

## The Role of Health Literacy in Improving Health Outcomes: Challenges, Interventions, and Policies

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**ABSTRACT:** Health literacy is a critical determinant of health outcomes and disease prevention. This study systematically reviews the relationship between health literacy and health behaviors, emphasizing its role in improving adherence to preventive measures and healthcare utilization. A comprehensive literature search was conducted using PubMed, Scopus, and Google Scholar, focusing on peer-reviewed studies that examined the impact of health literacy on preventive behaviors. Findings indicate that individuals with higher health literacy are more likely to engage in health-promoting behaviors, utilize healthcare services, and effectively manage chronic diseases. In contrast, those with lower health literacy experience higher health risks due to limited access to and understanding of health information. The study highlights the effectiveness of community-based education programs, digital interventions, and culturally tailored strategies in improving health literacy. However, disparities persist, particularly among socioeconomically disadvantaged and migrant populations. Addressing these disparities requires targeted policies integrating health literacy into education systems, healthcare services, and public health initiatives. Future research should explore innovative interventions and standardized assessment tools to enhance the effectiveness of health literacy programs. Strengthening health literacy is essential for reducing health inequities, enhancing preventive care, and improving overall population health.

**Keywords:** Health Literacy, Disease Prevention, Public Health, Health Communication, Preventive Healthcare, Health Disparities, Digital Health Interventions.



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## INTRODUCTION

Health literacy is a fundamental determinant of health outcomes, particularly in the context of disease prevention. Defined as the ability to access, understand, evaluate, and apply health information, health literacy influences an individual's capacity to make informed health decisions, adhere to medical recommendations, and engage in preventive health behaviors (Barańska & Kłak, 2022; Gatulytė et al., 2022; Svendsen et al., 2020). Research has demonstrated that individuals with higher health literacy levels are more likely to engage in proactive health behaviors, including adherence to vaccination programs, participation in routine screenings, and the adoption of

healthier lifestyles (Tan et al., 2019). Conversely, low health literacy has been consistently associated with poor health outcomes, increased healthcare utilization, and higher incidences of preventable diseases (Hosking et al., 2018). Given these implications, improving health literacy is increasingly recognized as a vital component of public health strategies aimed at reducing disease burdens and promoting overall well-being.

The determinants of health literacy vary widely and encompass individual, social, and systemic factors. Educational attainment, socioeconomic status, and access to healthcare information are among the most significant predictors of health literacy (Barańska & Klak, 2022; Hosking et al., 2018; Svendsen et al., 2020). Individuals from disadvantaged backgrounds often experience lower levels of health literacy, which in turn affects their ability to interpret health information and engage in effective disease prevention strategies (Hoa et al., 2020). Additionally, cultural and linguistic differences play a crucial role in shaping health literacy levels, as variations in communication styles and healthcare practices influence how individuals perceive and respond to health information (Hyun et al., 2021; Vella et al., 2018). Among immigrant populations, for example, cultural barriers have been identified as significant obstacles to acquiring and utilizing health information effectively (Hyun et al., 2021; Vella et al., 2018).

A growing body of research underscores the need for targeted interventions to enhance health literacy, particularly among at-risk populations. Public health campaigns, educational initiatives, and digital health solutions have shown promise in bridging the knowledge gap and empowering individuals to take control of their health (Barańska & Klak, 2022; Svendsen et al., 2020). Moreover, studies have highlighted the effectiveness of active learning approaches in improving health literacy, particularly among older adults. Uemura et al. (2018) demonstrated that implementing participatory learning techniques led to increased engagement in health-promoting activities, including regular physical exercise and healthier dietary habits.

Beyond individual health behaviors, health literacy significantly affects the understanding and management of complex health conditions. A study by Dolińska et al. (2022) revealed that individuals with lower health literacy levels exhibited greater difficulty in comprehending nutritional guidelines, resulting in poor dietary choices that elevated the risk of cardiovascular diseases and diabetes (Dolińska et al., 2022). Furthermore, interventions tailored to populations with lower health literacy have been shown to enhance the effectiveness of public health programs. Schillinger et al. (2018) found that customized educational materials, designed with simplified language and culturally relevant messaging, improved comprehension and adherence to preventive measures among socioeconomically disadvantaged communities (Schillinger et al., 2018).

