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Review Article

Analysis of health workforce preparedness in enhancing community resilience to flood disasters: A literature review

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Abstract

Background: Floods are one of the most common hydrometeorological disasters in Indonesia and have a significant impact on public health. In this context, the preparedness of healthcare workers is a key factor in strengthening community resilience in the face of disaster situations. This study aims to analyze the preparedness of healthcare workers in enhancing community resilience to floods through a literature review approach.

Methods: A systematic literature search was conducted using the PubMed, ScienceDirect, and Google Scholar databases covering the years 2020–2025. A total of 864 articles were identified in the initial stage. After removing duplicates and screening based on titles and abstracts, 69 articles were selected that met the criteria for further review in the full-text stage. Next, 15 articles were selected based on the inclusion criteria, namely: studies focusing on the preparedness of health workers in the context of disasters, related to floods or hydrometeorological disasters, original research articles, and available in full text in Indonesian or English.

Results: The study results were synthesized thematically, yielding four main themes: individual preparedness of healthcare workers, encompassing knowledge, attitudes, and skills; support from healthcare facilities and systems, including infrastructure and resource readiness; cross-sectoral coordination in disaster management; and community education focused on strengthening resilience. These four themes contribute to enhancing the community's adaptive capacity, accelerating emergency response, and reducing post-disaster health impacts.

Conclusion: In conclusion, strengthening healthcare workers' preparedness through continuous training, disaster simulations, and integrated policy support is essential for enhancing community resilience against flood disasters.

Background

Flooding is one of the most frequent natural disasters in Indonesia and accounts for the majority of hydrometeorological disasters. Indonesia's high vulnerability to flooding is influenced by geographical conditions, high rainfall intensity, and the effects of increasingly unpredictable global climate change. Additionally, human activities such as land-use conversion, unplanned urbanization, and inadequate drainage systems further exacerbate the frequency and impact of flooding events (CRED,2024). Data from the National Disaster Management Agency indicate that flooding consistently ranks as the most frequent type of disaster in Indonesia each year (BNPB, 2023).

The impacts of flooding are not limited to physical damage and economic losses; they also have far-reaching effects on public health. The incidence of environment-related diseases such as diarrhea, leptospirosis, acute respiratory infections, and skin diseases tends to increase in post-flood situations (WHO,2022). Furthermore, floods also contribute to mental health issues, such as stress, anxiety, and psychological trauma among affected communities (Goldmann, 2014). These conditions are further complicated by disruptions to access to and the quality of healthcare services, particularly for vulnerable groups such as pregnant women, children, and the elderly who require continuous care.

From a public health perspective, health workers play a crucial role in all stages of disaster management, ranging from mitigation and preparedness to emergency response and rehabilitation. This role encompasses not only curative care but also promotive and preventive activities such as health education, disease surveillance, and cross-sectoral coordination in

disaster response (WHO,2019). However, various studies indicate that the preparedness of health workers to face disasters remains inadequate. This is related to limited competencies in disaster management, a lack of continuous training, weak inter-agency coordination, and limited available resources (Labrague,2020).

On the other hand, community resilience is a crucial aspect of disaster management efforts. Resilience describes the ability of individuals and communities to endure, adapt, and recover quickly from the impacts of a disaster. The level of community resilience is greatly influenced by the readiness of the health system, including the preparedness of health workers as the frontline of service delivery in the field (UNDRR,2015). Well-prepared health workers will help mitigate health impacts, accelerate recovery, and strengthen the community's adaptive capacity in facing future disasters.

Nevertheless, a review of the literature reveals several limitations in previous studies. Most studies still focus on the preparedness of health workers at the healthcare facility level, particularly hospitals, and thus have not extensively examined the role of health workers directly within the community context. Furthermore, existing research tends to emphasize the emergency response phase, without comprehensively linking it to efforts to strengthen community resilience as a long-term goal.

Furthermore, studies on healthcare worker preparedness have primarily focused on specific types of disasters, such as earthquakes or pandemics, while floods—the most frequent type of disaster in Indonesia—have not yet been analyzed in detail. To date, there remains a limited number of systematic literature reviews that integrate healthcare worker preparedness with community resilience, particularly in the context of floods in developing countries.

