

Information and health literacy policies during pandemics: A narrative review

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ABSTRACT

Background: The COVID-19 pandemic has compelled governments globally to formulate policies addressing the unique needs of their populations. These policies are critical in disseminating accurate information and enhancing health literacy during crises.

Objective: This narrative review aims to identify and assess effective information and health literacy policies implemented during pandemics.

Methods: A comprehensive literature search was performed across four electronic databases, supplemented by Google Scholar. The analysis employed Walt and Gilson's health policy triangle framework to categorize and evaluate the findings.

Results: The review revealed that the policies could be grouped into several key categories: educational programs, laws and regulations, knowledge sharing, national programs, and different information sources. The development of these policies involved multifaceted processes influenced by political, scientific, economic, cultural, and social factors, as well as the involvement of multiple stakeholders.

Conclusions: This review offers significant insights and actionable recommendations for policymakers and stakeholders. By understanding the dimensions and components of effective information and health literacy policies, stakeholders can better prepare for and respond to future pandemics and similar health crises.

Keywords: COVID-19 policy analysis, information dissemination, health literacy, health policy framework, pandemic response

Key Messages

- Emphasizing the critical role of health literacy and understanding information dissemination is essential for empowering individuals to make informed decisions during a pandemic.

- Governments have tailored their pandemic responses based on the specific information and health literacy policies they developed, reflecting the unique conditions of their societies.
- Developing effective information and health literacy policies during pandemics necessitates collaboration. This includes sharing knowledge among experts, engaging with media, and fostering cooperation between various national and international organizations.
- The successful information and health literacy policies identified during the pandemic offer valuable lessons and frameworks that can inform and enhance future policy planning and response strategies in similar health crises.

INTRODUCTION

During the outbreak of epidemic diseases, such as the recent COVID-19 pandemic, the world has struggled with the simultaneous spread of accurate information and rumors. This misinformation has profoundly influenced public perceptions and decision-making regarding preventive measures and treatments (Pennycook et al., 2020). Reliable information is crucial for effective decision-making, policy formulation, and planning, as it mitigates uncertainty and doubt. In the absence of adequate information, the success of policies and plans becomes uncertain, often hinging on chance (Mardukhi B, 1997).

Access to trustworthy health information is a skill-dependent process that significantly impacts health outcomes. Health literacy, the ability to locate, comprehend, and utilize health information and services, is vital for making informed health decisions for oneself and others (U.S. Department of Health and Human Services). It plays a key role in reducing health disparities, achieving health equity, and enhancing the overall well-being of communities (Monteiro et al., 2021).

Information centers are pivotal in promoting societal health literacy by gathering, organizing, and providing access to reliable information. They help bridge the gaps in scientific research, address obstacles to applying research findings, and deliver evidence-based services, which are essential for the development of robust health policies and programs (Ahmadi B et al., 2012).

Achieving sustainable success in information and health literacy policies necessitates the establishment of exceptional management and organizational frameworks. These structures should focus on the continuous monitoring and evaluation of program implementation and outcomes. Policymakers require timely and accurate information to support evidence-based decision-making (Harris M & Reza JN, 2012).

Several studies underscore the importance of evidence-based research in shaping health system policies (Campbell DM et al., 2009; Dobrow et al., 2004; Hanney et al., 2003; Innvaer et al., 2002; Mitton C et al., 2007). However, most previous research has concentrated on general health promotion policies, preventive measures, and epidemic control. There has been a lack of focus on the specific role of health information policies during pandemics (Amraei M & Faraji Khiavi F; Ebrahimi M, 2012; Nakhaee M, 2020; Salari Nejad S, 2021; Yazdi Feyzabadi et al., 2021; Zhu et al., 2022).

This narrative review seeks to address this gap by examining effective information and health literacy policies during pandemics. Understanding these policies will provide insights into how they can be optimized and implemented in future health crises.

The health policy triangle framework, developed by Buse and colleagues (2012), is a widely recognized method for analyzing health policies. This framework consists of four key dimensions: content, context, actors, and process (O'Brien GL et al., 2020). Together, these components provide a comprehensive view of policy analysis and formulation (Walt & Gilson, 1994). Content refers to the specific goals and planned actions that the policy aims to achieve. Context includes the broader environmental factors—political, economic, social, and cultural—that influence the policy's implementation. Process encompasses the steps and activities involved in developing and enacting the policy. Actors are the individuals or organizations that play a role in influencing the policy's development and implementation (Buse et al., 2023).

