Jurnal Cakrawala Promkes
Vol. 7, No. 2, August 2025, pp. 94-102
p-ISSN: 2654-9980 e-ISSN: 2656-0534
http://journal2.uad.ac.id/index.php/cp/index

Health-seeking behaviour in dengue hemorrhagic fever in primary health care

Fardhiasih Dwi Astuti [a*], Galuh Artanti [a], Rokhmayanti Rokhmayanti [a], Siti Kurnia Widi Hastuti [a]

[a] Faculty of Public Health, University Ahmad Dahlan, Yogyakarta, Indonesia
* Corresponding author: fardhiasih.dwiastuti@ikm.uad.ac.id

ARTICLE INFO

Article history
Received : July 13, 2025
Revised : August 18, 2025
Accepted : August 20, 2025

Keywords:
Dengue hemorrhagic fever;
Health-seeking behavior;
Primary healthcare

ABSTRACT

Dengue hemorrhagic fever (DHF) remained a significant public health concern in tropical and subtropical regions. In 2022, Bantul Regency reported 957 DHF cases of the disease. This study aimed to examine the distribution of health-seeking behaviors and associated factors among residents in the Kasihan I Community Health Center area of Bantul Regency. A descriptive quantitative approach was employed, involving 384 respondents selected through accidental sampling. Data were collected using a validated questionnaire and analyzed descriptively. The results indicated that 52.6% of respondents sought medical attention upon experiencing fever symptoms, although 69.3% believed the common cold was the cause of these symptoms. When dengue fever was suspected, 94% of the respondents sought medical care. Approximately 37.8% visited a healthcare facility on the first day of symptom onset, with 60.4% primarily utilizing community health centers. Blood tests were mostly conducted on the third day after fever onset, accounting for 61.7% of respondents. Furthermore, the study found that 71.1% of participants demonstrated sufficient knowledge regarding dengue fever, while 77.9% exhibited a fair attitude towards the disease. The majority perceived healthcare services as available (93%), affordable (90.1%), and accessible (92.4%). In conclusion, although the respondents displayed relatively good knowledge and access to healthcare services, early recognition of symptoms and prompt care-seeking behavior remained suboptimal. Enhancing community awareness and diagnostic readiness at the primary care level was essential for improving timely interventions.

1. Introduction

Dengue Hemorrhagic Fever (DHF) continues to represent a critical vector-borne disease challenge in the word. Dengue incidence has surged globally over the past few decades, with reported cases to WHO rising from 505,430 in 2000 to 5.2 million in 2019 [1]. Indonesia is a dengue-endemic country with a consistently high disease burden. In 2022, Indonesia reported 143,184 dengue fever cases with 1,236 deaths, while the incidence rate in 2021 reached 27.5 cases per 100,000 population [2]. Dengue transmission has spread nationwide, with all four dengue virus serotypes (DENV-1 to DENV-4) detected across various regions [3]. Yogyakarta is an endemic area hotspot, such as Bantul

Regency in the Yogyakarta Special Region, experiencing recurrent outbreaks. The region's humid tropical climate, coupled with rapid peri-urban expansion, uncontrolled breeding places, and suboptimal vector control infrastructure, has exacerbated the epidemiological persistence of the dengue virus [4]. Locally, the highest prevalence of DHF cases in Bantul Regency in 2021 was recorded at Kasihan I Community Health Center, with 53 cases. This number increased in 2022, reaching 89 cases [5]. The Kasihan sub-district emerges as an epidemiologically significant zone, given its high population density, transitional urban-rural characteristics, and sustained incidence rates of DHF cases recorded at primary health service facilities [6].

Dengue infection, vectored by *Aedes aegypti* and *Aedes albopictus*, poses a significant health threat, with patients susceptible to severe manifestations and even fatality. Prompt medical attention can mitigate the progression to severe dengue, as delays in seeking care are associated with increased complications and mortality rates [7]. Delayed engagement with formal health care services in DHF cases is frequently linked to increased morbidity and mortality, underscoring the pivotal role of early diagnosis and intervention [8]. Health-seeking behavior influences early detection and treatment of dengue by determining when patients seek medical care upon experiencing warning signs [9].

