

Scientific Rationale for Enhancing Public Health Literacy in the Prevention and Management of Non-Communicable Diseases at Population and Organizational Levels

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Abstract Non-communicable diseases (NCDs), also called chronic diseases, are usually long-term and develop because of the combined effects of genetic, physiological, environmental and behavioral factors. The main types of NCDs include cardiovascular diseases, diabetes, chronic respiratory diseases and cancer, which are among the leading causes of death and disability worldwide. In the context of the growing prevalence of NCDs in the Republic of Uzbekistan and globally, improving the health literacy of the population is of particular importance.

Keywords Health literacy, Health care, Physical activity, Disease prevention, Noncommunicable diseases

1. Introduction

The burden of non-communicable diseases (NCDs) is disproportionately high in low- and middle-income countries, which account for more than three – quarters of global NCD-related deaths, representing over 31,4 million deaths annually.

NCD's are responsible for 41 million deaths each year, accounting for 74% of all deaths worldwide [3,6]. Each year, NCDs kill 71 million people under 70 years of age, 86% of these premature deaths occur in low- and middle- income countries.

Low- and middle- income countries account for 77% of all deaths from NCDs.

Within NCD mortality , the largest share is attributed to cardiovascular disease, which account for 17,9 million people deaths annually, followed by cancers (9,3 million cases), chronic respiratory disease (4,1 million), and diabetes (2,0 million, including diabetes- related kidney diseases).

These four groups of diseases cause 80% of all premature deaths from NCDs.

The risk of death from NCDs is heightened by factors such as low physical activity, excessive alcohol consumption, and air pollution.

NCDs are prevalent across all age groups, regions, and countries. While these diseases are often associated with older age, evidence shows that 17 million deaths from NCDs occur among individuals under the age of 70. Moreover, 86% of this premature deaths occur in low- and middle-income countries. Risk factors contributing to the development of

NCDs. -such as unhealthy diet, insufficient physical activity, tobacco exposure, harmful alcohol consumption, and air pollution- pose a threat to all age group groups: children, adults, and the elderly.

The development of these diseases is influenced by factor such as rapid and unplanned urbanization, the global spread of unhealthy lifestyles, and population aging. The consequences of poor diet and insufficient physical activity can manifest as increased blood pressure, elevated blood glucose and lipids, and obesity. These are known as metabolic risk factors, which can lead to cardiovascular diseases, the leading cause of mortality from NCDs. Key strategies in combating NCDs include the identification, screening, and treatment of these diseases, as well as palliative care [4,5].

The goal of developing and improving health literacy is to equip individuals with the knowledge and skills necessary to actively engage in the prevention, detection, and management of NCDs, both at personal and public levels.

2. Results

Results of the study of international experience (scientific justification for the importance of health literacy in the context of NCDs and approaches to enhancing health literacy at the population level).

The study of international research on improving health literacy highlights that enhancing the medical literacy of the population has significant impact on health outcomes, reduces the burden of chronic diseases, and improves healthcare system efficiency. The research identifies care approaches and strategies that rise public awareness of diseases prevention, diagnosis and management while also improving individuals' decision-making skills about personal health.

Research conducted in the USA, Canada, and European countries indicates that a high level of health literacy associated with healthier behavioral habits, including proper nutrition, physical activity, smoking cessation, and moderate alcohol consumption. A report by the US National Institute of Health (NIH) highlights that patient with higher medical literacy are 30% less likely to miss preventive screenings and show greater adherence to treatment regimens.

In Canada and Australia, public engagement emphasizes the importance of educational programs tailored to various age groups and socio-economic strata. In Canada for example, the “Youth Health literacy initiative” an educational program for schoolchildren, has helped children and adolescents better understand the fundamentals of health, leading to a reduction in harmful habits.

In Japan and South Korea, programs aimed at improving health literacy, particularly among the elderly, are actively studied. Research indicates that in societies with high levels of health literacy, the incidence of chronic diseases such as diabetes and cardiovascular conditions is lower. In South Korea, a program focused on teaching older adults health management skills has led to a scientific reduction in hospitalizations and an improvement in the quality of life for this age group.

Studies in the USA, Germany, and the UK demonstrate the effectiveness of digital technologies in enhancing health literacy. Health apps, web platforms, and telemedicine enable a wide range of users to access reliable information. In Germany the Ada health app uses artificial intelligence to provide recommendation, improving users’ understanding of their symptoms and motivating them to seek timely medical help.

Numerous studies in the USA and Canada have confirmed that patients with higher health literacy have a better understanding of medical prescriptions and are less likely to deviate from them. For example, research conducted by the University of Toronto has shown that patients with a good understanding of their disease are 40% less likely to skip medications and 50% less likely to visit the hospital for emergency reasons.