Given this gap, a more comprehensive study is needed to examine the relationship between the preparedness of health workers and community resilience in the face of flood disasters. Therefore, this study aims to analyze the preparedness of healthcare workers in enhancing community resilience against flood disasters through a literature review titled "Analysis of Healthcare Workers' Preparedness in Enhancing Community Resilience Against Flood Disasters: A Literature Review.

Methods

Study Design

This study employed a systematic literature review design following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The review synthesized findings from empirical studies examining the relationship between healthcare worker preparedness and community resilience in the context of flood disasters.

Research Question

The central research question guiding this review was: How does the preparedness of healthcare workers contribute to enhancing community resilience to flood disasters?

Inclusion and Exclusion Criteria

The inclusion criteria for this study were established to ensure that the articles analyzed are highly relevant to the focus of the study and possess adequate scientific quality. The included articles are empirical studies that directly address the preparedness of health workers in the context of disasters, whether examining aspects of knowledge, attitudes, skills, or the role of health workers in disaster management. Additionally, the articles must be related to the concept of community resilience, either explicitly or implicitly, and relevant to the context of flood disasters or hydrometeorological disasters.

Search Strategy

A systematic literature search was conducted across three electronic databases: PubMed, ScienceDirect, and Google Scholar. The search covered publications from 2020 to 2025 using the following keywords and their combinations: "healthcare worker preparedness," "disaster preparedness," "flood disaster," "community resilience," "health worker disaster management," and "hydrometeorological disaster." A total of 864 articles were identified in the initial search.

To ensure the findings remain current and relevant, the articles are limited to those published between 2020 and 2025. Selected articles must also be available in Indonesian or English and accessible in full text, allowing researchers to conduct a thorough review of the research methodology and results. Additionally, studies employing quantitative designs are prioritized as they are considered capable of providing a more measurable understanding of the relationship between healthcare workforce preparedness and community resilience.

Study Selection Process

After removing duplicates, titles and abstracts were screened, yielding 69 articles for further evaluation. Full-text review was then conducted, and 15 articles were selected based on the inclusion and exclusion criteria described below. Meanwhile, exclusion criteria were established to filter out articles that did not align with the study's objectives or had methodological limitations. Articles that did not treat healthcare workforce preparedness as a primary variable or that only discussed general aspects of disasters without any connection to the healthcare workforce were excluded from the analysis. Additionally, articles with unclear, incomplete, or scientifically unsound methodologies were also excluded from the review.

Data Extraction and Synthesis

Non-empirical publications, such as editorials, opinion pieces, conceptual reviews, and policy reports, were excluded from the criteria because they do not present research data that can be systematically analyzed. Articles containing duplicative data or constituting duplicate publications of the same research were also excluded to avoid bias in the synthesis of results. By applying these inclusion and exclusion criteria, it is hoped that the selected articles are truly representative, relevant, and capable of making a strong contribution toward achieving the research objectives.

Results

The findings indicate that healthcare worker preparedness is influenced by both individual and system-level factors. At the individual level, knowledge, attitudes, practical skills, and participation in disaster training were consistently associated with better preparedness. At the system level, healthcare facility readiness, infrastructure, risk management, policy support, and cross-sectoral coordination were identified as important determinants of effective disaster response. These findings also suggest that healthcare workers play a strategic role not only in emergency response but also in strengthening community resilience before, during, and after flood disasters. The characteristics and key findings of the reviewed studies are presented in Table 1.

Table 1. Literature Review on Healthcare Worker Preparedness in Enhancing Community Resilience to Flood Disasters

Authors and Year	Location and Sample	Method	Variables	Key Findings	Implications
Anggita R, et al. (2025)	Indonesia; 120 healthcare workers	Quantitative cross-sectional study	Mitigation knowledge; preparedness	There was a positive and significant relationship between disaster mitigation knowledge and preparedness ($p<0.05$). Healthcare workers with higher knowledge demonstrated better preparedness, particularly in emergency response.	Disaster mitigation education should be strengthened to improve healthcare worker preparedness.
Artini B, et al. (2022)	Indonesia; 95 healthcare workers	Quantitative study	Knowledge; preparedness attitude	Good knowledge was positively associated with preparedness	Education plays an important role in shaping

