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Tackling non-communicable diseases in India: The role of health literacy

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Abstract

Health literacy plays a crucial role in combating non-communicable diseases (NCDs) in India, where the prevalence of conditions such as cardiovascular diseases, diabetes, and cancer is rising significantly. Enhancing health literacy empowers individuals to make well-informed health decisions and adhere to treatment plans more effectively. This review provides a comprehensive evaluation of the current state of health literacy in India, emphasizing the notable regional and socioeconomic disparities that exist. It also explores various public health initiatives designed to improve health literacy and assesses their effectiveness in managing NCDs. The findings highlight that targeted educational and communication strategies can substantially enhance both disease prevention and management. To address these challenges, the review recommends strengthening health literacy by improving access to relevant information and supporting effective self-management of NCDs.

Keywords: Health literacy, non-communicable diseases (NCDs), India, ministry of health & family welfare, public health interventions, disease prevention, health education, socioeconomic disparities, self-management, health outcomes

Introduction

NCDs such as cardiovascular disease, diabetes, and cancer have emerged as major and urgent public health concerns in India ^[1]. These conditions are significant contributors to illness and death, necessitating effective prevention and management strategies. Health literacy is critical in addressing NCDs ^[2]. It empowers individuals to make informed health decisions, engage in preventive practices, and follow treatment regimens ^[3]. Health literacy helps people understand health information, adopt healthy behaviors such as balanced nutrition and regular physical activity, and avoid harmful substances ^[4]. India's vast and diverse population faces particular challenges in health literacy due to pronounced regional and socioeconomic disparities ^[5]. Variations in education levels, healthcare access, and regional health services result in differing levels of health awareness, affecting overall health outcomes ^[6]. Rural areas often experience limited access to health information, while technology and social media can sometimes propagate misinformation ^[7]. Additionally, the promotion of unhealthy products like cigarettes, alcohol, and sugary drinks further complicates public health issues ^[8]. Community-based intervention programs are essential for enhancing health literacy ^[9]. Public health initiatives should be customized to community needs and encompass strategies that address health, financial, and environmental factors ^[10]. Leveraging technology for reliable medical information, fostering discussions to counter misinformation, and building trust in health assessments are vital components ^[11]. Incorporating health literacy into national health policies and cross-sectional initiatives is crucial. By bridging the health literacy gap and enhancing health awareness, India can bolster its resilience and management strategies against NCDs. Effective health literacy programs will empower individuals, improve health outcomes, and alleviate the NCD burden ^[12]. The World Health Organization (WHO) emphasizes the significance of health literacy in advancing health and preventing diseases worldwide. WHO is developing national health literacy programs across various countries to establish inclusive, relevant, and sustainable strategies for NCD prevention and control ^[13]. NCDs represent a major threat to public health and sustainable development, often referred to as a 'silent pandemic' ^[14]. In 2019, NCDs were

responsible for approximately 74% of global deaths, with India accounting for nearly 14.5% of these fatalities [15]. The South-East Asia Region (SEAR) has experienced the most substantial rise in NCD deaths, with India significantly contributing to the regional burden [16]. NCDs also affect economic growth, with India projected to lose \$4.58 trillion by 2030 due to NCDs and mental health conditions [17]. The COVID-19 pandemic has intensified the burden of NCDs. It has negatively impacted NCD prevention and treatment services, especially in low- and middle-income countries (LMICs). In India, the pandemic has led to a notable decline in acute cardiac emergencies reaching healthcare facilities and has disrupted NCD outpatient services, elective surgeries, and screening programs [18]. NCDs exacerbate COVID-19 outcomes, resulting in more severe health effects. Conversely; COVID-19 has initiated or worsened chronic conditions such as diabetes and cardiovascular diseases [19]. The Indian Ministry of Health and Family Welfare reported that 75% of COVID-19 deaths were among the elderly and those with pre-existing conditions [20]. The pandemic has also adversely affected mental health, leading to increased emotional and psychological distress among both individuals with pre-existing conditions and those impacted by the pandemic's disruptions. The Government of India has introduced the National Tele-Mental Health Programme to address these issues by providing access to mental health counseling and care. Robust national efforts to mitigate NCDs are crucial for reducing the burden both in India and globally [21]. By developing effective, context-specific strategies and integrating health literacy into national policies, India can significantly enhance NCD prevention and control, diminish misinformation, and strengthen overall public health resilience [22].