A thorough understanding of these components offers deeper insights into the policy itself and its potential impacts (Doshmangir & Ravaghi, 2015). Given that this research focuses on analyzing information and health literacy policies during pandemics, the health policy triangle framework serves as an apt conceptual tool. Originally designed for the health sector, it has been extensively applied to various health-related policy analyses.

The literature reviewed emphasizes the significance of information and health literacy policies across different areas. Analyzing policy formation both retrospectively and prospectively is essential to grasp the successes and shortcomings of major policies, thereby aiding in the refinement of future policy processes and outcomes (Takian A et al., 2011).

During the COVID-19 pandemic, identifying the specific content, process, influencing contexts, and key actors involved in these policies is critical. Policymakers, managers, their supporters, and other stakeholders in the health system must consider these elements to adopt precise and effective policies for future health systems facing similar pandemics. This study thus focuses on identifying and analyzing effective information and health literacy policies in pandemics using the health policy triangle framework.

METHODOLOGY

This narrative review aimed to gather and evaluate research studies on information and health literacy policies during pandemics, without constraints on publication date or geographic location. The review process adhered to JBI appraisal checklists (Santos et al., 2018) to ensure the quality of the selected studies and followed the 2021 PRISMA guidelines for reporting (Page et al., 2021). The search period for this review covered October 2022 to May 2023.

Using Walt and Gilson's health policy triangle framework, this review sought to identify policies impacting information and health literacy across various countries during pandemics. The narrative review approach allowed for a comprehensive examination of these policies irrespective of time and place limitations.

2.1. Eligibility Criteria

The review included studies that focused on information and health literacy policies implemented during pandemics. Eligible studies were those that discussed the content, context, actors, and processes of these policies, as outlined in the health policy triangle framework. Both qualitative and quantitative research articles were considered, provided they met these thematic criteria.

The inclusion criteria were as follows:	The exclusion criteria were as follows:
Studies related to information policies in pandemics	Not published in English or Persian
Studies articles related to health literacy policies in pandemics	Not related to information policies in pandemics
Studies articles related to COVID-19	Not related to health policies

2.2. Information Sources

The literature search utilized the following electronic information sources: PubMed, Science Direct, ProQuest, Emerald, Scopus, and the Google Scholar search engine. Additionally, gray literature and manual searches were conducted to find supplementary primary studies for inclusion. Data collection was facilitated through a structured data extraction form, and the content of the studies was analyzed in accordance with the health policy triangle framework (Buse et al., 2012).

2.3. Study Selection

The search results were imported into EndNote reference management software. Initially, duplicate entries were removed. The remaining records were then screened based on their titles and abstracts to determine their relevance to the research objectives. Studies that met the inclusion criteria were further analyzed. Additionally, the reference lists of the identified studies were examined to uncover more relevant studies.

Two researchers independently screened the titles and abstracts of the retrieved papers. Any disagreements were resolved through discussion, or by consulting a third researcher to reach a consensus.

2.4. Data Extraction Process

The data extraction was performed independently by two reviewers. Each study was analyzed using a thematic analysis approach, treating each as a separate unit of analysis. Relevant information was extracted using a predefined data extraction form, aligned with Walt and Gilson's health policy triangle framework. This method ensured a systematic and comprehensive analysis of the policies influencing information and health literacy during pandemics.

2.5. Data Items

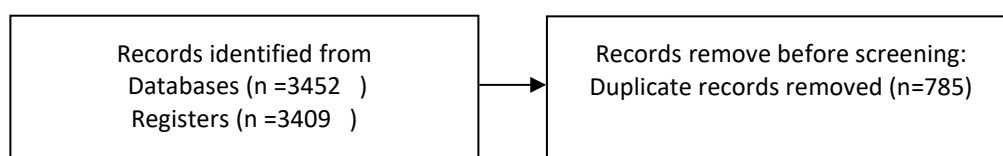
For each included study, we extracted key topics related to information and health literacy policies during pandemics. We focused on the findings that specifically reported on these policies, highlighting how they were implemented and their impact during pandemic situations.

