

Participatory Approach in Developing Village-Level Disaster Health Preparedness Plans

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ABSTRACT

The high risk of disasters in Indonesia requires the development of village health preparedness plans that are not only administrative, but also participatory and implementable. Purpose: This study aims to analyze the effectiveness of the Participatory Action Research (PAR) approach in developing Village Disaster Health Preparedness Plans. Method: The activity was carried out in Malalak Village, Agam Regency, from January to March 2026, involving 45 purposively selected participants. The PAR approach was implemented through participatory assessments, document development, simulations, and monitoring and evaluation. Quantitative data were analyzed descriptively based on pre-tests and post-tests, while qualitative data were analyzed using thematic analysis. Results: The average knowledge score increased from 61.8 to 85.9 (39.0%). Community participation was very high (88.9–97.8%). The mentoring resulted in a preparedness document covering eight main components, while the simulation showed indicator achievement of 84.4–93.3%. Thematic analysis showed increased community capacity, strengthened cross-sector coordination, a growing sense of ownership of the document, and a commitment to sustainable implementation. Implications: The participatory approach can be a model for strengthening adaptive and sustainable community-based health resilience. Conclusions: The PAR approach effectively improved knowledge, community participation, the quality of preparedness documents, and cross-sector coordination, although capacity building in addressing vulnerable groups is still needed.

Keywords: Participatory Action Research, Disaster Health Preparedness, Community Participation, Community Resilience, Village Preparedness Plan



INTRODUCTION

Indonesia is one of the countries with the highest disaster risk levels in the world due to its location at the confluence of three active tectonic plates, its presence in a series of volcanoes, and its increasing threat of hydrometeorological disasters due to climate change (Desderius et al., 2024). These geographic conditions cause various types of disasters, such as earthquakes, tsunamis, floods, landslides, droughts, and volcanic eruptions, to occur repeatedly with increasing frequency and intensity. In recent years, the disaster management paradigm has shifted from an emergency response-oriented approach to disaster risk reduction through increasing community capacity and strengthening preparedness at the local level. This paradigm shift aligns with sustainable development efforts that place communities as the primary actors in building disaster resilience (Wahyunengseh & Pamungkas, 2025).

Disasters not only cause economic losses and infrastructure damage, but also have a significant impact on public health. Disruptions to basic health services, damage to health facilities, limited access to clean water and sanitation, increased risk of infectious diseases, worsened management of chronic diseases, and the emergence of mental health problems are common consequences following disasters (Prima et al., 2026). Furthermore, vulnerable groups such as toddlers, pregnant women, the elderly, people with disabilities, and those with chronic diseases are at higher risk of experiencing health problems and therefore require special attention at every stage of disaster management. Therefore, health preparedness needs to be an integral part of the disaster management system to minimize potential health impacts (Kumala et al., 2025; Subarno et al., 2025).

In this context, villages hold a highly strategic position as the frontline in disaster management because they are the first areas to feel the impact when a disaster occurs. The Indonesian government has encouraged strengthening community resilience through the development of the Disaster Resilient Village program, which positions communities as key actors in mitigation, preparedness, emergency response, and post-disaster recovery efforts. Through the authority held under the village government system, village governments have the opportunity to formulate local policies appropriate to the region's risk characteristics, including integrating health aspects into disaster preparedness planning documents (Chotib et al., 2025).

However, the implementation of preparedness plans at the village level still faces various obstacles. In many villages, preparedness documents are still prepared to meet administrative needs and are not fully based on a comprehensive health risk analysis. Identification of health threats, mapping of vulnerable groups, inventorying health resources, and mechanisms for coordinating health services during disasters are often not systematically documented. As a result, the resulting documents cannot serve as effective operational guidelines in the event of an emergency (Wijaya et al., 2025).

Another problem is the low level of community involvement in the process of developing preparedness plans. Planning is generally dominated by a top-down approach that places greater emphasis on decisions from the government or relevant institutions, while community aspirations, local experiences, and knowledge are not optimally utilized. This condition results in a low sense of community ownership of the documents being prepared, resulting in the implementation of various preparedness plans often lacking in sustainability. Furthermore, cross-sectoral coordination between village governments, community health centers (Puskesmas), health cadres, volunteers,

community organizations, and the Regional Disaster Management Agency (BPBD) is also suboptimal, reducing the effectiveness of preparedness at the community level (Sunarto et al., 2025).