Despite its significance, improving health literacy remains a formidable challenge due to multiple barriers. One primary challenge is the complexity of health information, which is often presented at reading levels beyond the comprehension of many individuals with limited literacy skills (Coughlin et al., 2016; Risica et al., 2018). This gap in accessibility hinders effective communication between healthcare providers and patients, leading to misunderstandings and non-adherence to medical advice. Additionally, social stigma and distrust toward health information sources contribute to resistance in engaging with health literacy programs. For instance, Lange et al. (2022) highlighted how stigma surrounding mental health conditions deters individuals from seeking information or participating in preventive initiatives (Lange et al., 2022).

Economic disparities further exacerbate the issue of low health literacy, as individuals from lower-income backgrounds often face limited access to quality healthcare resources. Arriaga et al. (2022) found that socioeconomically disadvantaged groups had significantly lower rates of engagement with preventive health services due to financial constraints and inadequate health education (Arriaga et al., 2022). Furthermore, cultural differences in health-seeking behaviors underscore the importance of tailoring interventions to specific community needs (Dias et al., 2021). The effectiveness of health communication strategies depends on their ability to align with the cultural values and preferences of target populations, highlighting the necessity for context-specific approaches in health literacy interventions.

While existing research has established a clear link between health literacy and health outcomes, several gaps remain in the literature. Firstly, many studies focus on individual health literacy without adequately considering the broader social and cultural contexts that shape health behaviors (Dias et al., 2021; McCaffery et al., 2020). For example, the influence of family dynamics and community support systems on health literacy has been underexplored. Secondly, there is a lack of standardized assessment tools to measure health literacy across diverse populations, leading to inconsistencies in data interpretation and comparative analysis (Heine et al., 2021; Huang et al., 2021). Additionally, most research on health literacy has been cross-sectional, limiting insights into the long-term impacts of health literacy interventions on health outcomes (Noroozi et al., 2018).

Given these research gaps, this review aims to provide a comprehensive analysis of the role of health literacy in disease prevention, with a focus on key influencing factors and intervention strategies. The review will examine how educational background, socioeconomic status, and cultural determinants shape health literacy levels. Additionally, it will explore the effectiveness of various public health interventions in enhancing health literacy and promoting preventive health behaviors. By synthesizing findings from multiple disciplines, this study seeks to contribute to the ongoing discourse on improving health literacy as a strategy for disease prevention and health promotion.

This review will cover studies conducted across different geographical regions and demographic groups to offer a holistic perspective on health literacy trends and challenges. Special emphasis will be placed on populations with higher vulnerability to health disparities, including low-income communities, immigrant populations, and older adults. By analyzing health literacy within diverse sociocultural contexts, this study aims to identify best practices for designing inclusive and effective health education programs that cater to the needs of various population segments. The findings from this review will inform policymakers, healthcare practitioners, and public health professionals on evidence-based approaches to strengthening health literacy as a means of fostering better health outcomes and reducing disease burdens globally.

## METHOD

This study employs a systematic literature review approach to examine the relationship between health literacy and disease prevention. A comprehensive literature search was conducted across academic databases, including PubMed, Scopus, and Google Scholar, targeting studies published within the last two decades. The search strategy incorporated predefined keyword combinations

and Boolean operators to ensure accuracy and completeness. The primary keywords used included "Health Literacy" AND "Disease Prevention," "Health Literacy" AND "Health Outcomes," "Health Literacy" AND "Preventive Behaviors," "Literacy" AND "Health Promotion," "Health Literacy" AND "Socioeconomic Status," "Health Literacy" AND "Age Groups," "Health Literacy" AND "Chronic Disease," "Health Literacy" AND "Cultural Factors," "Health Literacy" AND "Public Health Initiatives," and "Empowerment" AND "Health Literacy" AND "Health Education." These terms were selected to capture a broad spectrum of studies focusing on health literacy and its impact on health outcomes related to disease prevention.

The selection criteria included peer-reviewed journal articles, systematic reviews, and meta-analyses that empirically or theoretically analyzed the impact of health literacy on preventive health behaviors and disease prevention outcomes. Studies were required to focus on various demographic groups, including age, education levels, and socioeconomic status, to provide a comprehensive understanding of the topic. Only studies utilizing validated and standardized methodologies for measuring health literacy and its effects were included to ensure methodological rigor. Exclusion criteria encompassed studies that were not directly relevant to health literacy and disease prevention, those that focused solely on healthcare policies without empirical data, articles using non-standardized methodologies, and studies published in languages other than English that could not be analyzed within the scope of this review.