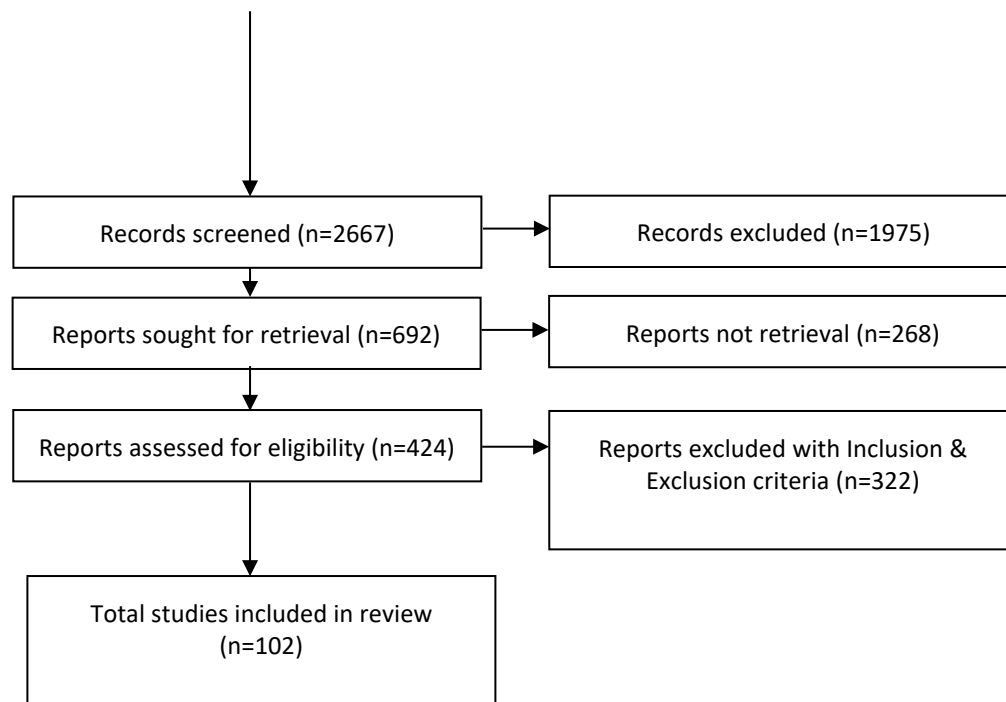
2.6. Synthesis of Results

We applied thematic analysis to systematically code the findings. This method allowed us to extract, classify, and organize the key elements and factors that influence information and health literacy policies during pandemics. Our goal was to distill the most critical and effective policies from the data.

2.7. Study Characteristics

The study selection process is detailed in Figure 1. Initially, our search identified 3,452 studies. After removing 785 duplicates, we screened the titles and abstracts of the remaining studies to assess their relevance. Eligible studies were retrieved and further refined through detailed discussions. Ultimately, 102 studies met all the inclusion criteria and were included for rigorous appraisal.





3. RESULTS

Our findings are categorized into four main dimensions based on the health policy triangle framework: policy content, context, process, and actors. Each of these dimensions was further divided into several sub-themes, which are explored in the following sections.

3.1. Content

In this research, "content" refers to the planned goals and actions that shape health literacy and information policies during pandemics.

As summarized Table 1(Appendix A), the content of information and health literacy policies during pandemics included educational programs, information rules and regulations, information sharing, national programs, and different information sources.

The current narrative review emphasizes the critical role of educational program content in information and health literacy policies during pandemics. It is vital that all community members, particularly patients, receive education on preventive measures and how to access updated information and additional services. Empowering communities through health literacy is paramount during health crises (Kaplan & Ranchordás, 2019; Kluge, 2011; Parimbelli et al.,

2018). Educational needs, such as health information-seeking behavior, should be integrated into the curriculum of schools and universities to prepare future generations (Hsu, 2021; Roe et al., 2022).

Creating appropriate health information content requires an understanding of cultural and linguistic contexts. Cultural norms significantly influence how information is received and accepted, particularly among older populations who may be more resistant to new information despite health risks (Azlan et al., 2020; Wild et al., 2021). Therefore, tailoring health literacy efforts to meet the specific needs of diverse cultural groups within each country is essential for effective communication and policy implementation.