A participatory approach is seen as an effective strategy for addressing these issues. This approach positions the community as both a subject and a partner in every planning stage, from problem identification and needs analysis to risk mapping and prioritization, through to decision-making. Active community involvement allows for the development of preparedness plans that are more tailored to local conditions, leverage community knowledge of potential threats, and strengthen collective capacity to respond to disasters. Various studies have shown that community participation contributes to increased preparedness, strengthened social capital, and the sustainable implementation of disaster risk reduction programs (Chotib et al., 2025).

From a public health perspective, a participatory approach can be implemented through joint identification of health threats, mapping village health service capacity, establishing emergency communication channels, identifying vulnerable groups, developing health evacuation procedures, planning health logistics, and conducting regular preparedness simulations. This approach not only produces more comprehensive preparedness documents but also improves the community's ability to recognize risks, make quick decisions, and take appropriate action in the event of an emergency (Kumala et al., 2025; Kurniawan et al., 2024).

Although various disaster risk reduction programs have been implemented, most still focus on general disaster aspects, while health preparedness has not received proportional attention. Community service programs that specifically assist villages in developing participatory health preparedness plans are still relatively limited. Consequently, not many villages have health preparedness documents that are collaboratively developed, based on local risk analysis, and can serve as implementation guidelines for responding to health emergencies caused by disasters. This gap highlights the need to develop a community empowerment model capable of integrating health aspects into the village preparedness system in a sustainable manner (Kurniawan et al., 2024).

Based on these various issues, implementing community service activities to develop participatory disaster health preparedness plans is crucial. These activities are aimed at increasing the capacity of village governments, health workers, volunteers, and the community to identify health risks, map resources, develop emergency procedures, and develop cross-sector coordination mechanisms.

A participatory approach to developing health preparedness plans also provides broader benefits than administrative document preparation. The participatory process allows communities to gain firsthand experience in conducting risk analysis, identifying vulnerable groups, establishing emergency communication channels, determining health evacuation locations, and designing health logistics needs based on real-world conditions. In addition to enhancing community knowledge and skills, the process also strengthens a sense of ownership of the resulting document, fostering a shared commitment to the ongoing implementation, monitoring, and updating of preparedness plans (Sunarto et al., 2025).

Strengthening health preparedness at the village level also contributes to increasing the resilience of community-based health systems. Villages with collaboratively developed health preparedness plans tend to be better prepared to organize local resources, conduct early detection of health threats, activate emergency communication systems, and provide services to vulnerable groups when disasters occur. This is in line with the health development approach that emphasizes



the importance of community empowerment as the primary foundation for building a health system that is adaptive to various disaster threats and other health crises (Kumala et al., 2025; Subarno et al., 2025).

In addition to producing contextual health preparedness plan documents, this community service activity is expected to build more effective cross-sector coordination mechanisms at the village level. Collaboration between village governments, community health centers (Puskesmas), health cadres, disaster volunteers, community organizations, religious leaders, traditional leaders, and universities is a crucial factor in creating inclusive preparedness governance. This multi-stakeholder synergy will strengthen the planning process, simulation implementation, periodic evaluation, and document updates in line with changing risk conditions faced by the community (Chotib et al., 2024; Wahyunengseh & Pamungkas, 2025).

From both an academic and practical perspective, this community service activity contributes to the development of a participatory health preparedness planning model that can be replicated in other villages with similar risk characteristics. The model focuses not only on document development but also emphasizes community learning through problem identification, capacity building, collaborative decision-making, and enhancing community capacity to independently manage disaster-related health risks (Kurniawan et al., 2024; Sunarto et al., 2025).

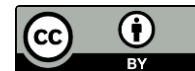
The urgency of implementing this community service is heightened given the increasing complexity of disaster threats influenced by climate change, population growth, land use changes, and the increasing potential for public health emergencies. Therefore, health preparedness can no longer be viewed solely as the responsibility of the health sector, but rather requires the active involvement of all elements of society through a participatory, collaborative, and sustainable planning process.

Based on this description, it can be emphasized that developing a participatory disaster health preparedness plan is a strategic necessity in strengthening village resilience to disasters. This community service activity is crucial for increasing the capacity of village governments and communities to develop implementable health preparedness documents, strengthening cross-sector collaboration, increasing disaster and public health literacy, and producing a more effective, inclusive, and disaster-focused preparedness system that reduces health risks from disasters.