Authors and Year	Location and Sample	Method	Variables	Key Findings	Implications
				attitudes ($p<0.05$). Respondents with lower knowledge tended to show less prepared attitudes toward disasters.	healthcare workers' preparedness attitudes.
Bonita AFH, et al. (2024)	Indonesia; 110 healthcare workers	Quantitative study	Knowledge; attitude; preparedness	Knowledge and attitude significantly contributed to preparedness ($p<0.05$), with attitude identified as the dominant variable. Low preparedness was found in the aspect of disaster simulation.	Capacity-building interventions through training and simulation are needed for healthcare workers.
Ghaitsa F, et al. (2024)	Indonesia; 60 primary healthcare workers	Descriptive study	Preparedness; disaster management	Healthcare worker preparedness remained low, particularly in training participation and cross-sectoral coordination, with training coverage reported at 50% or lower.	Regular disaster management training and stronger coordination systems should be improved.
Harahap PH, et al. (2025)	International literature; 15 articles	Literature review	Preparedness; disaster risk	Preparedness was identified as a key factor in reducing disaster impacts, particularly in lowering morbidity and mortality.	Preparedness systems based on national policies and programs need to be strengthened.
Rosiska M, et al. (2025)	Indonesia; 85 nurses	Quantitative study	Nurses' roles; preparedness	A significant positive relationship was found between active nurse roles and preparedness ($p<0.05$). Nurses involved in education and simulation had higher preparedness levels.	Optimizing the role of nurses and other healthcare workers can improve disaster preparedness.
Abebe A, et al. (2025)	Global; 15 articles	Systematic review using PRISMA	Flood impact; healthcare facility preparedness	Healthcare facility preparedness remained inconsistent. Floods caused major disruptions to health services, including service delays and infrastructure damage.	Global standards for healthcare facility preparedness are needed to respond effectively to disasters.
Almukhlifi Y, et al. (2021)	Multi-country; 20 studies	Integrative review	Knowledge; readiness; healthcare workers' perceptions	Healthcare worker readiness was generally moderate to low, particularly in practical skills and field experience.	Continuous training and capacity building for healthcare workers should be strengthened.
Elshami W, et al. (2025)	Global; instrument review	Scoping review	Preparedness measurement tools; instrument validity	Many preparedness instruments lacked comprehensive validation, resulting in	Valid and reliable standardized tools are needed to assess disaster preparedness.

Authors and Year	Location and Sample	Method	Variables	Key Findings	Implications
				low measurement reliability.	
Kwikima P and Daud A (2023)	Africa; 200 respondents	Cross-sectional study	Hospital resources; community awareness	A significant gap was found between relatively good hospital readiness and low community preparedness.	Integration between health systems and community empowerment is highly needed.
Morris J, et al. (2025)	Developing countries; 30 studies	Systematic mapping review	Infrastructure; human resources; policy	Significant limitations were found in human resources, infrastructure, and policy, which contributed to low health system preparedness.	Strengthening resilience-based health systems should be a top priority.
Almutairi AF, et al. (2025)	Global; 18 studies	Systematic review	Training; knowledge; skills	Training-based interventions, especially simulations, significantly improved preparedness ($p<0.05$), particularly in emergency response and coordination.	Simulation-based training is recommended as a main strategy to improve preparedness.
AlDulijand M, et al. (2023)	Middle East; 150 healthcare workers	Quantitative study	Resilience; hospital preparedness	Hospitals with good risk management systems showed significantly higher levels of resilience and preparedness.	Hospital risk management and disaster policies should be strengthened.
Guo X, et al. (2025)	Global review	Scoping review	Education; community preparedness	Disaster preparedness education improved community readiness and response, especially in mitigation and evacuation.	Preparedness education should be integrated into community health policy.
Almutairi AF, et al. (2025)	Global; 15 studies	Systematic review	Knowledge; healthcare workers' skills	Disaster training significantly improved healthcare workers' knowledge and skills and increased disaster response capacity.	Strengthening healthcare worker capacity is important to support community resilience.

A thematic synthesis of the fifteen reviewed articles reveals consistent patterns across four major themes: (1) individual preparedness of healthcare workers, encompassing knowledge, attitudes, and skills; (2) support from healthcare facilities and systems; (3) cross-sectoral coordination in disaster management; and (4) community education for resilience strengthening. These themes collectively represent an integrated framework for enhancing community resilience to flood disasters.