Governments play a pivotal role in the development and enforcement of rules and regulations related to information and health literacy. Effective regulatory frameworks help manage the dissemination of information and ensure it is accurate and timely (Helm, 1981). Failure to provide prompt and accurate responses can lead to public panic and a loss of trust in governmental institutions (Peres, 1968).

Another key aspect highlighted in this review is the importance of knowledge sharing. Healthcare professionals, due to their expertise and direct interaction with patients, are ideally positioned to advocate for and inform health policies. Their involvement in health system decision-making, regulatory reforms, care coordination, and the integration of health information technology is invaluable (Anders, 2021). Social media platforms also play a crucial role in disseminating information and influencing public policies by capturing and sharing the experiences of those who have recovered from illnesses.

The necessity for inter-organizational and international collaboration in health literacy becomes especially apparent during global health crises. Diseases and the required evidence-based solutions often transcend national borders rapidly, underscoring the need for a coordinated response (Sentell et al., 2020). Therefore, the content of information and health literacy policies must include provisions for the sharing of knowledge and best practices across different organizations and countries.

The current narrative review identifies the content of national programs as a critical theme. Within this theme, sub-themes such as performance intelligence play a crucial role. Performance intelligence involves comparing data, developing indicators, and identifying optimal strategies, all of which are essential for guiding decisions within health systems (Kringos et al., 2020). Providing content based on performance intelligence and adopting a systems perspective enables countries to make well-coordinated and strategic decisions.

Another significant sub-theme is the scope of crisis information management systems (Hollnagel, 2016). Effective health crisis management content includes several key elements: information disclosure or control, risk and threat assessment, the creation of crisis communication channels, and the development of health education platforms (Pearson & Clair, 1998; Shrivastava, 1993; Tiong, 2004). The decision to disclose or control information is foundational to crisis management and reflects choices made by authorities. Managing a crisis effectively requires the collaboration of multiple organizations and the integration of various strategies (Shangguan et al., 2020).

Attention to the content of different information sources is another critical theme discussed in this narrative review. During pandemics like COVID-19, it is imperative for policymakers to evaluate the quality of information from various sources. Ensuring that diverse populations have timely access to accurate and essential information is crucial to prevent the spread of misinformation (Fridman et al., 2020). Moreover, the globalization of social platforms and health information campaigns highlights the importance of focusing on digital information sources to reach and educate a broad audience.

3.2. Context

The review results indicate that the context in which information and health literacy policies are implemented during pandemics can be categorized into four main groups: political, scientific, economic, and socio-cultural factors. Table 2 (Appendix B) presents these factors individually.

The COVID-19 pandemic, as an unprecedented global event, has exerted profound short-term, medium-term, and long-term impacts across political, economic, cultural, and social domains.

This narrative review highlights that the policies enacted by government officials are critical in shaping the dissemination of information and promoting health literacy during such crises.

Examining various government responses reveals that stringent control over information can significantly contribute to delays and a lack of transparency in media communication. This often leaves the public unprepared and inadequately informed about the pandemic (Shangguan et al., 2020). While controlling information flow can temporarily limit the spread of potentially harmful rumors, it also prevents individuals from being empowered to take proactive measures against the crisis. Delayed government responses can erode public trust, as timely action is crucial to maintaining confidence and effectively managing the crisis (Peres, 1968). Governments must act swiftly at the onset of a crisis but should also allocate adequate time to develop well-considered and effective policies. Thus, time is of the essence in crisis management, and strategic plans should be clearly defined and ready for implementation before a crisis unfolds.

Maintaining and enhancing public trust in information sources is essential for policymakers within the political context. Trust in specific sources varies widely depending on demographic factors such as age, ethnicity, and race (Fridman et al., 2020). Therefore, policymakers should leverage diverse information channels that resonate with different segments of society. The absence or inefficiency of information dissemination often triggers emotional reactions like anxiety and subjective criticism (Hsu, 2021). Policymakers should establish feedback mechanisms to promptly collect information on the public's cognitive, emotional, and behavioral responses to health measures. This enables continuous adjustments to preventive actions, control measures, and communication strategies to better address public needs and concerns (Spitale et al., 2021).