METHODS

This community service activity uses a Participatory Action Research (PAR) approach, which places the community as the primary subject at every stage of developing a disaster health preparedness plan. This approach was chosen because it encourages active community involvement in the collaborative process of problem identification, needs analysis, decision-making, and action plan development. Through this approach, it is hoped that the resulting health preparedness document will not only be administrative in nature but also be aligned with the risk characteristics, capacities, and needs of the village community.

The activity was carried out in Malalak Village, Malalak District, Agam Regency from January to March 2026. The target groups included village government, health workers from the Community Health Center (Puskesmas), health cadres, Posyandu cadres, disaster volunteers, members of the Disaster Risk Reduction Forum (FPRB) if available, community leaders, religious leaders, youth leaders, community organizations, and representatives of vulnerable groups such as



the elderly, pregnant women, people with disabilities, and communities living in disaster-risk areas. Participants were selected purposively based on their role and involvement in disaster management efforts at the village level.

The implementation of activities is carried out through five main stages, namely preparation, participatory assessment, preparation of health preparedness plans, simulation, and evaluation.

The first stage is preparation, which includes coordination with the village government, community health centers (Puskesmas), the Regional Disaster Management Agency (BPBD), and other stakeholders. This stage includes an initial identification of village conditions, a schedule of activities, the development of data collection instruments, the provision of educational materials, and the formation of a working group to develop a health preparedness plan.

The second stage is a participatory assessment. This stage involves identifying disaster threats with the potential to cause health impacts through focus group discussions (FGDs), interviews, field observations, and participatory mapping. Together with the community, vulnerable groups are identified, health facilities, resources, evacuation routes, assembly points, emergency communication systems, and an inventory of available resources in the village are mapped. A health risk analysis is then conducted based on potential hazards, vulnerability levels, community capacity, and local resources.

The third stage is the participatory development of a Village Disaster Health Preparedness Plan. This is done through a joint workshop involving all stakeholders. The document includes a health risk analysis, organizational structure for health emergency response, cross-sector coordination mechanisms, communication and early warning systems, health evacuation procedures, identification of vulnerable groups, health logistics needs, health service referral mechanisms, division of tasks for each party, and a follow-up plan to improve village preparedness.

The fourth stage involved a disaster health preparedness simulation (tabletop exercise and drill simulation). The simulation was conducted to test the implementation of the prepared document, identify procedural weaknesses, improve coordination between stakeholders, and train the community's ability to respond to health emergencies caused by disasters. Following the simulation, a joint reflection session was held to obtain input for improving the preparedness document.

The final stage is monitoring and evaluation. Evaluation was conducted to assess participants' knowledge of disaster health preparedness through pre- and post-tests. Process evaluation was also conducted through observations of community participation, active discussions, cross-sector involvement, and an assessment of the completeness of the health preparedness plan documents. Outcome evaluation was conducted using observation sheets and participant satisfaction questionnaires regarding the implementation of the activities.

The data obtained were analyzed descriptively. Quantitative data, including pre-test and post-test results, were analyzed using descriptive statistics in the form of average scores, percentage increase in knowledge, and frequency distribution. Meanwhile, qualitative data obtained from group discussions, interviews, observations, and participant reflections were analyzed using thematic analysis through a process of data reduction, grouping themes, data presentation, and drawing conclusions to describe changes in community capacity, the collaboration process, and the quality of the preparedness documents produced.



Indicators of activity success include: (1) the preparation of a Village Disaster Health Preparedness Plan document in a participatory manner; (2) increased participant knowledge regarding disaster health preparedness as indicated by an increase in post-test scores compared to the pre-test; (3) increased community and stakeholder involvement in the document preparation process; (4) the implementation of a disaster health preparedness simulation; and (5) the formation of a cross-sector coordination mechanism that supports the implementation of the health preparedness plan on an ongoing basis.

RESULTS

1. Characteristics of Activity Participants

The community service activity was attended by 45 participants, consisting of village government officials, health center (Puskesmas) health workers, health cadres, Posyandu (Integrated Health Post) cadres, disaster volunteers, community leaders, religious leaders, youth leaders, and representatives of vulnerable groups. The involvement of participants from various elements demonstrated that the process of developing the health preparedness plan implemented collaborative and representative principles in accordance with the Participatory Action Research approach.

Table 1. Characteristics of Community Service Participants (n = 45)

Characteristics	n	%
Gender		
Man	20	44.4
Woman	25	55.6
Participant Group		
Village Government	6	13.3
Health Center Health Workers	5	11.1
Health Cadres/Posyandu	12	26.7
Disaster Volunteers/FPRB	7	15.6
Community/Religious Figures	8	17.8
Youth Figure	4	8.9
Vulnerable Groups	3	6.7

The composition of participants demonstrates the representation of all stakeholders involved in disaster health preparedness. The predominance of health cadres and community members demonstrates that the document development process was more oriented toward community empowerment than solely involving government officials.