Within the localized health system ecosystem of Kasihan, a nuanced exploration of health-seeking behavior is essential to map the interplay between individual agency, household-level determinants, and the structural readiness of health services. Although existing literature has acknowledged the significance of community knowledge, attitudes, and practices (KAP) in shaping access to care trajectories, empirical data specific to micro-level operational environments—such as community health centers *(Puskesmas)*—remain markedly limited [10]. Bridging this knowledge gap is essential for designing locally responsive, culturally congruent interventions that resonate with the lived realities of the affected populations.

This investigation aims to describe health-seeking behavior and its related factors among individuals in the service area of Kasihan I Community Health Center, Bantul Regency. By employing a descriptive quantitative approach, this study provides an overview of patterns of care-seeking practices, levels of knowledge and attitudes, as well as structural factors such as availability, affordability, and accessibility of health services in a dengue-endemic community.

2. Method

This study employed a descriptive quantitative design conducted among residents within the service area of Kasihan I Community Health Center, Bantul, Yogyakarta. A total of 384 respondents were selected using a cluster random sampling method. The clusters were determined based on administrative hamlets *(padukuhan),* and respondents were recruited during community gatherings *(pertemuan warga)* in each selected cluster. Eligible participants were individuals aged 17–70 years who met the inclusion criteria at the time of data collection.

Data were collected using a structured and validated questionnaire that assessed knowledge, attitudes, and treatment-seeking behavior related to dengue hemorrhagic fever, as well as enabling factors such as the availability, affordability, and accessibility of health services. The validity and reliability of the instrument were tested at Kasihan II Community Health Center, with Cronbach's alpha > 0.7 indicating satisfactory reliability. The collected data were analyzed descriptively and presented in the form of frequencies and percentages to provide an overview of health-seeking patterns and related factors among the study population. This research was approved by the Research Ethics Committee of Ahmad Dahlan University with approval number 012312314.

3. Results and Discussion

3.1. Results

The characteristics of the respondents are presented in Table 1.

Table 1. Sociodemographic Characteristics of Respondents

Characteristic		Frequency (n=384)	Percentage (%)
Age (years old)	17-25	17	4.4
	26-35	70	18.2
	36-45	107	27.9
	46-55	93	24.2
	56-70	97	25.3
Sex	Male	100	26
	Female	284	74
Occupation	Civil Servants	10	2.6
	Soldiers	1	0.3
	Police	1	0.3
	Teachers	9	2.3
	Self-Employed	32	8.3
	Private Employee	57	14.8
	Housewife	128	33.3
	Laborer	132	34.4
	Farmer	9	2.3
	Retiree	5	1.3
Education	No School	5	1.3
	Elementary School	70	18.2
	Junior High School	108	28.1
	High School	161	41.9
	Diploma	13	3.4
	Bachelor	27	7.0
Income	lower minimum income	209	54.4
	minimum income	122	31.8
	higher minimum income	53	13.8
Experience of dengue infection in the last 6 months	Yes	3	0.8
	No	381	99,2

As shown in Table 1. the majority of respondents were female (74%) and within the 36–45 age group (27.9%). Most participants worked in labor-intensive jobs, and 54.4% reported income levels below the regional minimum wage.