The scientific context plays a pivotal role in shaping effective information and health literacy policies. Challenges such as the lack of standardization in health data, including variations in definitions, calculations, and formats, can cause delays in data processing and dissemination. Moreover, inadequate integration and collaboration between health information systems, coupled with a shortage of trained personnel, further complicate the development and implementation of effective information policies (Azzopardi-Muscat et al., 2021). The proliferation of global

pandemic rumors underscores the necessity of robust information literacy skills, especially when dealing with incomplete, evolving, and context-specific knowledge (Sentell et al., 2020).

The COVID-19 crisis has triggered a simultaneous and widespread economic impact, exacerbating disparities worldwide. Economically vulnerable countries face significant challenges in accessing critical information and often require additional economic support and relief measures. Issues such as misinformation related to COVID-19 vaccines for financial gains have highlighted the need for vigilance by health and political authorities. Research shows that misinformation is a major driver of vaccine skepticism (Montagni et al., 2021). To mitigate economic inequalities, governments should ensure equitable access to essential tools such as computers, broadband, smartphones, and technical assistance, particularly for rural and underserved communities (Sentell et al., 2021).

The socio-cultural context is a crucial aspect of the research findings. Social interactions within community hubs like libraries, mosques, and churches significantly influence community information and health literacy (DeRosa et al., 2021). These institutions play a vital role in disseminating accurate information and fostering health literacy, particularly in culturally diverse communities. Policymakers should consider these social and cultural dynamics to effectively tailor their health literacy initiatives and ensure they resonate with and meet the needs of various cultural groups.

In summary, the COVID-19 pandemic has underscored the importance of well-crafted, timely, and inclusive policies for information and health literacy. Governments and policymakers must navigate the complex interplay of political, scientific, economic, and socio-cultural factors to effectively manage crises and build resilient health systems.

Inadequate communication significantly amplifies the challenges and dangers of a crisis, highlighting the critical need for national authorities to implement thoughtful, effective, and evidence-based policies (Gavgani, 2020; Nicola et al., 2020). Effective communication strategies are vital contextual factors for successfully disseminating information and enhancing health literacy during a crisis.

3.3. Process

The "process" dimension encompasses various activities and actions involved in developing and implementing health literacy and information policies during pandemics. According to the studies analyzed, and as summarized in Table 3(Appendix C), this dimension includes several key components including accessibility and responsiveness, educational process, information dissemination process, sharing process, information management process, protecting privacy and security, and planning.

In this study, accessibility and responsiveness emerge as pivotal themes in shaping information and health literacy policies during pandemics. Ensuring fair and timely access to reliable health information is crucial, as is the need for effective responsiveness. Policymakers must remain adaptable, capable of swiftly revising health policies in response to evolving circumstances (Nicola et al., 2020; Oleribe et al., 2021). A well-coordinated structure for information dissemination across all levels—from national to local—is essential for the efficient exchange of information and feedback. Without clear and adjusted coordination at every level, disjointed structures can develop, leading to ineffective responses to health emergencies (Gonah, 2020).

To improve public understanding, especially during health crises, presenting data using clear and straightforward diagrams is highly effective. Regularly using linear-scale graphs to depict the epidemic's progress can help the public grasp the severity and development of the situation (Romano et al., 2020).

Educational processes are another significant theme in this review. Initiatives and campaigns focusing on information and health literacy are instrumental in promoting overall health and achieving health equity (Sentell et al., 2020). Utilizing digital campaigns creatively and holding regular press briefings by state leaders about the disease can profoundly impact public behavior during quarantine periods. Innovative approaches, like crowdsourcing activities where platforms such as YouTube encourage users to share their home activities, can be broadcasted as social ads to reinforce stay-at-home policies (Fridman et al., 2020). Additionally, traditional and social media can be harnessed to design and implement health literacy campaigns, empowering the public with vital knowledge (Atehortua & Patino, 2021).

