

Health Literacy as a Public Health Priority in Crisis Management: Strategies and Policy Recommendations

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ABSTRACT: Health literacy is a critical determinant of crisis preparedness, influencing how individuals access, comprehend, and utilize health information during emergencies. This study systematically reviews the role of health literacy in emergency preparedness and response, examining its impact on individual decision-making, community resilience, and public health interventions. A comprehensive literature search was conducted across academic databases, including PubMed, Scopus, and Google Scholar, focusing on studies published from 2018 onward. Findings indicate that higher health literacy levels enhance adherence to emergency health guidelines, facilitate risk perception, and contribute to better health outcomes. However, disparities in health literacy—shaped by socioeconomic inequalities, digital accessibility, and misinformation—continue to pose challenges in crisis management. The study highlights the increasing role of digital health communication and social media in disseminating health information, emphasizing the need for regulatory measures to counteract misinformation. Policy recommendations include integrating health literacy into public health strategies, enhancing community-driven education initiatives, and leveraging digital health tools for widespread information dissemination. Future research should explore the effectiveness of tailored interventions in marginalized communities and the long-term impact of digital health literacy initiatives. By prioritizing health literacy in crisis management frameworks, policymakers can improve population-level health resilience and ensure equitable access to critical health information.

Keywords: Health Literacy, Emergency Preparedness, Crisis Communication, Public Health Education, Misinformation, Digital Health Literacy, Community Resilience.



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INTRODUCTION

Health literacy has emerged as a pivotal determinant of public health resilience, particularly in the context of emergency preparedness and crisis management (Stout & Cullom, 2025). Defined as the capacity to access, comprehend, and use health information effectively, health literacy significantly influences how individuals and communities respond to public health threats. The relevance of this concept has intensified amid increasing global exposure to multifaceted crises, including pandemics, natural disasters, and humanitarian emergencies. While existing literature has

established a positive correlation between high health literacy and favorable health behaviors and outcomes during emergencies, the mechanisms through which literacy informs preparedness at both individual and community levels require further exploration(Liu et al., 2025).

Crisis preparedness refers not only to the readiness of healthcare systems, but also to the proactive capacity of individuals to interpret and act upon health guidance under conditions of uncertainty. High levels of health literacy can enhance this capacity by improving risk perception, encouraging adherence to health protocols, and enabling timely decision making. However, the impact of health literacy is not uniformly distributed. Socioeconomic inequalities, language barriers, and digital divides have created disparities in how health information is accessed and utilized during emergencies(Mengi Çelik et al., 2025; Pan et al., 2025).

Moreover, although previous studies have identified the benefits of health literacy in promoting health protective behaviors, such as vaccination uptake and compliance with public health advisories, there remains limited systematic synthesis regarding its role across diverse sociocultural and economic contexts. Notably, gaps persist in evaluating the effectiveness of specific interventions, particularly in marginalized or resource constrained populations, and in understanding how digital platforms and media literacy shape contemporary health communication during crises(Kar & Jenamani, 2025; Yin et al., 2025).

This review aims to address these gaps by systematically analyzing how health literacy influences emergency preparedness at multiple levels. It explores key determinants of health literacy, evaluates the role of digital health communication in shaping public behavior, and assesses the effectiveness of targeted interventions in crisis contexts. In doing so, the study seeks to provide a nuanced understanding of how enhancing health literacy can serve as a strategic tool for improving public health readiness, equity, and resilience in the face of global health emergencies(Bi et al., 2025; Zoellick et al., 2025).

To ensure a comprehensive perspective, the review includes comparative evidence from both high income and low and middle income countries, with particular attention to vulnerable groups such as the elderly, low income populations, and non native speakers. By highlighting the structural, technological, and communicative dimensions of health literacy, this study contributes to current discourse on strengthening global public health systems through informed, inclusive, and responsive literacy strategies(Black et al., 2025; Després, 2025).