2. Participant Knowledge Enhancement

Evaluation was conducted through pre-test and post-test regarding disaster health preparedness.

Table 2. Results of Pre-test and Post-test of Participants' Knowledge

Variables	Mean $\pm$ SD	Minimum	Maximum	Increase (%)
Pre-test	61.8 $\pm$ 10.5	40	82	-
Post-test	85.9 $\pm$ 7.6	68	98	39.0

The mentoring program significantly improved participants' understanding of disaster health preparedness. The increase in mean scores, coupled with a decrease in score variation, indicates that knowledge gains occurred not only among a small number of participants but also more evenly across the target group. This indicates that the educational materials, participatory discussions, and document development practices successfully strengthened shared understanding of disaster health risk management.

3. Level of Community Participation During Mentoring

Table 3. Level of Participation of Participants in Each Stage of the Activity

Stages	Active Participant (n)	Percentage (%)
Risk Identification FGD	42	93.3
Participatory Mapping	40	88.9
Document Preparation	44	97.8
Disaster Simulation	41	91.1
Reflection and Evaluation	43	95.6

Community participation was very high throughout all stages of the activity. The high level of participant involvement during document development demonstrates that the community acted not only as recipients of information but also actively contributed to identifying risks, setting priorities, and formulating health preparedness strategies tailored to local conditions.

4. Results of the Preparation of Preparedness Plan Documents

Table 4. Components of Successfully Compiled Documents

Document Components	Status
Health Risk Analysis	Finished
Identification of Vulnerable Groups	Finished
Emergency Response Organizational Structure	Finished
Emergency Communication Line	Finished
Health Evacuation Route	Finished
Health Logistics List	Finished
Referral Mechanism	Finished
Follow-up Plan	Finished

The mentoring resulted in a health preparedness document that covers all key components according to village needs. The document integrates risk analysis, resource organization, communication mechanisms, and operational procedures, making it a guideline for implementation in health emergencies.

5. Preparedness Simulation Evaluation

Table 5. Simulation Implementation Evaluation Results

Indicator	Achieved (%)
Understanding Participant Roles	91.1
Inter-Sectoral Coordination	88.9
Communication Speed	86.7
Accuracy of Evacuation Routes	93.3



Management of Vulnerable Groups	84.4
Logistics Use	88.9

The simulation demonstrated that most of the formulated procedures were effectively implemented by participants. Coordination between actors was more effective than before the activity, although there was still a need to strengthen service mechanisms for vulnerable groups to make the health response more inclusive.

6. Thematic Analysis Results

Table 6. Qualitative Findings Based on FGD and Observations

Theme	Key Findings
Risk Identification	Communities are able to identify priority health threats in their area.
Collaboration	The relationship between the village government, the Community Health Center, and the community is increasingly coordinated.
Empowerment	Participants are more confident in developing preparedness plans.
Ownership	The document is considered a joint outcome so that a commitment to implement and update it arises.
Sustainability	It was agreed to form a periodic monitoring and evaluation team.

Thematic analysis shows that the participatory approach not only improves participants' technical capacity but also strengthens community social capital. The collaborative document development process fosters a sense of ownership of the preparedness plan, improves cross-sector communication, and builds a shared commitment to continuously updating the document in line with evolving disaster risks.

Overall, the community service implementation successfully met all the success indicators established in the method. The increase in participant knowledge was accompanied by high community participation during the mentoring process, the development of a comprehensive Village Disaster Health Preparedness Plan document, the implementation of simulations with a high level of achievement, and the establishment of a stronger cross-sector coordination mechanism. These findings indicate that the Participatory Action Research (PAR) approach is effective in increasing community capacity and strengthening disaster health preparedness at the village level through a collaborative and sustainable empowerment process.

DISCUSSION

1. Increasing Participants' Knowledge Regarding Disaster Health Preparedness

The knowledge evaluation results showed a significant increase, from a pre-test average of 61.8 to a post-test average of 85.9, or an increase of 39.0%, accompanied by a decrease in the standard deviation indicating an even distribution of understanding across all target groups. This finding is in line with the principle of adult learning, which emphasizes that knowledge is more effectively internalized through direct experience than through one-way information delivery. Through the stages of participatory assessment, focus group discussions, and the preparation of joint documents, participants not only received disaster health preparedness materials but also directly practiced the process of risk analysis and decision-making, so that the understanding formed was more contextual and long-lasting.