Information dissemination is critical for effective information and health literacy policies, with several sub-themes identified in this review. Monitoring various information sources is necessary

to ensure that public perception is that of support rather than intrusive surveillance (Spitale et al., 2021). The COVID-19 pandemic marked a significant moment where social media platforms became central to information dissemination. Monitoring these platforms, providing targeted support, and leveraging the influence of healthcare professionals and reputable social media influencers are essential strategies to combat the spread of misinformation and rumors (Zhou et al., 2020). Collaboration between professional organizations, health agencies, and social network content creators can ensure the distribution of high-quality information to a broader audience. Using varied emotional tones, such as humor or urgency, in presenting health information can also enhance public trust and engagement (Li et al., 2020).

Continuous efforts to educate the public on recognizing fake news and improving health literacy are particularly important for vulnerable groups, such as older adults and those with lower educational and income levels (Hightow-Weidman et al., 2020). Even among well-educated individuals, discerning reliable information sources can be challenging. To address this, the World Health Organization (WHO) has developed a dedicated site for reporting online misinformation (Marco-Franco et al., 2021).

To maintain public trust, policymakers should share information only when there is a strong scientific consensus. Building relationships with credible scientific experts is crucial in achieving this (Balog-Way & McComas, 2020). In urgent situations, it is important to clearly communicate the uncertainty surrounding current information and commit to providing updates as new data become available (Fridman et al., 2020).

The sharing process is another critical aspect of information and health literacy. Strengthening cooperation and information sharing at regional, national, and global levels is vital for enhancing health literacy. Efficient data sharing facilitates coordinated actions and ensures the rapid updating of information during pandemics. It is essential to instill confidence in correcting, supplementing, or refuting previously published information and to ensure the validity of sources during the sharing process. Media platforms can disrupt the distribution of false information, and social network users can be alerted to verify the authenticity of their sources, thus reducing the spread of COVID-19 misinformation (Donovan, 2020; Conger & Isaac, 2020; Fridman et al., 2020; Pennycook et al., 2020).

Information management is a crucial theme in this review, revealing that governments typically face two primary strategies for managing public emotions during a crisis: information control and information disclosure (Rosenthal & Kouzmin, 1997). Research indicates that controlling information often exacerbates public panic, especially when a crisis cannot be quickly resolved (Lee, 2009; Perry, 1988). Effective crisis communication requires transparency and timely dissemination of accurate information to maintain public trust and prevent unnecessary fear.

The importance of planning in developing information and health literacy policies is also emphasized. A well-coordinated and thoroughly planned strategy should address underlying issues, identify gaps, set clear objectives, define roles and responsibilities, outline activities, and establish timelines and monitoring parameters. Engaging key stakeholders in the creation or updating of plans and guidelines is essential to ensure their timely and effective implementation. Proper planning helps pinpoint the information needs of communities affected by the crisis and ensures the successful execution of planned activities by clearly delineating roles and responsibilities.

3.4. Actors

The "actors" in the policy-making process for information and health literacy during pandemics include a wide range of individuals, groups, and institutions. According to this study, and as detailed in Table 4(Appendix D), these actors can be classified into three broad categories including information and health literacy policymakers, information and health literacy facilitators, and service recipients.

Policymakers play a crucial role in shaping and disseminating health information. These include government officials, scientists, health authorities, and international organizations such as the World Health Organization (WHO). They are responsible for ensuring that accurate health information reaches the broadest possible audience (Jingnan, 2020). Despite their efforts, the persistence of unreliable sources globally continues to contribute to the spread of misinformation (Fridman et al., 2020).

Information and Health Literacy Facilitators encompass a diverse array of groups and institutions that help implement and propagate health literacy policies. These include health agencies, non-

governmental organizations (NGOs), and media outlets. These facilitators are critical in disseminating accurate health information and combating misinformation. For example, various social, religious, and ethnic groups share pandemic-related content that can significantly influence public opinion, sometimes in problematic ways. Some groups may even promote defiance of health advisories, spreading false and misleading information that can polarize and confuse the public (Semino, 2021). Organizations like the WHO are actively working to dispel myths and misinformation through initiatives that address false preventive measures and incorrect treatment methods (Spitale et al., 2021).

Service Recipients are the individuals and communities who receive health literacy information. This group includes the general public, particularly those who are most vulnerable or less informed about health issues. Policymakers and facilitators must consider the diverse needs of these service recipients to effectively tailor their messages and ensure that accurate information is accessible to everyone.