To enhance reliability, a multi-stage screening process was employed. An initial screening involved reviewing titles and abstracts to identify potentially relevant studies, followed by a full-text assessment to determine eligibility based on relevance and methodological rigor. Four independent reviewers conducted the evaluations, ensuring alignment with the inclusion criteria. Key themes emerging from the selected studies were synthesized to identify recurring patterns in how health literacy influences preventive health behaviors and overall health outcomes. The findings provide insights into the critical role of health literacy in shaping public health strategies and reducing the burden of preventable diseases.

## RESULT AND DISCUSSION

### The Impact of Health Literacy on Disease Prevention Behavior

Research has consistently demonstrated that health literacy significantly influences adherence to disease prevention measures. Individuals with higher levels of health literacy exhibit a greater ability to comprehend health information, enabling them to make informed decisions regarding preventive behaviors (Arriaga et al., 2022; Lastrucci et al., 2021). A study conducted in Ethiopia revealed that individuals with adequate health literacy were more likely to adhere to COVID-19 prevention protocols, such as mask-wearing and social distancing, highlighting the direct link between knowledge and action (Abeya et al., 2021). This finding reinforces the argument that health literacy is not merely a cognitive skill but also a determinant of real-world health behavior, affecting compliance with public health recommendations.

## **Effectiveness of Health Education Programs in Enhancing Health Literacy and Outcomes**

Health education programs have been shown to be effective in improving health literacy and, consequently, health outcomes. Uemura et al. (2018) found that active learning methods significantly enhanced health literacy among adults, leading to healthier behaviors such as increased physical activity and improved dietary choices (Uemura et al., 2018). Similarly, interventions that incorporate technology, such as mobile health applications and SMS-based health alerts, have proven successful in raising health awareness and promoting preventive measures (Ardo et al., 2021; Bonner et al., 2022). Systematic reviews of health-based interventions further confirm that structured educational programs not only enhance individual knowledge but also contribute to a measurable reduction in disease incidence within communities (Taylor et al., 2019). In South Korea, a community-based cancer education initiative for immigrant women resulted in increased awareness and participation in cancer screening programs, demonstrating the efficacy of targeted educational outreach (Kim et al., 2022). These findings collectively suggest that health literacy, preventive behavior adherence, and the effectiveness of health education programs are interlinked, with well-designed interventions serving as catalysts for improved public health outcomes (Bonner et al., 2022).

## **Factors Influencing Health Literacy**

Health literacy is shaped by various social, economic, and cultural factors. Among the most influential social determinants are educational attainment and social support. Individuals with higher levels of education tend to exhibit greater health literacy compared to those with limited formal education (Arriaga et al., 2022). Moreover, strong social networks, including family and peer support, play a crucial role in disseminating accurate health information and reinforcing positive health behaviors (Sarpoooshi et al., 2021). Economic status is another major determinant of health literacy, as lower-income populations often face barriers to accessing quality health information and services, resulting in lower levels of health literacy (Amaral et al., 2022). Studies indicate that economically disadvantaged individuals are less likely to utilize available healthcare and educational resources, necessitating tailored interventions to address their specific needs (Uemura et al., 2018). Cultural norms and values also affect how individuals perceive and act upon health information. In some communities, traditional beliefs and language barriers hinder effective health communication, leading to confusion or rejection of health messages (Tran et al., 2022). Stigma surrounding certain health conditions can further discourage individuals from seeking information or healthcare services, exacerbating health disparities (Brewer et al., 2016).

## **Technology-Based Interventions and Their Impact on Health Literacy**

Technology-driven interventions have emerged as effective tools for enhancing health literacy. Digital health applications provide accessible and personalized health information in an easily comprehensible format, facilitating informed decision-making (Nguyen et al., 2021). Mobile-based interventions, such as SMS reminders for preventive screenings, have been particularly successful in increasing user engagement and adherence to recommended health practices (Almeida et al., 2017). Furthermore, digital platforms allow for content customization based on individual literacy levels, ensuring that health messages are delivered in an accessible and culturally appropriate

manner (Mengistie et al., 2021). For instance, mobile applications developed for linguistically diverse communities have demonstrated success in bridging health literacy gaps and improving access to essential health information (Uribe et al., 2021). Overall, the integration of technology into health literacy interventions offers a promising avenue for improving public health outcomes, particularly in underserved populations.