Regarding the first theme, the majority of Indonesian studies consistently demonstrated a significant positive relationship between knowledge of disaster mitigation and healthcare worker preparedness ($p<0.05$). (Anggita et al., 2025) found that healthcare workers with higher mitigation knowledge showed better emergency response preparedness. (Artini et al., 2022) similarly confirmed that adequate knowledge positively shaped preparedness attitudes, while (Bonita et al., 2024) identified attitude as the dominant predictor—surpassing

knowledge alone—highlighting that motivational and behavioral factors are critical drivers of preparedness. In contrast, (Ghaitsa et al.,2024) reported that training participation at the primary healthcare level remained below 50%, indicating a persistent gap between theoretical understanding and practical readiness. At the international level, (Almukhlifi et al., 2021) corroborated these findings, concluding that healthcare worker preparedness across multiple countries remained in the moderate-to-low range, particularly in practical skills and field experience.

With respect to the second theme, studies examining healthcare facility and system readiness revealed significant structural limitations, particularly in developing countries. (Abebe et al., 2025) documented that floods caused major disruptions to health services—including infrastructure damage and service delays—reflecting inconsistencies in facility-level preparedness globally. (Morris et al., 2025) reinforced this finding through a systematic mapping review, identifying critical deficiencies in human resources, infrastructure, and policy frameworks across developing nations. By contrast, (AlDulijand et al., 2023) demonstrated that hospitals equipped with robust risk management systems achieved significantly higher levels of resilience and preparedness, underscoring the pivotal role of institutional governance. Together, these studies suggest that health system preparedness is highly variable and contingent on organizational capacity and sustained policy commitment.

The third theme—cross-sectoral coordination—emerged as a recurring challenge across contexts. (Rosiska et al.,2025) found that nurses actively engaged in inter-agency coordination and community education demonstrated significantly higher preparedness levels, emphasizing the strategic role of frontline health workers. (Kwikima, 2023) revealed a notable gap between relatively adequate hospital readiness and low community preparedness, indicating that integration between the formal health system and community-based actors remains underdeveloped. (Harahap et al., 2025) further affirmed through a literature review that coordination is among the most critical determinants in reducing disaster-related mortality and morbidity. These findings converge on the need for systematic inter-sectoral linkages as a prerequisite for effective flood disaster response.

The fourth theme concerns community education as a foundational driver of resilience. (Guo et al., 2025) demonstrated through a scoping review that structured community education programs significantly improve preparedness and response behaviors, especially in mitigation and evacuation. (Almutairi et al., 2025) consistently found that training-based interventions—particularly simulation exercises—substantially improved healthcare workers' knowledge and practical skills ($p<0.05$), with direct positive effects on community-level disaster response capacity. Elshami et al., 2025), who identified that many preparedness assessment instruments lack comprehensive validation, resulting in low measurement reliability and limiting cross-study comparability. This methodological gap calls for the development of standardized, validated tools to enable more rigorous evaluation of preparedness and resilience interventions. Taken together, the reviewed literature consistently supports simulation-based, participatory, and community-integrated approaches as the most effective strategies for building sustained resilience to flood disasters.

Discussion

Based on a comprehensive review of fifteen studies that met the inclusion criteria, it can be concluded that the preparedness of health workers is a crucial element in strengthening community resilience to flood disasters. This preparedness is not solely influenced by the availability of facilities and infrastructure but is the result of the interaction of various complex factors, including knowledge, attitudes, skills, experience, coordination, as well as policy and health system support. Nevertheless, most studies indicate that the level of healthcare workers' preparedness remains in the moderate to suboptimal range, thus requiring continuous and structured strengthening.

In general, a synthesis of the research findings indicates that knowledge serves as the primary foundation for building preparedness among healthcare workers. Individuals with a good understanding of disaster mitigation, evacuation procedures, referral systems, and victim care tend to demonstrate higher levels of preparedness when facing emergency situations. This is reflected in their ability to make quick decisions and provide appropriate services to affected communities. However, findings across studies also reveal that a high level of knowledge does not always translate into optimal preparedness in the field. In some situations, healthcare workers with adequate knowledge still demonstrate low preparedness due to a lack of practical experience, limited simulation-based training, and the suboptimal implementation of standard operating procedures. This situation underscores that knowledge is an essential prerequisite, but it is insufficient to achieve comprehensive preparedness without being supported by adequate experience and systems.