Discussion

NCDs are long-lasting conditions that are not caused by infectious agents. These chronic diseases progress slowly and arise from a combination of genetic, physiological, environmental, and behavioral factors [23]. They represent a significant challenge to public health in the 21st century due to their impact on human suffering and the socioeconomic burden they place on countries [24]. Each year, approximately 41 million people die from NCDs globally, which accounts for 71% of all deaths, including 14 million premature deaths between ages 30 and 70 [25]. Many of these premature deaths are preventable. If current trends continue, the number of NCD-related deaths could rise to 55 million annually by 2030, according to World Health Organization projections [26]. The rise of NCDs is largely driven by globalization, industrialization, and rapid urbanization, combined with demographic and lifestyle changes. In India, the health landscape is shifting rapidly, with NCDs now surpassing communicable diseases such as water-borne diseases, TB, and HIV in terms of burden [27]. Approximately 5.8 million people in India die from NCDs each year, translating to a 1 in 4 risk of dying from an NCD before age 70 [28]. NCDs like cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes account for around 60% of all deaths in the country [29]. This situation also results in significant loss of productive life years, with increases in premature deaths projected for conditions such as heart disease, stroke, hypertension, and diabetes [30]. The "India: Health of the Nation's States"

report by the Ministry of Health and Family Welfare (MOHFW) reveals a notable increase in the contribution of NCDs from 30% of the total disease burden in 1990 to 55% in 2016 [31]. Similarly, the proportion of deaths due to NCDs increased from 37% to 61% over the same period, indicating a shift towards NCDs. In response to the World Health Organization Global Action Plan for the Prevention and Control of NCDs 2013-2020, India has adopted a National Action Plan with specific targets aimed at reducing premature NCD deaths globally by 25% by 2025 [32]. India has also set a unique tenth target to address household air pollution, aiming for a 50% reduction in the use of solid fuels and a 30% reduction in tobacco use by 2025 [33]. The overall goal is to reduce premature NCD deaths by one-third by 2030 as part of the Sustainable Development Goals. Key risk factors for NCDs include physical inactivity, unhealthy diets (Low in fruits, vegetables, and whole grains but high in salt and fat), tobacco use (smoking, secondhand and thirdhand smoke, and smokeless tobacco), and excessive alcohol consumption [34]. Air pollution, both outdoor and indoor (From burning solid fuels), is also a significant risk factor. Since NCDs and their risk factors can begin affecting individuals early in life, it is crucial to address these issues for young people as well [35]. Preventing NCDs requires addressing root causes and reducing risk factors, which will not only save lives but also contribute to economic development [36]. Programs should cover a range of NCDs and interventions, including those targeting lifestyle chronic diseases and risk factors such as cancer, diabetes, cardiovascular diseases, stroke, chronic obstructive pulmonary diseases, chronic kidney diseases, organ and tissue transplants, mental health disorders, iodine deficiency disorders, fluorosis, and oro-dental disorders [37]. Additionally, programs dedicated to disability prevention and rehabilitation are crucial. These initiatives address a range of issues including trauma from road traffic accidents, burn injuries, disaster response, emergency medical services, musculoskeletal disorders, physical medicine and rehabilitation, and sensory impairments such as blindness and deafness [38]. They also focus on elderly healthcare, neurological conditions like epilepsy and autism, congenital diseases, and hereditary blood disorders such as sickle cell anemia, thalassemia, and hemophilia [38]. Health promotion and prevention of NCDs should also be a priority, including tobacco control, prevention and management of nutritional disorders and obesity, and patient safety programs [39]. The MOHFW, Government of India is actively implementing several national programs aimed at the prevention and control of NCDs [40]. These include the National Programme for Prevention and Control of Cardiovascular Diseases, Diabetes, Cancer & Stroke (NPCDCS), which encompasses initiatives for chronic obstructive pulmonary disease (COPD) and chronic kidney disease (CKD) management, population-based surveys, integration of AYUSH, TB-Diabetes collaboration, and hypertension management [41]. Other key programs include the National Programme for Control of Blindness & Visual Impairment (NPCB & VI), National Programme for Health Care for the Elderly (NPHCE), National Programme for Prevention and Control of Deafness (NPPCD), National Programme for Prevention and Control of Oral Health (NOHP), National Mental Health Programme (NMHP), National Haemoglobinopathies Control Programme, National Programme for Palliative Care (NPPC), National Iodine