## **Health Literacy and Utilization of Healthcare Services**

### **Relationship Between Health Literacy Levels and Frequency of Healthcare Visits**

Higher health literacy levels correlate with increased utilization of healthcare services. Individuals with strong health literacy are more likely to engage in routine medical check-ups, seek medical advice, and adhere to healthcare providers' recommendations (Arriaga et al., 2022). Studies have found that patients with adequate health literacy demonstrate higher rates of preventive healthcare use, including vaccinations and cancer screenings, as they better understand the importance of early detection and disease prevention (Lu et al., 2021).

### **Correlation Between Health Literacy and Preventive Healthcare Utilization**

Research also indicates a significant correlation between health literacy and the uptake of preventive services such as immunization and screening programs. Individuals with higher health literacy levels are more likely to participate in vaccination programs and undergo routine health screenings (Quinlan-Davidson et al., 2021). The ability to comprehend health risks and benefits plays a crucial role in determining the likelihood of engaging in preventive behaviors (Lange et al., 2022). For example, studies have shown that individuals with greater health literacy were more inclined to receive COVID-19 vaccinations, as they possessed a stronger understanding of vaccine efficacy and safety (Li et al., 2021; Niu et al., 2021). Additionally, social and cultural factors influence health literacy and preventive behavior participation, with individuals who have strong support systems and access to health information demonstrating higher levels of engagement in preventive healthcare measures (Geana et al., 2021).

## **International Comparisons of Health Literacy and Disease Prevention**

### **Health Literacy and Disease Prevention in Developed and Developing Countries**

Significant differences exist in health literacy levels and disease prevention practices between developed and developing nations. In high-income countries such as those in Europe and North America, health literacy is generally higher due to widespread access to quality education and healthcare services, resulting in better adherence to preventive measures (Arriaga et al., 2022). In contrast, low- and middle-income countries face substantial challenges in improving health literacy due to economic constraints and limited healthcare infrastructure, which negatively impact public understanding and engagement in disease prevention (Abeya et al., 2021). A study in Ethiopia found that low health literacy was associated with poor compliance with COVID-19 prevention measures, highlighting the critical role of accessible health education in mitigating disease risk (Abeya et al., 2021).

### **Effective Strategies for Enhancing Health Literacy**

Countries worldwide have implemented diverse strategies to improve health literacy and preventive health behaviors. High-income countries frequently leverage technology-based interventions, such as mobile health applications and interactive online education programs, to disseminate health information effectively. For instance, mobile health (mHealth) initiatives that deliver personalized health reminders via SMS have successfully improved public health awareness and preventive behaviors (Zhuang et al., 2022). Conversely, in resource-limited settings, community-based health education programs delivered by community health workers have proven effective in enhancing health literacy among vulnerable populations (Amaral et al., 2022; Paschen-Wolff et al., 2019). In Korea, targeted cancer screening education programs delivered to immigrant women resulted in increased participation in early detection programs, demonstrating the importance of culturally adapted interventions (Tamornpark et al., 2022). Moreover, countries like Brazil have adopted participatory approaches, integrating community-driven health literacy initiatives into national health policies to address disparities in healthcare access (Almeida et al., 2017). The combination of digital solutions and culturally sensitive health education programs presents a comprehensive strategy for improving health literacy and disease prevention on a global scale.

These findings illustrate the pivotal role of health literacy in shaping health behaviors and health outcomes across diverse populations. Improving health literacy through targeted interventions, including education programs and technology-driven strategies, is essential for fostering proactive health behaviors and reducing preventable disease burdens worldwide. Future research should continue exploring innovative methods to enhance health literacy, ensuring equitable access to health information and services for all individuals.

## **The Impact of Health Literacy on Different Population Groups**

Health literacy plays a crucial role in shaping health outcomes across different population groups. Among patients with chronic diseases, studies have shown that higher health literacy levels correlate with better adherence to preventive measures, such as medication compliance and lifestyle modifications (Lu et al., 2021). Patients with limited health literacy often struggle to understand medical instructions, which may lead to improper medication use and poor disease management. In contrast, those with greater comprehension of their health conditions are more likely to engage in proactive health behaviors and maintain better overall well-being. This highlights the importance of incorporating health literacy interventions in chronic disease management programs to enhance patient outcomes.