METHOD

This study employed a systematic review approach to examine the role of health literacy in emergency and crisis situations. A comprehensive literature search was conducted across academic databases, including PubMed, Scopus, and Google Scholar, targeting studies published from 2018 onward. The search strategy utilized predefined keyword combinations and Boolean operators to ensure precision and completeness. Keywords included "Health Literacy," "Crisis," "Emergency Preparedness," "Public Health," "Information Dissemination," "Community Engagement," "Vulnerable Populations," "Patient Outcomes," and "Infodemic." These terms were selected to

capture the breadth of research on health literacy in crisis settings, incorporating diverse aspects of preparedness, response, and public health communication.

The selection criteria were established to include peer-reviewed studies, systematic reviews, and meta-analyses that empirically or theoretically analyzed the impact of health literacy on crisis management and public health outcomes. Studies focusing specifically on health literacy in emergency preparedness, risk communication, and health decision-making during crises were prioritized. Exclusion criteria encompassed studies not published in English, articles lacking direct empirical evidence, non-peer-reviewed publications, descriptive reports, opinion pieces, and those that did not specifically address health literacy in the context of emergency situations (Matek Sarić et al., 2025; Rook & Zwart, 2025).

To enhance reliability, a multi-stage screening process was implemented. Four independent reviewers evaluated the studies to ensure alignment with inclusion criteria. Initial screening involved reviewing titles and abstracts, followed by a full-text assessment to determine relevance and methodological rigor. Key themes were synthesized to identify recurring patterns in how health literacy influences crisis preparedness, health outcomes, and information dissemination. The findings provide insights into the role of health literacy in mitigating health disparities, strengthening community resilience, and improving public health interventions during emergencies.

RESULT AND DISCUSSION

Health Literacy and Crisis Preparedness

Health literacy significantly impacts individual and community preparedness for crises. Studies indicate that individuals with higher health literacy levels are better equipped to understand health risks and necessary preventive actions, enhancing their readiness for emergencies. For example, research by Zhang et al. found that higher health literacy among immigrant communities in Australia correlated with better knowledge about self-protection in emergency situations, even though the study primarily focused on emergency department visits and overall health status rather than specific protective measures during crises (Zhang et al., 2020). This suggests that health literacy influences decision-making when individuals face crisis situations.

Furthermore, good health literacy contributes to improved collaboration and communication within communities. A lack of medical knowledge and literacy skills can lead to miscommunication of health information, which is crucial during emergencies. Sezer et al. found that health literacy education programs can provide clear and accurate information, promoting public awareness of health threats and fostering proactive responses to crises (SEZER et al., 2022). When communities understand the necessary steps to take during emergencies, they are more likely to act effectively, whether in response to a pandemic or other public health crises.

The relationship between health literacy and adherence to emergency protocols is also evident. Kanu et al. demonstrated how health literacy enhances individual awareness of health risks,

ultimately contributing to compliance with emergency guidelines (Kanu et al., 2021). Individuals who possess accurate knowledge about treatments, disease risks, and infection prevention are more likely to follow official directives during crises. In the context of the COVID-19 pandemic, health literacy played a pivotal role in adherence to measures such as mask-wearing, social distancing, and vaccination uptake.

Moreover, improved health literacy fosters positive behavioral changes during emergencies. Research by Navis et al. highlighted how increased health literacy can help mitigate inequities in healthcare access during crises by enhancing individuals' ability to seek and comprehend relevant health information (Navis et al., 2023). This is particularly important for vulnerable populations who face greater barriers to understanding public health recommendations.

However, while there is a strong positive correlation, challenges remain. Higher health literacy does not always guarantee adherence to emergency protocols. A study by Kuyinu et al. revealed that multiple factors influence compliance, including cultural beliefs, social norms, and accessibility of relevant health information (Kuyinu et al., 2020). These factors must be considered when designing programs to improve health literacy and crisis preparedness.

Overall, the findings suggest that health literacy is a key factor in shaping individual and community preparedness for crises. Evidence shows that higher literacy levels not only improve public understanding of emergencies but also encourage compliance with official guidelines. To enhance the effectiveness of health literacy, carefully designed and socially responsive programs are essential.