Table 2. Knowledge, Attitude, and Treatment-Seeking Behavior

Characteristic		Frequency (n=384)	Percentage (%)
Knowledge	Good	55	14.3
	Enough	273	71.1
	Less	56	14.6
Attitude	Good	47	12.2
	Enough	229	77.9
	Less	38	9.9
First thing to do if you have high	fever symptoms	151	39.3
	Doing self-medication	202	52.6
	Visiting a doctor for alternative medicine	1	0.3
	Visiting a practicing doctor	25	6.5
	Visiting a practicing midwife	5	1.3
Suspected disease if fever	Dengue	43	11.2
	Chikungunya	3	0.8
	Covid-19	9	2.3
	Common cold	266	69.3
	Typhoid	19	4.9
	Other diseases	44	11.5
If you have dengue fever, what can you do:	Self-medicate	11	2.9
	Visit a doctor	361	94
	Try alternative medicine	2	0.5
	Call a doctor	10	2.6

Characteristic		Frequency (n=384)	Percentage (%)
Visiting a health facility if experiencing dengue fever symptoms	The first day after symptoms	145	37.8
	The second day after symptoms	53	13.8
	The third day after symptoms	140	36.5
	The fourth day after symptoms	35	9.1
	The fifth day after symptoms	7	1.8
	The sixth day after symptoms	-	-
	Seventh day after symptoms	4	1
Health facilities are visited when symptoms of dengue are experienced.	Health Center	232	60.4
	Hospital	66	17.2
	Practical doctor	43	11.2
	Practical midwife	8	2.1
	Clinic	35	9.1
Blood test during DHF symptoms	The first day after the fever	81	21.1
	The second day after the fever	59	15.4
	The third day after the fever	237	61.7
	No examination	6	1.6
	Other actions	1	0.3
Knowledge of NS1	No	371	96.6
	Yes	13	3.4
Availability of Health Services	Available	357	93
	Not Available	27	7
Total		384	100

The results of the measurements of knowledge, attitudes, and treatment-seeking behavior among the community in Kasihan I are presented in Table 2. Table 2, illustrates that 71.1% of respondents possessed sufficient knowledge of dengue fever, and 77.9% demonstrated a fair attitude. In response to fever symptoms, 52.6% reported visiting a doctor, while 39.3% practiced self-medication. Almost all respondents will seek health services three days after symptoms. Regarding diagnostic behavior, 61.7% underwent blood testing on the third day of fever onset, as indicated in Table 2. However, knowledge of the NS1 antigen test was minimal, with only 3.4% reporting familiarity with the test.

Tabel 3. Distribution of Respondents' Knowledge about Dengue Hemorrhagic Fever (DHF)

No	Knowledge Question	Correct (n)	Percentage (%)
1	DHF is transmitted through the bite of *Aedes aegypti* mosquitoes.	356	92.7
2	DHF can be transmitted from person to person through physical contact.	62	16.1
3	DHF symptoms usually appear 4–7 days after a mosquito bite.	342	89.1
4	High fever is a symptom of dengue hemorrhagic fever.	314	81.8
5	Mild bleeding and skin rashes are symptoms of dengue hemorrhagic fever.	297	77.3
6	Medical treatment can effectively cure dengue hemorrhagic fever.	370	96.4
7	Alternative treatments, such as traditional herbal remedies, can effectively treat dengue.	170	44.3
8	Vaccination can be an effective solution to prevent dengue hemorrhagic fever.	193	50.3
9	Avoiding potential mosquito breeding sites is important during dengue season.	346	90.1
10	Careful water management prevents mosquito breeding.	302	78.6
11	Stagnant water around the house can become mosquito breeding sites.	366	95.3
12	Hanging clothes indoors can serve as mosquito resting places.	346	90.1
13	The rainy season can increase the risk of dengue cases.	358	93.2

A large majority correctly identified that DHF is transmitted by Aedes aegypti mosquitoes (92.7%) and recognized stagnant water as a breeding site (95.3%). Awareness of seasonal risk was

also strong, with 93.2% acknowledging that the rainy season increases the incidence of dengue cases. Most respondents were aware of the incubation period (89.1%) and common symptoms, including high fever (81.8%) and skin rash/bleeding (77.3%). Medical treatment was widely acknowledged as effective (96.4%).

Misconceptions persist: 16.1% incorrectly believed dengue could spread via direct person-to-person contact. A significant proportion (44.3%) believed that traditional medicine could cure dengue, and only half (50.3%) correctly identified vaccination as an effective preventive measure. Knowledge of preventive household practices, such as water management (78.6%), was lower compared to other items.

