

“Higher Education’s role in reducing the burden of non-communicable diseases by promoting health literacy in low and middle-income countries”

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Executive summary

- Chronic diseases, also referred to globally as non-communicable diseases (NCDs), are the leading causes of morbidity and mortality in both the economically advanced countries of the world as well as in lower and middle-income countries (LMICs)
- While there are established preventive and health promotion approaches to mitigate the effects of NCDs, which are embedded in the public health and health services infrastructure, the role of higher education institutions (HEIs) in health promotion through the development of health literacy skills has often been overlooked in LMICs.
- A health literacy development approach considers the influential components of people’s daily lives that support them to be aware of and understand the chronic nature of NCDs, the impact of NCD risk factors on their life course, and the role that public policies have in minimising people’s exposure to these risks. Equipped with this awareness and understanding, people can determine if they are at risk and then make daily health-related decisions to prevent and control NCDs for themselves, their family, and their communities.
- Higher educational institutions can promote health literacy by integrating NCD-focused curricula, utilizing e-learning platforms, and promoting interdisciplinary education.

Introduction / Context

The term "non-communicable diseases" encompasses a wide range of chronic illnesses, including diabetes, cancer, cardiovascular disease, and chronic respiratory disorders. These diseases are characterised by their long duration and generally slow progression, differentiating them from communicable diseases, which are typically infectious and spreadable. According to Thakur et al. (2021), NCDs account for approximately 38 million deaths annually, representing 74% of all global deaths. This staggering statistic underscores the significant burden that NCDs place on health systems worldwide. The prevalence of these diseases is not constant; it differs significantly between regions and populations, frequently depending on factors like lifestyle, environment, and genetic predisposition.

Recent trends indicate that NCDs are becoming increasingly prevalent on a global scale, with a disproportionately larger impact on the health of populations in developing nations. According to Islam (2014), sedentary lifestyles, changing dietary habits, and urbanization are all contributing to the rapid rise in NCD cases in these countries. In many low and middle-income countries (LMICs), the health infrastructure is often ill-equipped to handle the dual burden of infectious diseases and the rising tide of NCDs. This dual burden places a significant strain on already limited healthcare resources, leading to poorer health outcomes and increased mortality rates. NCDs are now the leading cause of death globally, posing a severe risk to public health in these emerging nations.

Health literacy (HL) is the extent to which an individual is able to acquire, process, and comprehend fundamental health information in order to make informed health decisions (Kickbusch et al. 2013). The World Health Organization has positioned health literacy as one of the pillars for attaining sustainable development and health equity (World Health Organization 2017). The social ecological model (SEM) focuses on five levels of influence for health-related behaviors: Intrapersonal, Institutional, Community, and Public Policy (McLeroy et al. 1988). Low health literacy is associated with inadequate knowledge about the health as well as the healthcare system, poor access and utilization of health services and also increased hospitalization. This leads to poor health outcomes and health inequalities.

Health literacy has garnered increasing attention as a means of fostering sustainable development, well-being, and health over the past decade (Okan et al. 2019). The scientific literature indicates that current health literacy educational approaches mainly focus on the individual components of health literacy and fail to address environmental components and health literacy in vulnerable population groups (Røe et al. 2023). Health literacy is presented as a fundamental component of sustainable development and health in the upcoming decades in the Shanghai Declaration (Egid et al. 2021). In order to enhance health literacy as a community asset and as a responsive characteristic of health service organizations, efforts to prevent and control NCDs must foster community trust. Additionally, creative methods for enhancing individual health literacy must be developed (Osborne et al. 2022). The development of health literacy cannot be achieved through a universal approach, as contextual determinants and barriers must be considered as part of any solution. Determining how health knowledge is stored, shared, and used within and within communities is crucial, as is comprehending how local factors affect health knowledge, behaviors, and accessibility and availability hurdles

(Osborne et al. 2022). Informed by and addressing the health literacy strengths, needs, determinants, and preferences of people at risk of, living with, and impacted by NCDs and their risk factors and determinants, health literacy development is accomplished through integrated bottom-up, codesign, and top-down approaches (Careum, Center for Health Literacy 2023).

Higher education institutions (HEIs) serve as hubs of knowledge and innovation where cutting-edge research on NCDs can be conducted and translated into actionable insights. This is an opportunity for the HEIs to promote health literacy through their core activities such as teaching and research. The HEIs should design the initiatives that aim to create inclusive, locally owned, locally relevant, fit-for-purpose, equity driven and potentially scalable health literacy-informed NCD prevention and control strategies to ensure no one is left behind.