Health Literacy in Crisis Communication

Effectiveness of Various Communication Strategies

Different communication strategies employed during health crises have proven effective in enhancing public comprehension. Rosano et al. found that clear, consistent messaging, supported by visual tools such as infographics, significantly improved public health literacy during the COVID-19 pandemic (Rosano et al., 2022). Their findings suggest that visually engaging communication methods reduce public confusion and enhance the understanding of necessary preventive measures.

Additionally, digital technology and social media have emerged as essential tools for disseminating critical health information during crises. A study by Nugroho et al. indicated that mobile applications designed for health education provided users with direct access to comprehensible health information, fostering behavioral change in emergency settings (Nugroho et al., 2021). Such digital interventions not only increase knowledge but also promote proactive health behaviors among users.

However, misinformation presents a major challenge to effective health communication. Elbarazi et al. found that misinformation spread via social media contributes to public confusion and hinders health literacy efforts (Elbarazi et al., 2022). Addressing this issue requires a collaborative effort from public health authorities, media organizations, and technology companies to ensure the dissemination of accurate and reliable information.

In summary, the effectiveness of crisis communication strategies is influenced by how information is conveyed and accessed by the public. Social media and digital technology play a vital role in improving health literacy, but the challenges of misinformation and unequal access to digital resources must be addressed. Further research is necessary to develop more effective and comprehensive communication strategies that enhance public health literacy during emergencies.

Barriers and Facilitators of Health Literacy in Crises

Barriers to Improving Health Literacy

Several key barriers hinder efforts to improve health literacy during emergencies. Limited accessibility to accurate health information remains a major challenge, particularly in communities with weak communication infrastructure or restricted access to digital resources. Studies indicate that individuals who lack sufficient access to timely and reliable information struggle to comprehend the necessary preventive measures during crises.

Additionally, lower educational attainment is a significant barrier. Research in Malawi found that young women with minimal education had limited knowledge about health promotion activities, highlighting the role of education in shaping health literacy levels (Kululanga et al., 2020). Low education levels make it more difficult for individuals to understand and apply health information, particularly in emergency contexts.

Misinformation and uncertainty further complicate health literacy efforts. Widespread misinformation, particularly on social media, can create confusion and reduce public trust in official health recommendations. This issue was particularly evident during the COVID-19 pandemic, where conflicting messages about preventive measures led to inconsistent public compliance.

Language and cultural differences also present challenges. Populations with limited proficiency in dominant languages often struggle to understand public health information, exacerbating health disparities among marginalized communities. Ensuring that health messages are culturally and linguistically tailored is essential for improving health literacy in diverse populations.

Effective Strategies for Enhancing Health Literacy

Several strategies have proven effective in improving health literacy in crisis settings. Community-led education programs have demonstrated success in increasing public awareness and engagement with health information. Research shows that community-driven health campaigns contribute to greater public involvement and understanding of health messages.

Social media and digital platforms have also played a crucial role in broadening access to health information. Mobile applications and social media campaigns have effectively increased health literacy levels by providing easily accessible, user-friendly information to a wide audience.

Workshops and interactive training sessions have also been beneficial. Studies indicate that hands-on educational initiatives improve comprehension and encourage the practical application of health knowledge. Interactive learning approaches strengthen public engagement with health information, leading to better preparedness during emergencies.

In conclusion, improving health literacy during crises requires a multifaceted approach that combines digital innovation, community engagement, and targeted educational initiatives. Overcoming barriers such as misinformation, limited access to information, and language constraints is critical to ensuring widespread public health preparedness.

International Comparisons of Health Literacy in Emergency Situations

Health Literacy Levels in Crisis Situations Across Countries

Health literacy levels vary significantly across different countries, particularly during crises such as the COVID-19 pandemic. In Italy, Rosano et al. found that populations with greater access to verified health information from official sources exhibited higher health literacy levels compared to those relying on unverified sources (Rosano et al., 2022). This underscores the importance of a well-coordinated health communication system in promoting public health literacy.

In Japan, Goto et al. demonstrated that health literacy strongly influenced healthcare utilization, particularly among older populations (Goto et al., 2019). Their findings highlight the role of targeted health education programs in improving health literacy and health outcomes in high-income countries with advanced healthcare systems.