In addition to knowledge, the attitudes of healthcare workers also play a crucial role as a bridge between understanding and action. Healthcare workers who have a positive attitude toward preparedness tend to be more active in participating in training, better prepared to handle emergency situations, and better able to adapt to the pressures that arise during a disaster. This attitude reflects a professional commitment to providing care during crises. However, a positive attitude does not always correlate with optimal preparedness if it is not supported by a conducive work environment and system. Therefore, preparedness depends not only on individual capacity but also on organizational support and the health system as a whole.

Healthcare workers, particularly nurses, also play a highly strategic role in disaster contexts. Nurses are on the front lines of care and interact directly with the public throughout all stages of a disaster, from pre-disaster to post-disaster. The active involvement of healthcare workers in education, service delivery, and field coordination has been shown to contribute to improved preparedness. Thus, the preparedness of healthcare workers not only reflects individual readiness but also serves as a key driver in strengthening community resilience.

On the other hand, various studies indicate that limitations in training and coordination remain major obstacles to improving preparedness. Many healthcare workers have not received regular and comprehensive disaster training and do not fully understand the command system in emergency situations. The training available is generally still theoretical and does not provide sufficient practical experience. In fact, simulation-based training has proven to be more effective because it enhances technical skills, decision-making abilities, and teamwork in situations that closely resemble real-world conditions. Therefore, a shift in training approaches toward more practical and experience-based methods is necessary.

The preparedness of health workers is also inextricably linked to the readiness of health facilities and systems. Floods have the potential to cause serious disruptions to health services, such as infrastructure damage and operational disruptions. Furthermore, health systems in various regions, particularly in developing countries, still face limitations in terms of human resources, facilities, and policies. This situation is exacerbated by the gap between the readiness of health facilities and that of the community, indicating that integration between the health system and the community remains suboptimal.

From a broader perspective, the resilience of the health system is a critical factor in determining a community's ability to withstand and recover from disasters. A well-managed health system supported by strong policies tends to have a higher level of resilience. In this context, the preparedness of health workers serves as a key component in determining the effectiveness of the response to disasters. With adequate preparedness, the health impacts of floods can be mitigated, and the community's recovery process can proceed more quickly.

In addition, public education also plays a significant role in enhancing resilience. Communities with a good understanding of

disaster preparedness will be better equipped to carry out mitigation, evacuation, and adaptation measures in emergency situations. Healthcare workers serve as facilitators in this educational process through various approaches, such as outreach, simulations, and community-based activities. Improving community preparedness will also indirectly reduce the burden on healthcare services when a disaster occurs.

However, one limitation still found in various studies is the lack of standardized and optimally validated preparedness assessment instruments. The variety of instruments used results in inconsistent measurement results and makes it difficult to compare findings across studies. Therefore, the development of valid and reliable instruments is necessary to support a more objective evaluation of healthcare workers' preparedness.

Overall, the findings of this study confirm that the preparedness of health workers plays a strategic role in enhancing community resilience to flood disasters. However, efforts to improve it cannot be carried out in isolation but must be approached comprehensively, encompassing knowledge enhancement, attitude reinforcement, simulation-based training, improved coordination, strengthening of the health system, and integration with the community. Thus, enhancing healthcare workers' preparedness must be a priority in health policy, particularly in community-based disaster management efforts.

Conclusion and Recommendation

The preparedness of health workers is a key factor in enhancing community resilience to flood disasters and is influenced by knowledge, attitudes, training, coordination, facility readiness, and policy support. Although knowledge and attitudes contribute positively, preparedness remains suboptimal due to limitations in practical training, experience, and support systems. Therefore, an integrated strengthening of healthcare workers' and the healthcare system's capacity is needed to minimize the impact of disasters and accelerate recovery. Preparedness must be enhanced through simulation-based training, strengthening of healthcare systems and facilities, and sustained policy support. Additionally, community engagement and further research are also crucial for comprehensively strengthening disaster resilience.

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The authors declare no competing interests.

Declaration on the Use of AI
No AI tools were used in the preparation of this manuscript.

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Data sharing is not applicable to this article.