According to PubMed, a study by Rajeswari et al. found that women trained through a community change agent approach in coastal Tamil Nadu experienced a 44.6% increase in disaster preparedness knowledge compared to a control group that only received standard information (Rajeswari et al., 2025). In line with this, a study by Thronsao et al. on a Participatory Action Research-based flood preparedness model in Thailand also reported significant improvements in preparedness knowledge and skills after community-based training (Thronsao et al., 2025). Both findings strengthen the evidence that participatory approaches and the involvement of local actors as learning drivers can produce more significant changes in knowledge than conventional educational methods.

Researchers believe that the significant increase in knowledge in this activity was also influenced by the suitability of the material to the real risk conditions faced by the people of Malalak Village as a disaster-prone area, so that participants had high intrinsic motivation to understand and master the health preparedness material presented.

2. Level of Community Participation During the Mentoring Process

Active participation of participants at all stages of the activity ranged from 88.9% to 97.8%, with the highest participation occurring at the stage of preparing the preparedness document. This pattern confirms that the community is not merely passively present, but is substantively involved in the decision-making process, in accordance with the empowerment principle of the Participatory Action Research approach, which positions the community as the subject, not the object, of development. The high level of participation at the document preparation stage, in particular, indicates a growing sense of ownership throughout the process, as participants recognize that the resulting document will serve as a direct reference for their own safety.

According to PubMed, Thronsao et al.'s study of fourteen flood-prone villages in Thailand also noted high levels of engagement during the planning and training stages, although post-intervention activity sustainability was only maintained in a small proportion of villages due to limited resources and post-program support (Thronsao et al., 2025). This comparison is important to remind us that high participation during the mentoring period does not automatically guarantee long-term sustainability if it is not accompanied by adequate post-program support mechanisms.

The high level of participation in this activity was driven by the emotional closeness and collective experience of the Malalak District community regarding the threat of disaster, as well as a facilitation approach involving community leaders and religious leaders as drivers of participation by other residents.

3. Completeness of Village Disaster Health Preparedness Plan Documents

All eight components of the preparedness document—from health risk analysis and identification of vulnerable groups to emergency response organizational structure and follow-up plans—were successfully completed. This achievement directly addresses the problem outlined in the introduction: many village preparedness documents are prepared solely for administrative purposes without being based on a comprehensive health risk analysis. The completeness of the documents in this activity demonstrates that a structured, participatory process through joint workshops can produce more substantive and implementable outputs.



According to PubMed, an evaluation of a tabletop radiological emergency exercise in Ukraine by Akbarov et al. found that major weaknesses in the emergency response often arose in aspects that were not systematically documented beforehand, such as patient referral pathways and standard decontamination procedures (Akbarov et al., 2025). These findings reinforce the importance of complete preparedness documentation as a prerequisite before conducting a simulation, as incomplete documentation on one component has the potential to become a major weakness during a real emergency.

Considering that the completeness of the documents in this activity cannot be separated from the involvement of various elements since the participatory assessment stage, which allows each document component to be compiled based on real data and experience in the field, not just following an administrative template.

4. Effectiveness of Preparedness Simulation and Its Relationship to Qualitative Findings

The simulation evaluation results showed high performance across almost all indicators, with evacuation route accuracy achieving the highest performance (93.3%) and vulnerable group management the lowest (84.4%). This pattern is consistent with studies on health emergency simulation methods, which show that tabletop exercises and drill simulations have distinct advantages: tabletop exercises are more effective in building procedural understanding and participant confidence, while field simulations are superior in training emotional responses and practical evaluation. According to PubMed, a study by Skaltsis et al. on nursing students confirmed the different advantages of the two methods, so combining the two as applied to this activity is relevant for producing more comprehensive preparedness (Skaltsis et al., 2024).

The low performance in the management of vulnerable groups aligns with WHO's experience in multi-country tabletop exercises within the PRET program, which found that cross-sectoral coordination and operational decision-making were often areas requiring further strengthening, despite generally good risk communication, according to PubMed (Chugh et al., 2024). Similarly, an evaluation of a radiological emergency tabletop exercise in Ukraine highlighted that referral pathways for groups with special needs were generally the component requiring the most strengthening, according to PubMed (Akbarov et al., 2025).