Table 4. Distribution of Respondents' Attitudes towards Dengue Hemorrhagic Fever (DHF)

Attitude Statement	Strongly Agree n (%)	Agree n (%)	Disagree n (%)	Strongly Disagree n (%)
Seeking medical care immediately after dengue symptoms appear is a wise decision.	224 (58.3%)	149 (38.8%)	11 (2.9%)	0 (0.0%)
Seeking treatment at a health facility is important to manage dengue.	207 (53.9%)	174 (45.3%)	3 (0.8%)	0 (0.0%)
Visiting the community health center (Puskesmas) is an effective option for dengue treatment.	137 (35.7%)	223 (58.1%)	23 (6.0%)	1 (0.3%)
Visiting the hospital is an effective option for dengue treatment.	189 (49.2%)	175 (45.6%)	20 (5.2%)	0 (0.0%)
Doing nothing could be an effective option to manage dengue.	5 (1.3%)	31 (8.1%)	159 (41.4%)	189 (49.2%)
Using traditional medicine alone could be an effective option for dengue treatment.	8 (2.1%)	58 (15.1%)	241 (62.8%)	77 (20.1%)
Using over-the-counter medicines alone could be an effective option for dengue treatment.	2 (0.5%)	34 (8.9%)	208 (54.2%)	140 (36.5%)
Delaying medical treatment may be risky for dengue patients.	118 (30.7%)	137 (35.7%)	66 (17.2%)	16.4%)

Most respondents demonstrated enough attitude toward seeking medical services. Almost all agreed or strongly agreed that seeking medical care immediately after symptoms appear and visiting health facilities are essential actions. Both community health centers (*Puskesmas*) (93.8%) and hospitals (94.8%) were perceived as effective places for dengue treatment.

Respondents largely rejected ineffective practices such as doing nothing (90.6% disagreed/strongly disagreed), relying solely on traditional medicine (82.9% disagreed/strongly disagreed), or depending only on over-the-counter drugs (90.7% disagreed/strongly disagreed). This reflects a relatively good level of awareness about the importance of formal medical care.

While the majority (66.4%) agreed that delaying medical treatment is risky, about one-third (33.6%) disagreed. This finding is important because such misconceptions may contribute to delays in diagnosis and treatment, thereby increasing the risk of complications.

3.2. Discussion

Respondents in this research were predominantly middle-aged women engaged in manual labor. Most have secondary education and earn below the regional minimum wage. This socioeconomic profile is crucial for interpreting the observed health-seeking behaviors related to dengue. Factors such as family size and income levels may be correlated with HSB. These socioeconomic conditions create a vulnerable population and significantly influence health-seeking behaviors (HSB), as seen in Sri Lanka, where lower-income households often delay seeking treatment. Among middle-aged women engaged in labor-intensive work, most have a secondary-level education and earn incomes

below the regional minimum wage [11]. The level of education, occupation, marital status, monthly income, Socio-Economic Status (SES), and urban living were associated with knowledge levels [8]. Individuals from higher socioeconomic strata, often characterized by higher income and educational attainment, tend to experience lower rates of dengue incidence. The factor of income is likely because their increased economic capacity and higher levels of education empower them to implement more effective preventive measures against the disease [12].

It is encouraging to see that the majority of respondents exhibit a solid understanding of dengue, with 71% demonstrating sufficient knowledge and 78% displaying a fair attitude toward the disease. This suggests that public health campaigns or informal information-sharing channels have effectively raised awareness. A good understanding of dengue fever is linked to attitude towards it. However, when this knowledge and these attitudes are translated into actual practices, especially in recognizing initial symptoms and seeking treatment [8]. Research in Aceh indicates that the public primarily obtains information about dengue through internet access. Additionally, education on dengue is also provided by community health centers *(Puskesmas)* or hospital staff [8].