Against this backdrop, it is critical to explore and implement effective strategies to combat NCDs in low and middle-income countries. This policy brief aims to shed light on the pivotal role that HEIs can play in this effort. Higher institutions can drive research, influence policy, and educate future healthcare professionals, all of which are essential components in the fight against NCDs. Through fostering interdisciplinary research and collaboration, these institutions can develop innovative solutions tailored to the specific needs of LMICs. Additionally, HEIs can advocate for policies that promote healthy lifestyles and preventative measures, contributing to a comprehensive approach to NCD management. Ultimately, leveraging the resources and expertise of higher institutions can significantly enhance the capacity of low and middle-income countries to address the growing challenge of NCDs, improving public health outcomes and reducing the global NCD burden. HEIs could contribute to global efforts to mitigate NCDs through health literacy.

Problems - Current Challenges

In the past decade, NCDs have transitioned from an abstract concept to a development priority that is essential for the pursuit of the Sustainable Development Goals (SDGs). The underlying social, environmental, and political issues leading to the rising prevalence of NCDs were discussed in three high-level meetings (HLMs) of the United Nations General Assembly (Thakur et al. 2021). The recognition of the significance of NCDs by heads of nations and their inclusion in these global forums have been identified as one of the primary prerequisites for the establishment of a political framework that can provide justification, enable, and bind countries to national prioritization and implementation (Shulla et al. 2020). The higher

education institutions (HEIs) can play a pivotal role in mitigating NCDs either through teaching, research, and engagement, which are of significance to minimising this global problem.

This policy brief aims to address the role of HEI's in improving the current practice of addressing the severe impacts of NCD's and finding an inclusive approach within the space of health literacy to address and minimize the problem statement by the Sustainable Development Goals (SDGs).

Literature (Farzadfar et al. 2024; Guerrero-López et al. 2024; Miao et al. 2024) reveals that most participating countries had health literacy, teaching and learning programs formulated to their own contextual settings, and allocation of resources as an injection to their existing program. The major difference in implementation of health literacy falls in the influence from social behavior and scientific space as it all varies from each country. Unfortunately, the rate at which NCDs are minimized has not reached the current SDGs goals.

The major problems encountered by various countries stay within the limits of their resource allocations and capacities. Each authority needs research to generate evidence in new areas (e.g., equity and sustainability), training to build public health capacity and a continuous process of improvement and knowledge generation and translation (Diem et al. 2016). It is also common in developing countries that most results showed that current services focus on facility-based NCD screening and clinical services rather than active screening, prevention, and community awareness and outreach, although respondents emphasized the importance of prevention, lifestyle education, and community outreach (Lupafya et al. 2016). It is also encouraged to implement health communication strategies, such as health promotion, training and creating model households, screening, referrals, follow-ups, rehabilitation services (Tefera, Ali, and Woldearegay 2024) as part of the NCDs teaching curriculum that can be accredited into the teaching and learning pedagogy. Most countries, despite their different approaches to minimise NCDs, have not been able to reach the SDG goal. Babaita et al categorises these solutions into themes such as (1) environmental policies and social determinants, (2) multi-stakeholder involvement, (3) inter-ministerial collaboration, (4) independent evidence and review institution, (5) integrated health data, and (6) primary care system (2024). There was a shift from individual-targeted policies to environmental policies and social determinants.

Notably, national campaigns were developed through non-governmental organisations (NGOs) for the primary prevention of NCDs.

In these circumstances, it is imperative to comprehend the interplay and relationships among the government, HEIs, and business communities in order to develop a practical strategy for reducing the burden of noncommunicable diseases. The understanding of the triple helix model stands as the base of the conceptual theory to create this relationship (Amechi and Chineme 2024). The government, through its policy, must create a network of working and implementation relationships between the HEIs and support funds for more engagement and advocacy.

Solutions - Good Practices

There are several ways of addressing these problems. HEIs can engage in health literacy promotion through engagement, research and teaching. This policy brief will focus on solutions through teaching in HEIs. HEIs have the function of mitigating the burden of NCDs through targeted teaching strategies. It proposes a multi-faceted solution that includes the integration of NCD-focused curricula, the promotion of interdisciplinary education, and the utilisation of e-learning platforms. By embedding comprehensive NCD-related content across various health-related and interdisciplinary programs, Promoting interdisciplinary education enables the cross-pollination of ideas from fields such as medicine, public health, nutrition, urban planning, and sociology, fostering a holistic approach to NCDs prevention and management. Additionally, the adoption of e-learning platforms offers flexible and scalable educational opportunities, extending the reach of NCDs education to a global audience. Through these integrated approaches, higher education can significantly contribute to reducing the global impact of NCDs.

HEIs hold a pivotal position in addressing the global burden of NCDs through their teaching capabilities. The role that these institutions can play extends far beyond traditional academic boundaries, directly contributing to the betterment of public health on a global scale. To effectively mitigate the NCDs burden, several strategies can be implemented within higher education curricula. Previous research suggested that not only are cardiovascular diseases (CVD), diabetes, lung diseases and cancer taking an ever-increasing toll on working age populations, but the prevalence of traditional risk factors, now known to be universally predictive, is increasing in virtually every region of the world (Greenberg, 2015). According

to survey statistics of 50 schools accredited by the Council on Education for Public Health, 62% schools offered a global or international health track or certificate. 76% of schools offered an NCD course but only 8% of them offered a global NCD course. Of the schools with a global health program, none required an NCD course, but all offered courses on global health economics or infrastructure (Greenberg, 2015). Therefore, curricular initiatives that highlight the NCD epidemic and its social complexities will need new emphasis.

