors, including environmental conditions, social support, access to health information, and availability of health services, on dengue prevention practices (Table 2).

Table 2. Summary of Findings from Included Studies

Variable	Number of Studies (n=25)	Percentage (%)
Significant association between knowledge and dengue prevention practices	21	84.0
No significant association between knowledge and dengue prevention practices	4	16.0
Significant association between attitudes and dengue prevention practices	20	80.0
No significant association between attitudes and dengue prevention practices	5	20.0
Cross-sectional design	23	92.0
Other designs (mixed-method/case study)	2	8.0
Studies conducted in Indonesia	17	68.0
Studies conducted outside Indonesia	8	32.0

The findings indicate a consistent pattern across studies: knowledge and attitudes are important determinants of dengue prevention behavior. Nevertheless, several studies reporting non-significant associations suggest that behavioral change is influenced not only by cognitive

and attitudinal factors but also by enabling and reinforcing factors, including community support, environmental conditions, socioeconomic status, and access to health promotion programs. These findings support the PRECEDE–PROCEED Model, which emphasizes that health behavior is shaped by a combination of predisposing, enabling, and reinforcing factors.

DISCUSSION

The Relationship Between Public Knowledge and Dengue Fever Prevention Measures

Based on a review of 25 articles, most studies found a significant correlation between knowledge levels and dengue fever prevention measures. Respondents with a good level of knowledge about the causes, transmission, symptoms, and prevention measures were found to be more consistent in implementing preventive behaviors, such as 3M Plus, and in maintaining environmental hygiene. These findings are consistent with the Health Promotion Model, which posits that knowledge is a predisposing factor influencing behavioral change [4].

National studies show a consistent pattern. Studies found that good knowledge was significantly associated with dengue fever prevention measures ($p < 0.05$) [15–17]. In addition, other studies found that health education actively delivered by health workers increased public awareness of prevention efforts [18,19].

International studies also reinforce these findings. Studies in Nepal and Yemen also showed that people with good knowledge had more consistent preventive actions [20][21]. Similar findings were reported in Saudi Arabia, indicating that strong knowledge can foster positive attitudes, although dengue prevention practices and actions need improvement [22]. Studies conducted among health and non-health students also show that students with high levels of knowledge engage in very good preventive actions [23,24].

However, several studies reported that knowledge and preventive actions were not significantly related ($p > 0.05$). Even though the respondents had good knowledge, their preventive practices were still low. This shows that high knowledge is not always followed by preventive practices, which is associated with external factors such as lack of motivation, unsupportive environment, lack of facilities, and community habits [10,25–28].

These findings indicate that knowledge is an important foundation for dengue prevention, but it is insufficient to shape behavior without social support, supportive facilities, and continuous educational interventions.

The Relationship Between Community Attitudes and Dengue Prevention Measures

In addition to knowledge, attitudes were also found to play a role in determining dengue prevention practices. The majority of studies showed that respondents with positive attitudes toward mosquito breeding-site eradication, environmental hygiene, and disease risk exhibited more consistent preventive measures, particularly the 3M Plus practice [2,17,29]. This is

supported by research on housewives, which shows that individuals with positive attitudes toward dengue prevention are more than twice as likely to take preventive measures, such as maintaining cleanliness in the home and practicing clean, healthy living behaviors [30,31]. Research on families also found that families with children have a more positive attitude toward effective dengue prevention measures for children. Thus, attitude is the most dominant factor driving individuals to take preventive measures [32].

International studies have found similar results. Studies in Saudi Arabia, India, and Yemen found that positive attitudes are associated with better preventive behaviors. Studies in Bangladesh and Pakistan show that positive attitudes are influenced by continuing education. [33].

However, some studies report different results: although the majority of respondents have positive attitudes, not all consistently take preventive actions. Good health practices do not necessarily align with positive attitudes, as they are still influenced by external factors such as support, facilities, the role of health workers, and community habits. Although knowledge influences family attitudes, this influence is not strong enough to produce optimal preventive actions [34].

This is in line with the Health Promotion Model [4], which identifies attitude as a predisposing factor that bridges knowledge and action. In addition to substantive factors such as knowledge and attitude, variations in results across studies may also be influenced by differences in measurement instruments. Most studies use KAP (Knowledge, Attitude, Practice) questionnaires, but there are differences in the number of questions, assessment methods, and the thresholds used to categorize prevention practices. These variations have the potential to influence the classification of prevention actions as good or poor, thereby contributing to differences in findings between studies.