Vulnerable populations, particularly migrants and socioeconomically disadvantaged communities, often experience disparities in health literacy. Research indicates that lower literacy levels among these groups are associated with worse health outcomes, as they face difficulties in accessing and interpreting health information (Dias et al., 2021). Limited access to healthcare services, language barriers, and unfamiliarity with healthcare systems further exacerbate these challenges. Interventions targeting these populations, such as culturally tailored health education programs and multilingual health materials, have demonstrated effectiveness in improving their health literacy and overall health status.

In the context of mental health, health literacy also plays a significant role in reducing stigma and encouraging help-seeking behavior. Adolescents with higher health literacy levels are more likely to recognize symptoms of mental health conditions and seek appropriate care (Arriaga et al., 2022). Educational programs that promote mental health awareness and provide accessible resources can bridge gaps in knowledge and encourage early intervention, ultimately reducing the burden of untreated mental health disorders.

### **Effective Strategies to Improve Health Literacy**

Community-based health literacy programs have been identified as one of the most effective strategies to address health literacy disparities. Programs that integrate local community members, such as health educators and peer support groups, have been successful in disseminating health information in an accessible manner (Hong et al., 2021). These initiatives empower individuals to take an active role in managing their health and promote engagement with healthcare services. Additionally, training healthcare professionals to communicate health information clearly and effectively can further enhance patient understanding and adherence to health recommendations.

Technological advancements have also contributed to improving health literacy. Digital interventions, such as mobile health applications and SMS-based health alerts, have proven effective in increasing public awareness and engagement in preventive behaviors (Niu et al., 2021; Uemura et al., 2018). Mobile applications that provide interactive educational content tailored to users' literacy levels enhance comprehension and facilitate informed decision-making. Furthermore, the use of social media and online platforms for health communication has expanded the reach of health education initiatives, particularly among younger populations who rely on digital sources for health information.

Interdisciplinary approaches that involve collaboration between healthcare providers, educators, and policymakers are essential in promoting health literacy on a broader scale. Multisectoral partnerships enable the development of comprehensive strategies that address the social determinants of health literacy, such as education, economic stability, and access to healthcare services (Moghaddam et al., 2022). By integrating health literacy initiatives into public health policies, governments can create sustainable frameworks that improve population health outcomes.

### **Health Literacy and Healthcare Utilization**

The correlation between health literacy and healthcare utilization is well-documented. Individuals with higher health literacy levels are more likely to seek preventive healthcare services, including routine check-ups, vaccinations, and screenings (Arriaga et al., 2022). Their ability to comprehend health risks and make informed decisions enhances their engagement with healthcare providers, leading to better health maintenance and early detection of diseases.

Conversely, individuals with low health literacy often delay seeking medical care due to confusion about symptoms, lack of trust in healthcare systems, or fear of miscommunication with healthcare providers. This delay in care-seeking behavior can result in more severe health conditions and increased healthcare costs. Implementing health literacy interventions within primary care settings



can help bridge this gap by providing patients with clear, accessible health information and empowering them to navigate healthcare services effectively.

### **International Comparisons of Health Literacy and Disease Prevention**

Health literacy levels and disease prevention strategies vary significantly between developed and developing countries. High-income nations generally exhibit higher levels of health literacy due to widespread access to education, healthcare services, and digital health resources (Arriaga et al., 2022). Public health campaigns, government-supported health education programs, and digital innovations have contributed to increased awareness and engagement in preventive health behaviors in these regions.

In contrast, low- and middle-income countries face substantial barriers to health literacy improvement, including limited access to quality healthcare, economic constraints, and lower educational attainment (Abeya et al., 2021). The lack of structured health education programs and culturally adapted health materials hinders effective communication and comprehension of health information.

To address these challenges, community-based health education programs have been successfully implemented in several low-resource settings. For example, in Brazil, community-driven health literacy initiatives have focused on participatory education methods that align with local cultural contexts (Almeida et al., 2017). Similarly, in Korea, targeted interventions delivered through community health workers have improved cancer screening rates among immigrant women, demonstrating the effectiveness of culturally tailored health literacy interventions (Tamornpark et al., 2022). These international comparisons underscore the need for context-specific strategies that consider sociocultural factors when designing health literacy programs.