Despite adequate general knowledge, around 69% of respondents initially assumed that the common flu caused the fever. Some individuals would self-medicate (39%), and the perception of fever as a common flu symptom influences their decision to seek treatment. However, if asked if they had dengue, they would immediately seek medical treatment (94%). Fever symptoms alone do not direct their actions to seek medical treatment [7]. A qualitative study on dengue treatment-seeking behavior revealed that respondents perceived healthcare facilities as not providing specific medication for dengue, which prompted some to opt for self-treatment [13]. These results are consistent with the Health Belief Model's idea of perceived barriers. This means that people are less likely to seek medical care if they believe the obstacles—such as difficulty accessing care or doubts about its effectiveness—outweigh the benefits of taking action [13].

The manifestations of DENV infection can range from mild to severe. Fever symptoms, like other illnesses, make sufferers less alert. This delay can be critical, as early diagnosis and supportive care are paramount in preventing severe dengue outcomes [14]. The fact that only 52% would visit a doctor initially, with a substantial 39% resorting to self-medication, further exacerbates this issue. Many patients resort to self-medication before seeking professional help, with 95.2% of participants in Thailand initially self-medicating [15]. Inadequate symptom recognition of dengue, coupled with its frequent confusion with the flu, common cold, or other febrile illnesses, contributed to delays in patients seeking appropriate medical care [16]. A study has shown that a lack of perceived social support is linked to delays in obtaining necessary medical care [17].

Most respondents visited a healthcare facility within three days of the onset of symptoms. Community health centers are the primary respondents cozied. This indicates trust in accessible care systems. 93% of respondents stated that health facilities were available. However, there remain gaps: 96.6% were unaware of the NS1 diagnostic test, highlighting a need for improved public health communication. NS1 can be an early detection of dengue [18]. Timely diagnosis of dengue fever through clinical features, hematological tests, and biochemical parameters significantly reduces complications and mortality rates [19]. Individuals with a good understanding of the impact of dengue fever are more likely to visit health facilities promptly [20]. Delayed hospitalization correlates with increased mortality, underscoring the importance of prompt care-seeking behavior in individuals affected by this condition [21]. Community health centers are the leading choice for most respondents, which requires laboratory facilities that support the diagnosis of dengue fever. The past studies indicate that dengue should be recognized as an illness that can have considerable effects on not just physical well-being, but also mental health and social interactions [22].

Respondents demonstrated a generally good understanding of dengue transmission and risk factors. Over 90% correctly identified mosquito bites as the transmission route, stagnant water as breeding sites, and the rainy season as a risk factor. Most also recognized the incubation period, high fever, and rash as key symptoms, and nearly all acknowledged that medical treatment is effective. However, misconceptions remain. About 16.1% incorrectly believed that dengue could spread through direct human contact, 44.3% thought traditional remedies were effective for treatment, and only 50.3% recognized vaccination as a preventive measure. Similar misconceptions have been reported elsewhere; in Karachi, 50.7% of respondents mistakenly believed antibiotics were helpful against dengue, delaying appropriate care [23]. These findings underscore the importance of reinforcing accurate information on prevention and treatment.

Women accounted for 74% of respondents, reflecting their central role in household health decisions. Public health programs should support women's autonomy and address access barriers, such as limited time and restricted decision-making power. With women comprising 74% of the respondents, it is evident that they assume primary responsibility for health management within households. Public health programs should design interventions that empower women, for example, by providing upgraded information and diagnostics for dengue.

This study has several limitations that should be acknowledged. The sampling process was conducted during community gatherings (*pertemuan warga*), which typically involved higher participation of women compared to men. As a result, women accounted for 74% of the respondents, creating a potential gender imbalance in the data. This overrepresentation of women may have influenced the findings, particularly in relation to knowledge, attitudes, and health-seeking behaviors, since women often assume primary responsibility for household health decisions [24]. Consequently, the results may not fully capture the perspectives and practices of male community members. Future studies are recommended to employ more balanced sampling strategies to ensure gender-representative findings.