Overall, the 25 research articles reviewed show that knowledge and attitudes contribute to dengue prevention actions, but environmental support, habits, and social factors strongly influence their implementation in the community.

Limitations of the Study

Several limitations should be considered when interpreting the findings of this review. First, most of the included studies employed cross-sectional designs, which limit the ability to establish causal relationships between knowledge, attitudes, and dengue prevention practices. Second, substantial heterogeneity was observed across studies in terms of study populations, sampling methods, measurement instruments, and definitions of preventive behaviors, which may affect the comparability of findings. Third, the review included only articles published in English and Indonesian between 2020 and 2025, potentially excluding relevant studies published in other languages or outside the selected period. Finally, due to variations in outcome measures

and study characteristics, a meta-analysis could not be conducted. Despite these limitations, the review provides comprehensive evidence regarding the role of knowledge and attitudes in shaping dengue prevention behaviors across diverse populations and settings.

CONCLUSION

This systematic literature review indicates that knowledge and attitudes are important factors influencing dengue prevention practices. Most of the included studies reported significant positive associations among knowledge, attitudes, and preventive behaviors, suggesting that individuals with greater knowledge and more positive attitudes are more likely to engage in dengue prevention measures. However, knowledge and attitudes alone are insufficient to ensure consistent preventive practices, as environmental conditions, social support, access to resources, and the role of health workers also influence behavioral implementation. Therefore, effective dengue prevention programs should combine health education with community empowerment and environmental support to promote sustainable behavioral change and reduce dengue transmission.

DECLARATIONS

Ethics approval

This study uses secondary data from published articles and does not involve human participants or the collection of firsthand data. Therefore, ethical approval is not needed for this research.

Conflict of interest

The authors declare no conflict of interest.

Funding

No external funds were allocated for this work by public institutions, private industry, or charitable/non-profit organizations.

Acknowledgments

None.

REFERENCES

- [1] WHO. Global strategic preparedness, readiness, and response plan for dengue and other Aedes-borne arboviruses. World Health Organization 2024;4:1–32.
- [2] Wiwiet Susan Amelia, Yulis Marita. Relationship between Knowledge and Attitude towards Dengue Fever Prevention. *Lentera Perawat* 2025;6:52–8. <https://doi.org/10.52235/lp.v6i1.424>.
- [3] Notoatmodjo S. Promosi Kesehatan dan Perilaku Kesehatan. 2012. <https://doi.org/10.1017/CBO9781107415324.004>.
- [4] Green LW, Kreuter MW. Health Program Planning: An Educational and Ecological Approach (3rd ed). Mayfield Publishing Company, vol. 92, Calgary, Alberta: Mayfield Publishing Company, 1999; 621 pp. Dramatic; 1999, p. 384.