In summary, effective information management and strategic planning are vital for developing robust information and health literacy policies. Policymakers must be transparent and responsive, facilitators must ensure wide dissemination and support for accurate information, and service recipients must be considered in all aspects of policy communication and implementation.

This study highlights the pivotal role of public librarians as facilitators in promoting information and health literacy policies. Whether interacting with the public in person or through virtual platforms, these librarians are crucial in addressing health-related inquiries and guiding individuals to reliable health information sources. For instance, librarians at Weill Cornell Medicine have spearheaded health literacy training programs specifically designed to equip professional librarians with the skills to respond effectively to COVID-19-related questions (DeRosa et al., 2021). Medical librarians, with their expertise in identifying and disseminating accurate health information, have become indispensable in spreading knowledge, guidelines, and awareness during the pandemic.

Health literacy is particularly crucial for healthcare recipients, especially those managing chronic diseases. However, the introduction of digital telehealth technologies presents significant challenges, particularly for older adults. These advancements can increase disparities in health

literacy, leading to complexities in understanding, higher costs, and difficulties in accessing services (Sentell et al., 2021). The urgency and widespread impact of the COVID-19 pandemic have engaged numerous actors in ongoing discussions and decision-making processes.

4. DISCUSSION

The discussion synthesizes key findings into four overarching themes based on the health policy triangle framework: content, context, process, and actors. A primary theme in the content dimension is the development of educational programs. These programs need to cater to the diverse educational needs, abilities, cultures, languages, and literacy levels of different populations. Effective educational programs should also teach critical skills such as searching for, evaluating, and discerning between accurate and inaccurate information. By empowering individuals with these skills, educational programs can help people make informed decisions during a health crisis. Contextual factors, including political, scientific, economic, cultural, and social elements, are crucial in managing the uncertainties associated with the COVID-19 virus. Governments have struggled with the challenge of managing outbreak information, trying to balance transparency with the need to avoid inducing public panic (Shangguan et al., 2020). Historical examples, such as the information control issues during the SARS outbreak, highlight the delicate balance required in crisis communication (Lei et al., 2020).

The policymaking process undertaken by healthcare professionals and government agencies focuses on raising awareness, enhancing knowledge, and reinforcing preventive measures against COVID-19. However, there are significant challenges in effectively implementing information and health literacy policies across different countries (Siddiquea et al., 2021). The process of disseminating information is vital and requires designated managers who can adapt decision-making frameworks to evolving conditions. Health sciences librarians, with their expertise in database searching and information retrieval, play a crucial role in developing guidelines and policies alongside policymakers and experts.

Efficient documentation and reporting by various institutions are essential for sharing information and planning information policies during a pandemic. Recording patient experiences, guided by experts and policymakers, contributes to providing accurate and current information to the public. Policymakers can enhance information dissemination and health

literacy by collaborating with content creators on social networks, ensuring the delivery of accurate information through widely used platforms. Tailoring communications to meet the needs of diverse stakeholders is key to promoting health literacy effectively. The involvement of multiple actors in shaping information and health literacy policies during a pandemic presents significant challenges. Misinformation, low health literacy, and a lack of trust in information policies complicate the role of vulnerable populations in disease prevention and control. Policymakers and public health officials must consider these factors when designing and implementing measures to prevent and control the spread of disease.

Addressing mistrust through transparent communication and providing accurate information to vulnerable groups is essential. Furthermore, tackling underlying issues such as poverty and limited access to education, which contribute to low health literacy and the spread of misinformation, is vital. Ensuring that all stakeholders, including vulnerable populations, are adequately informed and engaged is critical to the success of public health initiatives during a pandemic.

5. LIMITATIONS

It's important to recognize that the findings from this review may not be universally applicable across all countries. Each country has its own unique social, economic, political, and cultural contexts that influence how information and health literacy policies are developed and implemented. Therefore, when interpreting and applying the findings of this review, it is essential to consider these contextual differences and tailor strategies to fit the specific conditions of each nation.

6. CONCLUSION

During pandemics, the surge in the need for accurate information and reliable guidance plays a crucial role in determining the effectiveness of responses to the crisis. Information and health literacy policies significantly impact whether societies successfully manage or struggle against pandemics. The diverse responses to COVID-19 across different social, economic, political, and cultural landscapes highlight that a one-size-fits-all approach is ineffective. Economic feasibility,

political trust, societal norms, and spiritual values are all critical factors that shape the success of these policies.