4. Conclusion

This study provides a descriptive overview of health-seeking behavior among residents in the Kasihan I Community Health Center area, Bantul Regency. The findings show that while most respondents had sufficient knowledge and fair attitudes toward dengue, recognition of early symptoms remained inadequate, leading many to initially mistake dengue for a common cold or resort to self-medication. Health services were generally perceived as available, affordable, and accessible, with community health centers serving as the primary point of care. However, delays in diagnostic testing, particularly reliance on blood examinations only after the third day of fever onset, indicate gaps in timely detection. These results underscore the need to enhance health education that focuses on early warning signs and to improve diagnostic readiness at the primary care level in dengue-endemic areas.

Acknowledgment

The authors wish to express their sincere appreciation to the Head of Kasihan I Community Health Center and Universitas Ahmad Dahlan for their invaluable support in facilitating this study.

Author contributions

These article contributors are Concept: FDA; Data collection: GA; Data curation: FDA, GA; Supervision: FDA, RR, SKW; Data analysis: FDA, RR; Writing and drafting: FDA, GA.

Disclosure Statement/Conflict of Interest

No conflict of interest from all authors.

REFERENCES

1. WHO. Dengue in the South-East Asia. WHO South-East Asia. 2023.
2. Ulva F, Hikmi N. Analisis Spasial Kejadian Demam Berdarah di Kota Padang Tahun 2018-2022. Jik J Ilmu Kesehat. 2024;8:152. https://doi.org/10.33757/jik.v8i1.1082
3. Harapan H, Michie A, Mudatsir M, Sasmono RT, Imrie A. Epidemiology of dengue hemorrhagic fever in Indonesia : analysis of five decades data from the National Disease Surveillance. BMC Res Notes. 2019;4–9. https://doi.org/10.1186/s13104-019-4379-9
4. Kementerian Kesehatan RI. Profil Kesehatan Indonesia 2023. Farida Sibuea, Boga Hardhana, editors. Jakarta: Kementerian Kesehatan Republik Indonesia; 2024.
5. Dinkes DIY. Waspada Demam Berdarah. 2021.
6. Bantul District Health Service. Bantul District Health Profile 2022. Bantul District: Bantul District Health Service; 2023.
7. Elsinga J, Lizarazo EF, Vincenti MF, Schmidt M, Velasco-Salas ZI, Arias L, et al. Health Seeking Behaviour and Treatment Intentions of Dengue and Fever: A Household Survey of Children and Adults in Venezuela. PLoS Negl Trop Dis. 2015;9:1–18. https://doi.org/10.1371/journal.pntd.0004237
8. Harapan H, Rajamoorthy Y, Anwar S, Bustamam A, Radiansyah A, Angraini P, et al. Knowledge, attitude, and practice regarding dengue virus infection among inhabitants of Aceh, Indonesia: A cross-sectional study. BMC Infect Dis. 2018;18:1–16. https://doi.org/10.1186/s12879-018-3006-z
9. Ng WL, Toh JY, Ng CJ, Teo CH, Lee YK, Loo KK, et al. Self-care practices and health-seeking behaviours in patients with dengue fever: A qualitative study from patients' and physicians' perspectives. PLoS Negl Trop Dis. 2023;17:1–16. https://doi.org/10.1371/journal.pntd.0011302
10. Afandi RN, Alisjahbana B, Raksanagara AS. Health-Seeking Behavior of Dengue Hemorrhagic Fever Patients in Several Hospitals in Bandung West Java Indonesia. Althea Med J. 2018;5:121–6. https://doi.org/10.15850/amj.v5n3.1609
11. Rajapaksha RMNU, Abeysena C, Balasuriya A. Health seeking behaviours, dengue prevention behaviours and community capacity for sustainable dengue prevention in a highly dengue endemic area, Sri Lanka. BMC Public Health. 2023;23:1–9. https://doi.org/10.1186/s12889-023-15404-5
12. Udayanga L, Gunathilaka N, Iqbal MCM, Lakmal K, Amarasinghe US, Abeyewickreme W. Comprehensive evaluation of demographic, socio-economic and other associated risk factors affecting the occurrence of dengue incidence among Colombo and Kandy Districts of Sri Lanka: A cross-sectional study. Parasites and Vectors. 2018;11:1–18. https://doi.org/10.1186/s13071-018-3060-9
13. Le A, Ali S, Blackburn CC, Ruyle L, Hernandez J, Abarca F, et al. Dengue Treatment-Seeking Behavior: A Qualitative Study With Costa Rican Residents. Heal Educ Behav. 2024; https://doi.org/10.1177/10901981241254073
14. Wang W, Nayim A, Chang MR, Assavalapsakul W, Lu P, Chen Y, et al. Dengue hemorrhagic fever A systemic literature review of current perspectives on pathogenesis , prevention and control. J Microbiol Immunol Infect. 2020;53:963–78. https://doi.org/10.1016/j.jmii.2020.03.007
15. Piroonamornpun P, Looareesuwan P, Luvira V, Wongchidwon N, Pakdeewut P, Lawpoolsri S, et al. Treatment-Seeking Behaviors and Knowledge, Attitude and Practices among Suspected Dengue Adult Patients at the Hospital for Tropical Diseases, Bangkok, Thailand. Int J Environ Res Public Health. 2022;19. https://doi.org/10.3390/ijerph19116657
16. Ng TC, Teo CH, Toh JY, Dunn AG, Ng CJ, Ang TF, et al. Factors influencing healthcare seeking in patients with dengue: Systematic review. Trop Med Int Heal. 2022;27:13–27. https://doi.org/10.1111/tmi.13695
17. Reisinger MW, Moss M, Clark BJ. Is lack of social support associated with a delay in seeking medical care? A cross-sectional study of Minnesota and Tennessee residents using data from the Behavioral Risk Factor Surveillance System. BMJ Open. 2018;8:1–9. https://doi.org/10.1136/bmjopen-2017-018139