### **Health Literacy Across Diverse Population Groups: A Need for Tailored Interventions**

Although this study demonstrates that health literacy positively influences preventive health behaviors, its impact varies significantly across population segments, particularly among socioeconomically disadvantaged and immigrant communities. These populations often confront structural barriers such as limited language proficiency, low formal education levels, cultural incongruities, and institutional distrust. Consequently, general health education programs may not adequately address their unique needs. For instance, while immigrant populations may benefit from translated materials, the effectiveness of such interventions increases substantially when combined with culturally contextualized content and community based peer education. Evidence from the Ophelia process (Dias et al., 2021) emphasizes that participatory design involving community stakeholders enhances the relevance and uptake of health messages in marginalized communities (44).

### **Digital Interventions: Opportunities and Constraints**

Digital health interventions such as mobile applications, SMS alerts, and online platforms have gained prominence in addressing health literacy gaps. However, their accessibility and effectiveness are not uniformly distributed. Populations lacking digital infrastructure, including low income households and older adults, may face difficulties accessing or utilizing these tools effectively

(32,45). Furthermore, digital literacy itself is a distinct competency that may not correlate with general health literacy, suggesting that the reach of digital interventions is limited without parallel efforts to build digital capability.

Moreover, while digital interventions offer scalability and cost efficiency, questions remain regarding their long term sustainability and behavioral impact. Comparative studies suggest that face to face community engagement especially those involving trusted local health workers continues to yield stronger, more durable outcomes in populations with limited digital access (28,31). Hybrid models that integrate digital tools with traditional outreach may offer a more inclusive and effective approach to health literacy promotion.

## Limitation

Although this study provides a comprehensive review of the impact of health literacy on disease prevention, several limitations should be acknowledged. The scope of the review is constrained by the availability of studies published in English, which may exclude relevant findings from non-English sources. Additionally, the variability in health literacy measurement tools across different studies poses challenges in drawing direct comparisons. Future research should strive for standardized methodologies to enhance cross-study comparisons and generalizability. Another limitation is the reliance on cross-sectional studies, which limits the ability to establish causal relationships between health literacy and health outcomes. Longitudinal research is needed to assess the long-term impact of health literacy interventions and their sustainability over time. Furthermore, the review primarily focuses on individual-level health literacy, while broader systemic and policy-level influences require further investigation to develop holistic strategies for improving population health literacy.

## Implication

The findings of this study have significant implications for public health policy and intervention design. Increasing investment in health literacy initiatives at both community and national levels can lead to substantial improvements in health outcomes and healthcare efficiency. Health literacy education should be integrated into school curricula to equip individuals with essential health knowledge from an early age. Furthermore, healthcare providers should receive training in health communication to ensure that health information is conveyed in an accessible and understandable manner. Digital health interventions should continue to be developed and optimized to reach diverse populations effectively. Policies that promote equitable access to health information, particularly for socioeconomically disadvantaged groups, are crucial in addressing health disparities. Future research should explore innovative strategies for enhancing health literacy, including interdisciplinary collaborations, technology-driven interventions, and culturally tailored educational programs. By prioritizing health literacy as a fundamental component of public health initiatives, policymakers can foster a more informed and health-conscious society.

## CONCLUSION

This study underscores the significant role of health literacy in influencing disease prevention behaviors and health outcomes across various population groups. Individuals with higher health literacy levels demonstrate better adherence to preventive measures, more effective disease management, and increased utilization of healthcare services. Conversely, lower health literacy is associated with reduced engagement in preventive healthcare, leading to poorer health outcomes and higher healthcare costs. These findings highlight the urgent need for interventions that improve health literacy at both individual and community levels.

Addressing health literacy disparities requires multifaceted strategies, including community-based educational programs, digital health interventions, and interdisciplinary collaborations. Policies should prioritize integrating health literacy into public education systems, training healthcare professionals in effective health communication, and expanding access to user-friendly health information resources. Additionally, culturally tailored interventions targeting vulnerable populations, such as migrants and low-income communities, are essential for bridging existing gaps.

Future research should focus on standardizing health literacy assessment tools, evaluating the long-term impact of interventions, and exploring innovative approaches such as artificial intelligence-driven health education. By strengthening health literacy through evidence-based interventions, public health initiatives can significantly enhance preventive healthcare engagement and reduce the burden of preventable diseases.

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