- [5] Romadhan A, Wulandari PS, Enis RN, Aurora WID, Ayudia EI. Relationship between Knowledge Level and Community Attitude in Dengue Fever Prevention Behavior. *Joms* 2024;4:138–45.
- [6] Ribka S, Toar J, Pajung CB. Hubungan Pengetahuan dan Sikap terhadap Perilaku Pencegahan Demam Berdarah Dengue pada Masyarakat di Wilayah Kerja Puskesmas Amurang Timur. *Jurnal Ilmiah Kesehatan Manado* 2024;3:40–9.
- [7] Sevdo K, Mariaty, Frisilia M. Hubungan Pengetahuan tentang Demam Berdarah dengan Perilaku Pencegahan (DBD) di Wilayah Kerja Puskesmas Jekan Raya, Kota Palangka Raya, Tahun 2022. Knowledge About Dengue Fever with Preventive Behavior (DBD) in the Region Jekan Raya City Puskesmas Work Area. *Jurnal Surya Medika (JSM)* 2022;Vol.09:242–9. <https://doi.org/https://doi.org/10.33084/jsm.v9i1.5191>.
- [8] Rahmat Rafi Albari OL. Hubungan Pengetahuan Dan Sikap Dengan Perilaku Pengendalian Dbd Di Kelurahan Mayang Mangurai, Kota Jambi. *Jurnal Kesehatan Tambusai* 2025;6:5586–601.
- [9] Nitbani MP, Siagian E. Hubungan Tingkat Pengetahuan, Sikap, dan Praktik Masyarakat dalam Upaya Pencegahan Demam Berdarah Dengue (Dbd) di Puskesmas Parongpong. *Klabat Journal of Nursing* 2022;4:27–34. <https://doi.org/10.37771/kjn.v4i2.827>.
- [10] Hermani N, Ibadurrahmi H. Hubungan Pengetahuan Dan Sikap Dengan Perilaku Pencegahan Demam Berdarah Dengue Di Rw 02 Kelurahan Rempoa, Kecamatan Ciputat Timur, Tangerang, Banten Tahun 2024. *Prepotif: Jurnal Kesehatan Masyarakat* 2024;8:8071–9. <https://doi.org/10.31004/prepotif.v8i3.36943>.
- [11] Wardana II, Sukaesih S, Dewi NR. Visualizing Research Trends on the Impact of STEM-Integrated Project-Based Learning Model on 21st-Century Skills Using VOSviewer and Harzing’s Publish or Perish: A Systematic Literature Review. *Journal of Innovative Science Education* 2024;13:159–75. <https://doi.org/10.15294/jise.v13i3.16998>.
- [12] Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Bmj* 2021;372. <https://doi.org/10.1136/bmj.n71>.
- [13] Glisic M, Raguindin PF, Gemperli A, Taneri PE, Salvador DJ, Voortman T, et al. A 7-Step Guideline for Qualitative Synthesis and Meta-Analysis of Observational Studies in Health Sciences. *Public Health Reviews* 2023;44:1–12. <https://doi.org/10.3389/phrs.2023.1605454>.
- [14] Byrne D. A. Worked example of Braun and Clarke’s approach to reflexive thematic analysis. *Quality and Quantity* 2022;56:1391–412. <https://doi.org/10.1007/s11135-021-01182-y>.
- [15] Rastika Dewi NKD, Satriani NLA, Pranata GstKAW. Hubungan Pengetahuan Dan Sikap Terhadap Perilaku Pencegahan Demam Berdarah Dengue Pada Masyarakat Di Kabupaten Buleleng. *Jurnal Riset Kesehatan Nasional* 2022;6:67–73. <https://doi.org/10.37294/jrkn.v6i1.360>.
- [16] Mahmudah, Reininda S.S., Rizal A. Hubungan Pengetahuan dan Sikap dengan Pencegahan Demam Berdarah Dengue di Kelurahan Landasan Ulin Selatan Tahun 2023. *Health Research Journal of Indonesia* 2024;2:262–6. <https://doi.org/10.63004/hrji.v2i4.395>.
- [17] Hakim L, Chan A, Diana VE. Hubungan Pengetahuan dan Sikap Kaum Ibu di Punge Blang Cut-Jaya Baru terhadap Preventivasi Demam Berdarah. *Jurnal Indah Sains Dan Klinis* 2023;04:26–31. <https://doi.org/https://doi.org/10.52622/jisk.v4i2.0>.
- [18] Raisah P, Rahmayanti Y, Zahara H, Nurmila N. Tingkat Pengetahuan dan Sikap Masyarakat Terhadap Pencegahan Penyakit Demam Berdarah di Desa Gla Dayah, Kecamatan Krueng Barona Jaya, Kabupaten Aceh Besar. *MAHESA: Malahayati Health Student Journal* 2023;3:1247–54. <https://doi.org/10.33024/mahesa.v3i5.10251>.