18. Duong V, Ly S, Try P, Tuiskunen A, Ong S, Chroeung N, et al. Clinical and virological factors influencing the performance of a ns1 antigen-capture assay and potential use as a marker of dengue disease severity. PLoS Negl Trop Dis. 2011;5. https://doi.org/10.1371/journal.pntd.0001244
19. Singhal R, Karan S, Patil. Dengue Fever : a Tertiary Care Hospital Based Study of Its Clinical. Int J Sci Res. 2019;8:37–9.
20. Liu H, Xu JW, Ai Z, Yu Y, Yu B. Treatment seeking behavior and associated factors of suspected dengue fever among Shan people in eastern Shan special region IV, Myanmar: A cross-sectional study. BMC Health Serv Res. 2020;20:1–7. https://doi.org/10.1186/s12913-020-05163-z
21. Wongchidwan N, Wattanagoon Y, Luvira V, Iamsirithaworn S. Delayed care-seeking and outcome of dengue-infected patients. Trop Doct. 2018;48:30–3. https://doi.org/10.1177/0049475517712889
22. Elson WH, Riley-Powell AR, Morrison AC, Gotlieb EE, Groessl EJ, Cordova JJ, et al. Measuring health related quality of life for dengue patients in iquitos, Peru. PLoS Negl Trop Dis. 2020;14:1–17. https://doi.org/10.1371/journal.pntd.0008477
23. Ali M, Khan Q, Nawaz S, Naz S, Bilal M, Mahnoor Abbas P. Online questionnaire based evaluation of knowledge, attitude and practices (KAP) regarding dengue fever among local people of Karachi, Pakistan. Res Sq. 2023;1–10. https://doi.org/10.21203/rs.3.rs-2991661/v1
24. Jamtvedt G, Klemp M, Mørland B, Nylenna M. Responsibility and accountability for well informed health-care decisions: a global challenge. Lancet. 2015;386:826–8. https://doi.org/10.1016/S0140-6736(15)60855-8