Deficiency Disease Control Programme (NIDDCP), National Tobacco Control Programme (NTCP), National Programme for Prevention and Control of Fluorosis (NPPCF), National Programme for Prevention and Management of Burn Injury (NPPMBI), Pradhan Mantri National Dialysis Programme, National Programme for Control and Treatment of Occupational Diseases, and the National Organ and Tissue Transplant Programme [42]. Health literacy development involves creating environments where health workers, services, organizations, and cross-sector policymakers enhance individuals' knowledge, confidence, and comfort in accessing, understanding, appraising, remembering, and using health information in their daily lives. This approach considers the various components of people's daily lives that help them understand the chronic nature of NCDs, the impact of risk factors, and the role of public policies in minimizing exposure to these risks [43]. With this awareness, individuals can assess their risk, make informed health-related decisions, and hold stakeholders accountable. If adopted globally, this approach could improve the prevention and control of NCDs, reaching more community members and reducing inequity. In India, health literacy is crucial for managing NCDs. It influences disease prevention by helping individuals understand risk factors and engage in preventive practices [44]. Higher health literacy is associated with recognizing symptoms early, seeking timely medical advice, and adopting healthier lifestyles. In disease management, individuals with higher health literacy adhere better to treatment regimens and make necessary lifestyle adjustments, while those with lower literacy may struggle with misunderstandings and non-adherence [45]. Disparities in health literacy are significant in India, with variations across regions, educational levels, and socioeconomic statuses. Rural areas and lower socioeconomic groups face challenges in accessing and understanding health information; exacerbating health inequalities [46]. Addressing these challenges require tailored approaches considering local languages, literacy levels, and cultural contexts to ensure accessibility and comprehensibility of health information. Public health interventions aimed at improving health literacy, such as community education programs, multimedia tools, and health literacy in school curricula, have shown promise [47]. Initiatives like health camps, mobile health units, and digital platforms help disseminate information and engage diverse populations. Evaluating and scaling successful models is crucial for maximizing their impact [48]. Policy recommendations include integrating health literacy into education and public health campaigns, enhancing access to culturally and linguistically appropriate information, strengthening community engagement, and supporting healthcare professionals in effective communication [49]. A global perspective on health literacy should encompass diverse real-world experiences, recognizing communal, individualistic, or mixed societal contexts and adapting policies to improve health outcomes and reduce inequities. In some countries, health literacy has advanced in specific health areas, but existing theories and research primarily come from North America, Europe, and Australia, often focusing on Western notions of individual choice [50]. Recognizing health literacy as a social practice is important, as health behaviors in many parts of the world are influenced by communal, cultural, and religious factors. Thus, health literacy development should align with local

contexts and community strengths, challenges, and preferences to be effective globally [51].

Future Directions

Future research should focus on assessing the long-term impact of health literacy interventions on non-communicable outcomes, exploring new ways to overcome these literacy challenges, and evaluating the role of digital health tools in improving health literacy. Sustained investment in health literacy is essential to successfully improve public health and manage the burden of NCDs in India. In summary, health literacy is a determinant of NCD prevention and control. India can achieve significant gains in improving health outcomes and managing the impact of NCDs by addressing inequalities, implementing positive interventions, and improving health literacy through policy and practice [52].

Conclusion

Health literacy is an important factor in the prevention and control of NCDs in India. As the prevalence of NCDs as heart disease, diabetes, and cancer increases, improving health literacy has become an important strategy to address public health issues. This article argues that individuals with greater health literacy are better able to make better health decisions, adhere to treatment plans, and engage in preventive behavior. Despite progress, health literacy disparities persist across regions and health groups in India. Addressing this disparity requires interventions that reflect culture and context. Public health measures should focus on access and transparency of health information, use technology, and encourage community participation to eliminate health misinformation. The effectiveness of existing health strategies demonstrates the potential of education and communication to improve health outcomes. However, comprehensive measures must be taken to integrate health literacy into comprehensive health promotion programs. Improving collaboration among government agencies, health care providers, and community organizations is important to empower more informed and effective people. Improving health literacy has great potential to reduce the impact of NCDs in India. By investing in health education and equitable access to information, India can create a healthy population and prevent the burden of NCDs.

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