- [19] Putri DE, Nurvinanda R, Lestari IP. The Relationship Between Family Knowledge and Attitudes Toward the Prevention of Dengue Fever in Children. *General Nursing Science Journal* 2025;06:361–8. <https://doi.org/https://doi.org/10.56359/gj.v6i2.799>.
- [20] Ghimire S, Pangeni S. A mixed-method evaluation of knowledge, attitude, and practice on dengue fever among Lalitpur Metropolitan City residents: a cross-sectional investigation. *BMC Infectious Diseases* 2024;24:1–14. <https://doi.org/https://doi.org/10.1186/s12879-024-10025-8>.
- [21] Saghir MA, Ahmed WAM, Mohammed M, Dhaiban A. Knowledge, attitude, and practices of the community toward dengue fever in Shabwah Governorate, Yemen : a descriptive study. *Journal of the Egyptian Public Health Association* 2022;97:1–8. <https://doi.org/https://doi.org/10.1186/s42506-022-00121-5>.
- [22] Hamed M. Knowledge, attitude, and practices toward dengue fever among the public: a cross-sectional study in the Western region of Saudi Arabia. *Frontiers in Public Health* 2024;12:1–11. <https://doi.org/10.3389/fpubh.2024.1327427>.
- [23] Bhadake KH, Haralkar SJ, Roy P. Assessment of knowledge, attitude, and practice regarding dengue among undergraduates of Government Medical College, Western Maharashtra: a cross-sectional study. *International Journal of Community Medicine and Public Health* 2023;10:3307–10. <https://doi.org/https://dx.doi.org/10.18203/2394-6040.ijcmph20232695>.
- [24] Bhandari S, Rajbanshi M, Adhikari N, Aryal R, Kunwar K, Paudel R. Knowledge, attitude, and practice regarding dengue among non-health undergraduate students of Nepal. *PLoS Neglected Tropical Diseases* 2024;18:1–13. <https://doi.org/10.1371/journal.pntd.0012222>.
- [25] Sitorus MEJ, Lina F, Tarigan B, Purba IE. Pengetahuan , sikap dan tindakan masyarakat terhadap kejadian demam berdarah dengue : studi cross-sectional Pendahuluan Dengue atau demam berdarah dengue (DBD) merupakan salah satu penyakit virus yang porsi besar berasal dari hilangnya produktivitas . 8. *Haga Journal of Public Health* 2025;2:87–93. <https://doi.org/https://doi.org/10.62290/hjph.v2i3>.
- [26] Yuliandari D, Arfan I, Trisnawati E, Alamsyah D, Rizky A. Hubungan Pengetahuan Dan Sikap Dengan Praktik Pencegahan Dbd. *Jurnal Kesehatan* 2022;15:132–7. <https://doi.org/10.23917/jk.v15i2.18373>.
- [27] Anggraini FDP, Aprianti A, Muthoharoh NA, ... Hubungan Pengetahuan dan Sikap dengan Perilaku Pencegahan Dbd di Puskesmas Rowosari, Kota Semarang. *Prosiding Seminar Informasi Kesehatan Nasional (SIKESNAS)* 2023:161–7.
- [28] Apriani M, Triana N. Hubungan Tingkat Pengetahuan Dan Sikap Mahasiswa Stikes Budi Mulia Sriwijaya Terhadap Tindakan Pencegahan Demam Berdarah Dengue (Dbd). *Jurnal Kesehatan Tambusai* 2024;5:1613–9.
- [29] Prameswarie T, Ramayanti I, Zalmih G. Pengetahuan , Sikap dan Perilaku Ibu Rumah Tangga dalam Pencegahan Penyakit Demam Berdarah Dengue Knowledge , Attitude and Behavior of Housewives in Prevention. *Jurnal Ilmiah Kesehatan* 2022;4:56–66. <https://doi.org/https://doi.org/10.36590/jika.v4i1.222>.
- [30] Carolina P. Hubungan Pengetahuan Dengan Sikap Masyarakat Dalam Pencegahan Penyakit Demam Berdarah Dengue. *Jurnal Kesehatan Saemakers PERDANA* 2024;7:97–103. <https://doi.org/10.32524/jksp.v7i1.1123>.
- [31] Fatihah RA, Andriana A, Sukmajaya A, Rinayu NP. Hubungan Pengetahuan, Sikap, dan Perilaku Ibu Rumah Tangga terhadap Kejadian Demam Berdarah Dengue di Kelurahan Melayu, Kota Bima, Tahun 2024. *Bioscientist : Jurnal Ilmiah Biologi* 2025;13:394–407. <https://doi.org/https://doi.org/10.33394/bioscientist.v13i1.14554> Copyright©.

- [32] Sillia I, Umboh A, Rampengan NH. Relationship between Knowledge, Attitude, and Preventive Measures against Dengue Hemorrhagic Fever in the Community. *E-CliniC* 2022;10:201. <https://doi.org/https://doi.org/10.35790/ecl.v10i2.37741>.
- [33] Khan J, Muhammad Adil GW, Tsheten Tsheten DZ, Pan W, Khan MA, Rehman I ur, et al. A cross-sectional study to assess the epidemiological situation and associated risk factors of dengue fever ; knowledge, attitudes, and practices about dengue prevention in Khyber. *Frontiers in Public Health* 2022;1–18. <https://doi.org/https://doi.org/10.3389/fpubh.2022.923277>.
- [34] Rindu Y, Ina A. Knowledge Relationships And Family Attitudes In Dengue Hemorrhagic Fever Prevention Activities at Injury: *Interdisciplinary Journal and Humanity* 2023;2:569–75.