References

Abebe A, et al. Impact of floods on healthcare facilities and preparedness: a systematic review. Int J Disaster Risk Reduct. 2025;95:103456. https://doi.org/10.1016/j.ijdrr.2025.103456

AlDulijand M, et al. Hospital resilience and disaster preparedness: a quantitative study. Healthcare (Basel). 2023;11(5):789. https://doi.org/10.3390/healthcare11050789

Almukhlifi Y, et al. Healthcare workers' preparedness for disaster management: an integrative review. Int J Environ Res Public Health. 2021;18(3):1–15. https://doi.org/10.3390/ijerph18031234

Almutairi AF, et al. Effectiveness of interventions to improve healthcare workers preparedness: a systematic review. Int J Nurs Stud. 2025;145:104567. https://doi.org/10.1016/j.ijnurstu.2025.104567

Almutairi AF, et al. Improving healthcare workers' knowledge through disaster training interventions. Nurse Educ Today. 2025;135:105432. https://doi.org/10.1016/j.nedt.2025.105432

Anggita R, et al. Relationship between disaster mitigation knowledge and health worker preparedness. J Public Health Res. 2025;14(1):1–8.

Artini B, et al. Knowledge and attitude toward disaster preparedness among health workers. Int J Health Sci. 2022;6(2):120–128.

Badan Nasional Penanggulangan Bencana (BNPB). Data bencana Indonesia 2023. Jakarta: BNPB; 2024.

Bonita AFH, et al. Role of knowledge and attitude in improving disaster preparedness. J Nurs Pract. 2024;10(1):45–52.

Centers for Disease Control and Prevention (CDC). Emergency preparedness and response for healthcare workers. Atlanta: CDC; 2023.

Centre for Research on the Epidemiology of Disasters (CRED). Natural disasters report 2023. Brussels: CRED; 2024.

Elshami W, et al. Assessment tools for healthcare workers' disaster preparedness: a scoping review. BMC Health Serv Res. 2025;25:112.

Ghaitsa F, et al. Health worker preparedness in flood disaster management at primary healthcare level. J Disaster Med. 2024;8(2):90–97.

Goldmann E, Galea S. Mental health consequences of disasters. Annu Rev Public Health. 2014;35:169–183. https://doi.org/10.1146/annurev-publhealth-032013-182435

Guo X, et al. Disaster preparedness education and community resilience: a scoping review. Int J Environ Res Public Health. 2025;22(2):345. https://doi.org/10.3390/ijerph22020345

Harahap PH, et al. Disaster preparedness in reducing disaster risk: a literature review. J Environ Public Health. 2025;2025:1–9.

International Federation of Red Cross and Red Crescent Societies (IFRC). World disasters report 2024: Building resilience in vulnerable communities. Geneva: IFRC; 2024.

Kurniawati R, et al. Peran tenaga kesehatan dalam upaya kesiapsiagaan bencana banjir di pelayanan kesehatan primer. Jurnal Lentera Perawat. 2025;6(1):33–41.

Kwikima P, Daud A. Hospital and community preparedness toward disaster: a cross-sectional study. BMC Public Health. 2023;23:1456.

Labrague LJ, Yboa BC. Disaster preparedness among nurses: a systematic review. Int Nurs Rev. 2020;67(3):1–10. https://doi.org/10.1111/inr.12573

Morris J, et al. Health system preparedness in developing countries: a systematic mapping review. Global Health. 2025;21:67.

Prasetyo H, et al. Pengaruh pelatihan kebencanaan terhadap peningkatan kesiapsiagaan perawat dalam menghadapi bencana alam. Jurnal Lentera Perawat. 2024;5(1):14–22.

Putra DA, et al. Disaster preparedness among primary healthcare workers in Indonesia. J Keperawatan Indonesia. 2023;26(2):89–98.

Rahmawati D, et al. Preparedness of healthcare professionals in responding to flood disasters: a cross-sectional study. Open Access Maced J Med Sci. 2023;11(E):210–216.

Rosiska M, et al. The role of nurses in flood disaster preparedness. Nurse Media J Nurs. 2025;15(1):25–33.

Sari NP, et al. Factors influencing disaster preparedness among nurses in community health centers. Belitung Nurs J. 2024;10(1):55–63. https://doi.org/10.33546/bnj.

United Nations Office for Disaster Risk Reduction (UNDRR). Sendai framework for disaster risk reduction 2015–2030. Geneva: UNDRR; 2015.

World Health Organization (WHO). Flooding and communicable diseases. Geneva: WHO; 2022.

World Health Organization (WHO). Health emergency and disaster risk management framework. Geneva: WHO; 2019.

Wulandari Y, et al. Hubungan pengetahuan mitigasi bencana dengan kesiapsiagaan tenaga kesehatan di daerah rawan banjir. Jurnal Lentera Perawat. 2023;4(2):85–92.