The quantitative findings in Table 5 are reinforced by the thematic analysis results in Table 6, which indicate that participants were able to identify priority health threats, that cross-stakeholder collaboration was increasingly coordinated, and that confidence and ownership of the preparedness document developed. This correlation between quantitative and qualitative data confirms that increasing technical capacity through simulations goes hand in hand with strengthening community social capital, as also reported in research on community change agents, which shows that strengthening individual capacity through a participatory approach contributes to collective confidence and group readiness to act, according to PubMed (Rajeswari et al., 2025). The theme of sustainability in Table 6, marked by the agreement to establish a periodic monitoring and evaluation team, also provides an early indication that the preparedness document produced has the potential for sustainable implementation, although actual sustainability can only be ensured through post-activity monitoring.

The low achievement in the aspect of managing vulnerable groups compared to other indicators is due to the limited practical experience of participants in handling the specific needs of

the elderly, pregnant women, and people with disabilities during the simulation, so this aspect needs to be a priority in further training and subsequent simulations so that village health preparedness is truly inclusive for all levels of society.

Overall, the relationship between increased knowledge (Table 2), high participation (Table 3), completeness of documents (Table 4), effectiveness of simulation (Table 5), and thematic findings (Table 6) shows that the Participatory Action Research approach has succeeded in building disaster health preparedness in Malalak Village in a multidimensional manner, both in cognitive aspects, operational documents, and community social capital, while also identifying the management of vulnerable groups as a focus for strengthening in the next stage of community service.

CONCLUSIONS

Community service activities regarding the preparation of a Village Disaster Health Preparedness Plan through a Participatory Action Research approach in Malalak Village, Malalak District, Agam Regency, have proven effective in increasing community health preparedness in a multidimensional manner. Participants' knowledge of disaster health preparedness increased significantly from an average of 61.8 to 85.9 (39.0%), accompanied by active community participation in all stages of the activity with an achievement of 88.9–97.8%. The participatory process succeeded in producing a complete Village Disaster Health Preparedness Plan document covering eight main components, from health risk analysis to follow-up plans, and was tested through preparedness simulations with a good achievement level (84.4–93.3%).

Thematic analysis findings reinforce these quantitative findings, demonstrating a strengthening of community capacity to recognize health risks, improved cross-sectoral coordination between village governments, community health centers, and the community, a growing sense of ownership of the preparedness documents produced, and an agreement to establish a monitoring team for ongoing implementation. This confirms that the participatory approach not only produces implementable planning documents but also strengthens social capital and the community's collective capacity to respond to health emergencies caused by disasters. However, the relatively lower achievement in the management of vulnerable groups indicates the need for further strengthening so that the village health preparedness system can operate more inclusively for all levels of society, including the elderly, pregnant women, and people with disabilities.

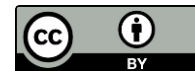
Overall, the results of this activity recommend that the participatory disaster health preparedness planning model can be replicated in other villages with similar risk characteristics, accompanied by strengthening of periodic monitoring and evaluation mechanisms and further training that specifically targets strengthening services for vulnerable groups, so that the sustainability of community-based health preparedness can be maintained in the long term.

REFERENCES

- Adliani, N., Sunarti, N. T. S., Jayadi, A., Murtiani, F., Saragih, E., Mahardianti, M., Rahmah, L., Lombogia, C. A., & Hadjo, S. (2025). *Introduction to Tropical Diseases*. Yayasan Kita Menulis.
- Adriani, Sari, M., & Hadjo, S. (2025). The Relationship Between Health Misinformation Exposure and Adherence to Disease Prevention Programs: A Cross-Sectional Study in Indonesia. *Miracle Get Journal*, 3(2), 102–112. <https://doi.org/10.69855/mgj.v3i2.607>