Health literacy training is an integral part of higher education for health personnel in several countries (Røe 2023). Training efforts can also be directed towards working professionals (e.g. UK Rowlands 2020). It is recommended that training should be applied to real-world settings, but evidence on the effects of different approaches are still lacking (Saunders 2019). Any effort to add health literacy to the health professional curriculum should therefore be coupled with research on effectiveness (Coleman 2013).

Addressing NCDs requires a multifaceted approach that transcends traditional disciplinary barriers. HEIs should foster interdisciplinary education by incorporating elements from fields such as nutrition, physical education, psychology, urban planning, and environmental science into healthcare curricula (Ryan et al., 2017). For instance, public health students can benefit from courses on urban planning to understand the built environments in promoting physical activity and reducing sedentary lifestyles. Research demonstrates that some universities had already proposed the interdisciplinary characteristics of environmental health. Relationships were defined between NCD exacerbation and public health infrastructures, such as power, sanitation, services, supplies, and water. Preparedness and response activities should focus on this priority public health infrastructure, which will require environmental health professionals to be part of interdisciplinary solutions (Ryan et al., 2017).

E-learning platforms offer an innovative solution to extend the reach and impact of NCD education. Online courses, webinars, and interactive modules can provide flexible learning opportunities for students and healthcare professionals worldwide. These platforms can facilitate the dissemination of up-to-date research findings, best practices, and case studies on NCD prevention and management, drawing on global expertise and experiences. Svetlana Akselrod and colleagues argue in their latest research that interdisciplinary education for health workers, including through e-learning programs, can help improve the quality of integrated care for NCDs (Akselrod et al., 2022). E-learning expands access to education globally, reaching even those in remote or rural areas that lack local training institutions. Health workers

in such rural communities often face significant challenges in accessing ongoing professional development, especially on topics like mental health. Online programs have proven effective in providing this continuing education to healthcare workers, whether in developed countries or in areas with limited resources, if the necessary technology is available. Participants in these programs have reported high satisfaction, increased awareness of mental health issues, and greater confidence in handling mental health interventions (Akselrod et al., 2022).

Health literacy training should be aimed at all students, and not restricted to health related study programmes. There is currently no agreed upon best practice for designing such teaching units. There are, however, examples of teaching units that build on theory and standards for teaching more generally. One such example is given by Crossman (2021). The teaching unit utilised active, learner-centred pedagogies like case-based learning, simulations, and role-playing to foster experiential learning and skill development (Crossman 2021). Long-term retention of health literacy knowledge following generalised teaching units have not been assessed.

HEI's to effectively promote health curriculum targeting NCD's in youth in India was through theory and practical based courses at the university level which were offered to non-medical students as extra credit courses as one way to boost health literacy focused on non-communicable diseases (NCD's) among young people (Shah et al., 2022). Schools also have a role in strengthening health literacy (UNESCO 2009). However, school teachers and leaders may have limited knowledge about how to strengthen health literacy among their students (Dadaczynski 2020). HEIs should therefore include health literacy in the teacher curriculum (Vamos 2020). In addition to targeting current students, HEIs can also provide professional development programmes to teachers (Peralta 2022).

Recommendations

HEIs hold a pivotal role in fostering health literacy, an essential factor in mitigating the burden of NCDs. To effectively integrate health literacy into their teaching activities, several strategic actions are recommended.

Ensuring that health literacy is a universally compulsory element within HEI curricula is essential. This should extend beyond health care-related programs to include all fields of study, thereby equipping a broader spectrum of students with critical health literacy skills. Embedding health literacy in all areas of study can foster a more health-conscious society,

capable of making informed decisions that can reduce the prevalence of NCDs.

Developing supportive strategies for the implementation of a health literacy curriculum at the individual HEI level is another vital step. This involves creating tailored programs that meet the unique needs of each institution, considering factors such as student demographics, local health challenges, and available resources.

Actions must be tailored to the local context. HEIs should consider regional cultural factors when designing and implementing health literacy programmes. This local tailoring ensures that interventions are relevant and effective, addressing the specific health literacy needs of the community.

Finally, ensuring that health literacy is an integral element of teacher training is fundamental. Educators must be well-equipped with the knowledge and skills to teach health literacy effectively. Comprehensive teacher training programs should be developed to ensure that educators can deliver health literacy content confidently and competently.

In conclusion, by adopting these recommendations, HEIs can significantly enhance health literacy among their students, contributing to the reduction of NCDs and the promotion of overall health and well-being.

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