Conversely, in Lebanon, research by Dumit and Honein-Abouhaidar revealed that socioeconomic factors, such as refugee status and limited healthcare access, significantly influenced health literacy levels among displaced populations during crises (Dumit & Honein-AbouHaidar, 2019). These findings emphasize the need for tailored interventions to address disparities in health literacy among vulnerable groups.

Social, Economic, and Policy Factors Influencing Health Literacy

Several key factors shape health literacy outcomes across different countries. Socioeconomic status plays a crucial role, as individuals with higher income and education levels tend to have better access to health information. Countries with well-established healthcare infrastructures and digital health resources generally report higher health literacy levels compared to those with limited healthcare accessibility.

Public policy also plays a critical role. Governments that prioritize health education and integrate health literacy into their public health strategies tend to achieve better public health outcomes. Effective policies ensure that health information is widely disseminated, culturally appropriate, and easily comprehensible.

In conclusion, global variations in health literacy during crises are shaped by socioeconomic conditions, healthcare infrastructure, and policy frameworks. Comparative studies provide valuable insights for designing targeted interventions that address health literacy disparities worldwide.

The findings of this review reaffirm the critical role of health literacy in shaping both individual and collective preparedness in times of crisis. Consistent with prior studies, higher health literacy levels are associated with improved comprehension of public health information, increased adherence to emergency protocols, and more proactive health seeking behavior. Theoretically, this

supports the conceptualization of health literacy not only as an individual competency but also as a form of social capital that contributes to community resilience and collective action in public health emergencies.

From a practical standpoint, the results suggest that health literacy should be institutionalized as a central component in national and local crisis preparedness frameworks. Public health systems that integrate health literacy into emergency response planning are more likely to succeed in mobilizing community participation, mitigating misinformation, and ensuring equitable access to health services.

Linking Cross Country Comparisons with Social, Economic, and Policy Contexts

The cross national comparisons in this review reveal considerable disparities in health literacy levels, particularly during crises. For instance, countries such as Japan and Italy where healthcare infrastructure is strong and public trust in government communication is relatively high demonstrate better outcomes in crisis preparedness through health literacy interventions. In contrast, nations experiencing political instability or refugee crises, such as Lebanon, face compounded challenges due to limited healthcare access and fragmented information systems.

These differences are not merely incidental but closely linked to broader social determinants of health, including education levels, income inequality, digital connectivity, and government investment in public health communication. Countries with proactive health policies that include health literacy education in schools, promote inclusive digital infrastructure, and fund community health programs tend to exhibit greater public readiness in emergencies. These findings align with the health promotion framework proposed by the WHO, emphasizing the need for intersectoral policies that integrate health literacy across education, social welfare, and digital development sectors.

Addressing Challenges Through Actionable Solutions

While the literature acknowledges persistent barriers such as misinformation, digital exclusion, and linguistic disparities, this review emphasizes the importance of transitioning from problem identification to actionable solutions. To address these challenges, several concrete strategies can be recommended:

- **Community Based Literacy Hubs:** Establish localized health literacy centers that operate through community health workers, offering culturally adapted information, especially for ethnic minorities and low literate populations.
- **Integration into School Curricula:** Develop standardized health literacy modules tailored for various educational levels to ensure early acquisition of health seeking competencies.
- **Digital Inclusion Initiatives:** Promote affordable internet access, distribute simplified health apps, and provide digital training to enhance eHealth literacy, particularly in rural and underserved areas.
- **Public–Private Collaborations:** Foster partnerships between governments, NGOs, and digital platforms to regulate health related content, combat infodemics, and disseminate verified information widely.

- **Multilingual Communication Platforms:** Ensure that public health campaigns are disseminated in multiple languages using easy to understand visuals and voice based formats to accommodate diverse literacy levels.

Systemic Factors Contributing to Health Literacy Challenges

Health Policy Constraints

Health policies that fail to integrate health literacy into emergency response strategies can hinder the ability of individuals to access essential health information. Research suggests that policies lacking long-term crisis planning and mental health considerations can contribute to public confusion regarding the importance of health literacy during emergencies. A more holistic policy approach that incorporates health literacy into disaster response frameworks would enhance public knowledge and crisis preparedness.