- Akbarov, K., Mayigane, L. N., Kenbayeva, Z., Levchenko, Y., Esengulov, A., Copper, F. A., Bacchus, P., Bruni, E., & Habicht, J. (2025). Strengthening Radiological Emergency Preparedness through a Tabletop Exercise: Lessons from a Multi-Agency Response Assessment in Ukraine [Review of *Strengthening Radiological Emergency Preparedness through a Tabletop Exercise: Lessons from a Multi-Agency Response Assessment in Ukraine*]. *Disaster Medicine and Public Health Preparedness*, 19. <https://doi.org/10.1017/dmp.2025.10250>
- Anggraini, D. D., Nurbaiti, N., Sunarti, N. T. S., Sari, R. I., Sampouw, N., Hadjo, S., Amallia, A., Djuwadi, G., Minarti, M., & Munawarah, S. H. (2025). *Fundamentals of Public Health*. Yayasan Kita Menulis.
- Chotib, H. M., Haesdhona, Syahwami, & Hamirul. (2024). Building Resilience: The Role of Community-Based Disaster Preparedness Training in Empowering Lubuk Village, Indonesia. *Indonesian Community Empowerment Journal*, 4(2), 93–106. <https://doi.org/10.37275/icejournal.v4i2.44>
- Christina, T. Y., Maria, D., Sampouw, N., Manoppo, M. W., Diannita, C. G., Mustar, M., Hadjo, S., Evawaty, E., Yuliani, E., & Indrawati, I. (2025). *Public Health Nursing*. Yayasan Kita Menulis.
- Chugh, H., Akande, O. W., Tijerino, R. A., Assi, M., Bates, M., Berry, A., Brenes, H., Buyanbaatar, D., Chuluunbat, U., Danzan, G., Darmaa, O., Garcia, I., Ghosn, N., Hikmat, R., Jimenez, A. M., Naidu, S., Ngamata, K., Nguyen, P. N., Paterson, B., ... Samaan, G. (2024). *Preparing for the next respiratory pathogen pandemic: Using tabletop simulation exercises to strengthen national planning in Cook Islands, Costa Rica, Lebanon and Mongolia*. *Frontiers in Public Health*, 12, Article 1392894. <https://doi.org/10.3389/fpubh.2024.1392894>
- Desderius, K., Arrinjani, M. S. B., Sa'adia, Z. F., & Lie, F. R. (2024). Analysis of landslide disaster risk levels in Blitar Regency, East Java. *Region : Jurnal Pembangunan Wilayah Dan Perencanaan Partisipatif*, 19(1), 200–200. <https://doi.org/10.20961/region.v19i1.58889>
- Hadjo, S., Dalimunthe, D. Y., Tasnim, T., Manalu, J. S., Sumiyati, I., Kasenda, T., Djuwadi, G., Sagala, N. S., Simamora, J. P., & Zainab, Z. (2025). *Theory and Practice of Health Promotion*. Yayasan Kita Menulis.
- Hadjo, S., Kasenda, T., & Hadjo, N. (2025). Development of a Self-Determination Model Questionnaire Instrument on the Breakfast Habits of Adolescents in Junior High Schools. *Jurnal Sosial Teknologi*, 5(6). <https://doi.org/10.59188/jurnalsostech.v5i6.32252>
- Hadjo, S., Simarmata, J., Daud, M., Ma'rief, A. A. F., Purnomo, D. A. N., Geneo, M., Maras, M. A. J., Koedoes, Y. A., & Djuwadi, G. (2026). *Basic Occupational Health and Safety*. Yayasan Kita Menulis.
- Hadjo, S., Susilawaty, A., Elviyanti, E., Rois, I., Khalik, I., Adami, A., Taquiuddin, Z., Gusri, L., Wijaya, H., & Siregar, I. (2026). *Environmental Health in Urban Settlements*. Yayasan Kita Menulis.
- Hamzah, H., Tasnim, T., Syamsul, M., Chalid, D., Dahlan, L., Susanti, R. S., Rahmiati, R., Urufia, W. O. N., & Rasmaniar, R. (2026). *Public Health Surveillance*. Yayasan Kita Menulis.
- Husnaniyah, D., & Hadjo, S. (2026). The Effect of Digital Technology on the Quality of Health Services in Health Centers. *Professional Evidence-Based Research and Advances in Wellness and Treatment*, 3(2), 69–81.
- Kasenda, T., Hadjo, S. S., & Hadjo, N. (2025). The Relationship Between Previous Behavior and Behavioral Specific Cognition and Affect on Adolescents' Breakfast Habits. *Nutrix Journal*, 9(2), 455–462. <https://doi.org/10.37771/nj.v9i2.1433>