In the United Kingdom, programs aimed at educating patients with chronic conditions, such as asthma and diabetes, have demonstrated a significant improvement in treatment adherence. The “Expert Patient Programme” helps patients develop self-management skills, reducing the burden on the healthcare system and improving the quality of life for patients.

In Latin American countries, such as Brazil, the involvement of community leaders and organizations has shown that engaging local leaders and community groups increases trust in medical programs and enhances understanding of health issues. The «Saúde da Família» program includes training for community members, strengthening the interaction between healthcare workers and residents.

Healthcare programs tailored to rural areas in India and Kenya show that such initiatives, where medical literacy is traditionally lower, have a significant impact on improving health outcomes. For example, the «mMitra» program in

India uses mobile technology to educate woman in rural communities on health issues, contributing to a reduction in both maternal and child mortality rates.

The study of international projects aimed at improving health literacy has highlighted the complexity of this process and revealed a shortage of qualified specialists in the field. At the same time, a systematic approach and government involvement in implementing programs can lead to positive outcomes with significant medico-social and economic benefits [1,2].

An analysis of publications on the topic of health literacy has shown that, despite the importance of this issue, there is a lack of sufficient scientific publications on the subject.

Existing studies focus on various aspects of health literacy, including the impact of socio-economic factors on the health of children [8,10].

Currently, the scientific literature lacks well-established measures to improve health literacy levels, highlights the relevance and necessity of further research on the topic.

Thus, international studies confirm that health literacy is a key factor influencing individuals’ health behaviors, adherence to medical prescriptions, and utilization of healthcare services. Best practices, such as educational programs, the involvement of healthcare professionals, the use of digital technologies, and community development, have demonstrated a significant impact on improving population health literacy. These findings could serve as the basis for the development of comprehensive health literacy programs in countries, including Uzbekistan, aimed at reducing morbidity and improving overall public health.

It has been established that improving the health literacy of the population leads to significant improvements in the prevention and management of non-communicable diseases (NCDs). Key findings and successful strategies from international projects, which use diverse approaches to engage individuals, enhance their awareness, and modify behavioral habits, will be discussed.

1) Approaches to Enhancing Health Literacy at the Population level:

Educational programs and mass information campaigns

The implementation of national informational and educational campaigns aimed at raising public awareness about non-communicable diseases (NCDs) and methods for their prevention. This includes the development of educational programs for various age groups, including schoolchildren, students, the working- age population, and retirees, with a focus on clear and practical recommendations.

Use of digital tech technologies

The implementation of online platforms, mobile applications, and social media to disseminate reliable information about non-communicable diseases (NCDs), their symptoms, prevention methods, and treatments.

The development of mobile applications that help track health indicators (for example blood pressure, glucose levels), provide reminders for doctor visits, and offer useful tips for maintaining a healthy lifestyle [7,9].

Support for Initiatives Promoting Healthy Lifestyles in Communities Active involvement of community leaders and healthcare professionals in educational and informational programs to increase trust and engagement among the population.

The creation of community- level programs, such as health clubs, sport events, and training groups, which enhance motivation to adopt and maintain a healthy lifestyle.

2) Improving Health Literacy at the Organizational Level

Training personnel to engage effectively with the public

Enhancing training for healthcare workers, including doctors and nurses, with a focus on communication and patient education skills.

Developing training programs for educators, social workers, and volunteers to enable them to promote health literacy effectively among diverse population groups.

Implementing an Intersectoral Approach

Strengthening collaboration between the Ministry of Health, the Ministry of Education, the Ministry of Social Policy, and other organizations to develop comprehensive programs for improving health literacy.

Supporting research and practical initiatives focused on creating innovative approaches and tools to improve health literacy in the context of non-communicable diseases (NCDs).

Evaluating program effectiveness and adaptation.

Conduct regular monitoring and evaluation of educational and informational programs to assess their effectiveness and implement necessary adjustments.

Undertaking research to evaluate health literacy levels related to NCDs and identify limiting factors affecting its development.

3. Conclusions

The formation and improvement of health literacy regarding the prevention and treatment of non-communicable disease (NCDs) is a crucial task that requires the involvement of all levels of healthcare, society, and government structures. Increasing public awareness and engagement will help reduce morbidity and mortality from NCDs, improve the quality of life for citizens, and alleviate the burden on the healthcare system. The integration of modern technologies, informational campaigns, and professional training will create the condition necessary for the sustainable development of health literacy in Uzbekistan and achieve significant results in the fight against NCDs.

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