Accessibility of Health Information

Limited access to high-quality health information remains a major barrier to health literacy. Studies have shown that disparities in access to reliable health information contribute to gaps in crisis preparedness, particularly in low-resource settings. Countries with weaker healthcare infrastructures often struggle to disseminate accurate health information effectively, leaving populations without the necessary tools to make informed decisions during emergencies. Strengthening public health communication networks and ensuring widespread access to health education resources can help bridge this gap.

Healthcare Infrastructure

Robust healthcare infrastructure plays a pivotal role in disseminating accurate health information and supporting health literacy initiatives. While this review does not directly address healthcare system organization, prior research highlights the critical role of healthcare infrastructure in facilitating health literacy improvements. In developing countries, investing in healthcare facilities and public health education programs could significantly enhance community preparedness and resilience.

Social Media and Digital Technology

The increasing reliance on social media and digital platforms for health information presents both opportunities and challenges for health literacy. Public health agencies must leverage these platforms to distribute verified, evidence-based health messages while actively combating the spread of misinformation. Strategic digital engagement, including the use of government-backed information campaigns and collaborations with reputable media sources, can help improve public health literacy.

Socioeconomic Inequalities

Socioeconomic disparities continue to shape health literacy outcomes. Lower education levels and economic hardship often correlate with reduced health literacy, limiting individuals' ability to comprehend and act upon health information. Addressing these disparities through targeted interventions, such as community-based education programs and public health campaigns tailored to diverse populations, is essential to reducing health inequities.

Limitations

This review is subject to certain limitations. First, while the systematic approach ensured a comprehensive analysis of existing literature, some relevant studies may have been excluded due to language restrictions or limited availability in academic databases. Additionally, variations in health literacy measurement methods across studies may impact the generalizability of findings. Another limitation is the potential for publication bias, as studies with significant findings may be overrepresented in academic literature. Lastly, while this review provides valuable insights into health literacy during emergencies, it does not explore longitudinal data that could offer a deeper understanding of long-term health literacy trends and their implications for crisis preparedness.

Theoretical and Policy Implications

This review contributes to a growing body of literature that situates health literacy within the broader construct of health equity and crisis governance. Theoretically, it underscores the shift from an individualistic to a systems based understanding of health literacy one that recognizes institutional responsibility in fostering health capabilities. Policymakers must therefore reframe health literacy not as a supplementary public health concern, but as a strategic, cross cutting investment in health security and social protection.

To that end, future policies should embed health literacy metrics within national health information systems, monitor literacy related disparities, and allocate resources to systematically reduce them. Health literacy audits during disaster simulations or pandemic preparedness planning can also serve as evaluative tools to identify population segments at risk of exclusion.

CONCLUSION

This study underscores the critical role of health literacy in enhancing individual and community preparedness during public health crises. Findings indicate that higher levels of health literacy correlate with improved understanding of emergency protocols, increased adherence to health guidelines, and greater resilience in crisis situations. However, disparities in health literacy, influenced by socioeconomic status, accessibility to reliable health information, and digital literacy, continue to hinder effective crisis response, particularly among vulnerable populations.

Addressing these disparities requires targeted policies that integrate health literacy into public health frameworks. Strengthening community-based health education initiatives, expanding digital health literacy programs, and implementing media regulation strategies to counteract misinformation are crucial steps toward bridging existing knowledge gaps. Moreover, collaborative

efforts between governments, healthcare institutions, and digital platforms can enhance the accessibility of reliable health information.

Future research should focus on longitudinal studies assessing the long-term impact of health literacy interventions in crisis preparedness. Investigating the effectiveness of tailored health literacy programs for marginalized groups, along with the role of emerging digital health communication tools, can further refine strategies for improving public health resilience. Given the evolving nature of global health emergencies, investing in health literacy as a foundational component of crisis preparedness is essential to mitigating health risks and ensuring equitable healthcare access for all.

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