- Kumala, T. F., Ardiansyah, D., Agustini, P., Supriadi, D., Suharjiman, & Juhaeriah, J. (2025). Disaster Awareness, Preparedness, Participation, and Nursing Competency in Indonesian Public Health Nurses. *The Malaysian Journal of Nursing*, 17(Supplementary 1), 12–20. <https://doi.org/10.31674/mjn.2025.v17isupp1.002>
- Kurniawan, A. W., Roesardhyati, R., Hastuti, A. P., Pradini, R. S., & Ambarika, R. (2024). Smart Health Village in Improving Disaster Preparedness. *Journal Of Nursing Practice*, 7(2), 305–313. <https://doi.org/10.30994/jnp.v7i2.491>
- Nainggolan, K., Ansya, Y. A., Hamdayani, H., Sihombing, Y. A., Geneo, M., Hadjo, S., Rois, I., Siburian, U. D., Shidiq, A., & NNPS, R. I. N. (2025). *Introduction to Public Health in the Global Era*. Yayasan Kita Menulis.
- Nainggolan, K., Ansya, Y. A., Nugroho, D. B., Munsarif, M., Budiatty, W. O. S., Pratiwi, D., Anshori, M., Amalia, I. N., Wahyuni, S., & Amal, A. A. (2026). *Digital Health Technology: Concepts and Implementation*. Yayasan Kita Menulis.
- Nainggolan, K., Panduwiyasa, H., Hasibuan, A., Ansya, Y. A., Fauziyyah, N., Sianturi, E., Dalimunthe, D. Y., Hadjo, S., Manoppo, I. J., & Sampouw, N. (2025). *Health Promotion and Behavioral Science: Concepts and Strategies*. Yayasan Kita Menulis.
- Nurbaiti, N., Hasyim, M., Hadjo, S., Tasnim, T., Ajmain, A., Hafiduddin, M., Silalahi, N., Tresnaningtyas, S. A., Djuwadi, G., & Yuliana, R. (2026). *Basic Epidemiology for Public Health*. Yayasan Kita Menulis.
- Prima, R., Putri, M., & Bachri, Y. (2026). Basic Health Check-ups and Early Detection of Infectious Diseases Following the Flash Flood Disaster in IV Koto District, Agam Regency, West Sumatra. *Jurnal Salingka Abdimas*, 6(1), 33–38. <https://doi.org/10.31869/jsam.v6i1.7961>
- Rahmawati Shoufiah, Inez Vravty Lestari, & Samuel Hadjo. (2026). Community-Based Health Promotion Model for Diabetes Mellitus Prevention in Urban Areas. *Miracle Get Journal*, 3(2), 113–126. <https://doi.org/10.69855/mgj.v3i2.608>
- Rajeswari, D., Jayaraman, R., Celina, D., & Kanchana. (2025). Community change agents and disaster preparedness among women in coastal areas. *BMC Emergency Medicine*, 25(1). <https://doi.org/10.1186/s12873-025-01393-8>
- Skaltsis, J., Sackett, A., Ellis, K. A., & Cohen, S. A. (2024). Learner Perception of Disaster Simulation Modalities [Review of *Learner Perception of Disaster Simulation Modalities*]. *Nurse Educator*. <https://doi.org/10.1097/nne.0000000000001619>
- Subarno, A., Koesuma, S., & Sukatiman. (2025). Integrating Environmental Health into Disaster-Resilient Villages: Strategies, Challenges, and Solutions in Surakarta, Indonesia. *Jurnal Kesehatan Lingkungan*, 17(1), 60–68. <https://doi.org/10.20473/jkl.v17i1.2025.60-68>
- Sunarto, S., Suparji, S., Nugroho, H. S. W., Rahayu, T. P., Usnawati, N., Pertiwi, N. P., & Prasetyo, A. (2025). Strengthening the Capacity of the Jajar Village Community, Magetan Regency, East Java in Facing the Health Crisis Due to Disasters through a Participatory Action Research Approach. *Jurnal Abdi Masyarakat Indonesia*, 5(5), 2181–2196. <https://doi.org/10.54082/jamsi.2052>
- Thronsao, M., Chaipayrom, K., Thronsao, C., Sripol, C., Chanthamath, S., & Wongkongdech, R. (2025). Building Resilient Communities: A Participatory Approach to Flood Disaster Preparedness in Thailand. *Journal of Public Health Management & Practice*, 32(2), E91–E97. <https://doi.org/10.1097/phh.0000000000002298>



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- Wahyunengseh, R. D., & Pamungkas, D. B. (2025). Disaster-Resilient Village Governance: A Public Administration Perspective on Social-Ecological Resilience. *Jurnal Ilmu Lingkungan*, 23(4), 887–895. <https://doi.org/10.14710/jil.23.4.887-895>
- Wijaya, O., Susilowati, I. H., & Towers, N. (2025). Disaster preparedness behaviour of tourist village managers in Mount Merapi, Indonesia. *Jambá: Journal of Disaster Risk Studies*, 17(1). <https://doi.org/10.4102/jamba.v17i1.1914>