Effective information and health literacy policies must consider the varied informational needs, capabilities, cultural backgrounds, languages, and literacy levels of individuals. Educational programs should equip people with skills in searching for, evaluating, and critically assessing information to help them distinguish between accurate and misleading information. Developing transparent and reliable policies is vital to counter the spread of misinformation and to address public misunderstandings and concerns. Authorities can build trust and foster community cooperation in controlling disease outbreaks through proactive planning, timely execution of activities, clear role assignments, and transparent communication.

Vulnerable populations, particularly those with low health literacy or influenced by misinformation, significantly impact the success of preventive measures and the spread of disease. Public trust and perceptions of information policies are crucial in these efforts. Additionally, the proliferation of diverse information sources and the widespread use of social networks underscore the need for robust digital infrastructure and effective digital communication strategies. Policymakers should engage with content creators on social networks to disseminate accurate and engaging health information effectively.

This review aimed to provide a comprehensive analysis of information and health literacy policies during pandemics. By exploring the various dimensions involved in these policies, the study sought to elucidate the complex interplay of factors that influence their development and implementation. Using the health policy analysis triangle, one of the most widely used conceptual frameworks, this study examined the critical elements that shape information and health literacy policies in the context of pandemics.

In conclusion, adopting appropriate frameworks and models for developing information and health literacy policies is essential during pandemics. These frameworks should be adapted to the specific conditions and contexts of each country. Policymakers and officials are encouraged to utilize credible scientific models to develop and evaluate these policies comprehensively. This approach allows for a thorough assessment of policy successes and failures, facilitating the

identification of strengths and weaknesses and guiding the improvement of future policy responses.

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CONFLICT OF INTEREST

We wish to confirm that no known conflicts of interest are associated with this publication.

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Appendix

Search strategies

Database	Sample search strategy
PubMed	#1 “health literacy”[mesh] OR “health literacy”[tw] OR “health literacy”[tiab] OR “health knowledge”[tiab] OR “health knowledge”[tw] OR “Health Knowledge, Attitudes, Practice”[mesh] OR “health information”[tiab] OR “health information”[tw] OR “Consumer Health Information”[mesh] #2 policy[mesh] OR “health policy”[mesh] OR policy[tiab] OR plan*[tiab] OR program*[tiab] OR regulation[tiab] OR “information policy”[tw]

	#3 “COVID-19”[mesh] OR “COVID 19”[tiab] OR “COVID-19”[tiab] OR “2019-nCoV”[tiab] OR “2019 nCoV”[tiab] OR Coronavirus[tiab] OR SARS[tiab] OR “SARS-CoV-2”[mesh] OR “SARS Virus”[mesh] OR “pandemics”[mesh] OR “pandemics”[tiab] #1 AND #2 AND #3
ProQuest	(ab(Health literacy) OR ab(health knowledge) OR ab(health knowledge attitudes practice) OR ab(health information) OR ab(consumer health information)) AND (ab(Policy) OR ab(Health Policy) OR ab(Regulation) OR ab(Plan) OR ab(Program) OR ab(Information Policy)) AND (ab(Covid 19) OR ab(Corona) OR ab(Coronavirus) OR ab(SARS) OR ab(Pandemics))
Emerald	(content-type:article) AND (abstract:"Health literacy" OR (abstract:"Health knowledge") OR (abstract:"Health information") OR (abstract:"Consumer health information") AND (abstract:"Policy") OR (abstract:"Health policy") OR (abstract:"Regulation") AND (abstract:"Corona or covid") OR (abstract:"SARS") OR (abstract:"Pandemics"))
Science Direct	Title, abstract, keywords: (health literacy OR health knowledge OR health information) AND (policy OR health policy OR regulation) AND (Coronavirus OR SARS OR pandemics)

Scopus	TITLE-ABS-KEY("health literacy" OR "health knowledge" OR "health information" OR "Consumer Health Information") AND (policy OR "health policy" OR plan* OR program* OR regulation OR "information policy") AND("COVID-19" OR "COVID 19" OR Coronavirus OR SARS OR "SARS-CoV-2" OR "SARS Virus" OR pandemics)
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