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Health Literacy and Its Role in Oral Health Promotion: A Review of Contemporary Concepts and Approaches

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Abstract

Health literacy encompasses a set of knowledge, skills, and attitudes that enable individuals to understand, evaluate, and apply health-related information with the aim of improving health status and quality of life. It is recognized as a key social determinant of health and an important instrument for reducing inequalities in access to healthcare services. In the context of oral health, health literacy has particular significance, as it influences preventive behaviors, health habits, and the perception of diseases. This review outlines the conceptual development of the notion of health literacy, its core components and dimensions, its connection to oral health, the impact of social and behavioral factors, and its role in health promotion. The need for an interdisciplinary approach is emphasized, along with the integration of health education, communication, and motivation as essential tools for enhancing health and oral health literacy within the population.

Keywords: health literacy, oral health literacy, health promotion, health education, behavior, prevention

Background

Health literacy is one of the key factors determining social inequalities in health and access to healthcare services in both developed and developing countries (1). Over the past decades, interest in this concept has increased significantly (2). In the literature, the term is viewed not only as the ability to read and understand health information, but as a set of cognitive, social, and behavioral skills that enable individuals to maintain and improve their health (3).

According to D. Nutbeam, health literacy is "the ability to apply literacy skills in the context of health through the use of prescriptions, medical appointment schedules, medication labels, and home-care instructions" (4). The concept is viewed as a key component of public health, as it is associated with the individual's active participation in decision-making processes aimed at improving their health status (4).

The definitions of health literacy proposed by different authors and organizations demonstrate its gradual development—from a focus on individual cognitive abilities to a broader understanding of

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health literacy as a social and public competence. According to Nutbeam's model, there are three main levels: functional, interactive, and critical health literacy (4).

- Functional health literacy includes basic reading and writing skills needed to understand health information.
- Interactive health literacy reflects more advanced cognitive and social skills that enable active participation in communication with healthcare professionals.
- Critical health literacy involves the ability to analyze and use information for social action and for changing factors that influence health.

This evolution of the concept also changes the approach to public policy—health literacy is no longer viewed as an individual responsibility, but as a shared responsibility among individuals, institutions, and society.

Concept and Development of Health Literacy

The term „health literacy" was first used in the early 1970s (5) and gradually became a key concept in public health (6). According to the definition of the Institute of Medicine (IOM), health literacy represents "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (7).

In recent decades, there has been a shift in research focus—from assessing individual cognitive abilities to analyzing the systemic and social factors that hinder or support effective communication between patients and healthcare professionals (8, 9). This shift has led to the understanding of health literacy as a dynamic process of interaction between the individual and the health system, influenced by the complexity of the information provided, cultural characteristics, and the context of healthcare services (10).

Here is the English translation with the citation numbering preserved and no changes to meaning or structure:

As a result of this development, the understanding has been established that health literacy is an intersectoral concept involving education, social policy, and healthcare (9). It has a direct impact on health behavior, disease prevalence, and the outcomes of preventive programs.

Components and Dimensions of Health Literacy

Researchers identify several key components of health literacy:

- Cognitive component – knowledge and understanding of health, diseases, and prevention;
- Social component – communication skills and the ability to seek support in a health context;
- Behavioral component– applying knowledge to change habits and lifestyle.

These components manifest at three levels—individual, interpersonal, and societal. At the individual level, health literacy determines a person's ability to make decisions regarding their own health; at the societal level, it influences participation in health policies and initiatives.

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Barriers and Challenges

Among the main barriers to improving health literacy are cultural differences, low educational level, age, and difficulty understanding medical terminology (8). Effective communication requires adapting the language and format of the information to the needs and abilities of the patient (11). Healthcare professionals play a leading role in this process. Their task is not only to inform, but also to encourage the patient's active participation by creating trust, empathy, and conditions for shared decision-making (12).

Health Literacy as a Social Determinant

In contemporary literature, health literacy is viewed as a social determinant of health that underlies health inequalities. Low levels of health literacy are often found among individuals with lower education, low income, migrant background, and older adults, leading to unequal access to services and poorer health outcomes (13, 14).

Improving health literacy has the potential to enhance the efficiency of health systems, reduce unnecessary hospitalizations, and increase adherence to preventive recommendations. This makes it a key instrument in public health strategies and health promotion.

Oral Health Literacy – Significance and Specifics

The concept of oral health literacy emerges from the broader notion of general health literacy and is defined by the National Institute of Dental and Craniofacial Research (NIDCR) as "the degree to which individuals have the capacity to obtain, process, and understand basic oral health information and services needed to make appropriate health decisions" (7). This definition adapts the general model of health literacy to the specifics of dental medicine, emphasizing that the skills to understand, evaluate, and apply information are essential for maintaining good oral health.

Oral health literacy reflects not only individual knowledge of oral hygiene but also the ability to navigate the dental care system, understand preventive recommendations, and make informed decisions regarding treatment. It includes communication skills, social competencies, and critical thinking that enable individuals to interact effectively with healthcare professionals and to apply preventive practices in daily life (10).

Self-assessment of oral health is an important indicator of the level of literacy. It reflects not only the objective condition of the oral cavity but also the individual's subjective perception of their own health (15). Studies show that this self-assessment is closely associated with age, socioeconomic status, level of education, and the degree of oral health literacy (16, 17, 18).

Oral health literacy is considered to act as a mediator between the social determinants of health and individual behavior. Individuals with higher literacy demonstrate better hygiene practices, more regular preventive dental visits, and greater satisfaction with the care received (10). Conversely, low literacy is associated with an increased risk of caries, periodontal diseases, and inadequate use of dental services (19).

Research on parents shows that their knowledge, attitudes, and skills directly influence children's health behaviors. Parents with limited health literacy more often display improper nutritional

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behaviors, miss preventive check-ups, and use dental services only in emergency situations (20). In this way, parental literacy becomes a key predictor of oral health in childhood.

Impact of Low Health Literacy on Oral Health

Low health literacy has multiple consequences for the health status of individuals and for society as a whole. It is associated with more frequent hospitalizations, lower treatment effectiveness, and higher healthcare costs (2, 21). In dental medicine, this effect manifests as higher prevalence of caries, gingivitis, periodontal diseases, and tooth loss, particularly among socially vulnerable groups (22, 23).

Children of parents with low health literacy suffer more often from caries, have more limited access to prevention, and experience a lower quality of life (24, 25, 26). In these families, knowledge about the importance of fluoride, proper nutrition, and regular preventive dental visits is often lacking.

Studies show that socioeconomic factors have a significant influence on the level of health literacy. High literacy is typical of individuals with better education, higher income, and stable social status (13). Women generally demonstrate better knowledge and greater engagement in prevention than men (14, 27).

Vulnerable groups—such as the poor, the unemployed, and ethnic minorities—are at higher risk of oral diseases and often experience difficulties in understanding health information and navigating the healthcare system (28). The lack of accessible information, combined with low literacy levels, leads to incorrect health beliefs, delayed help-seeking, and more frequent complications.

In this context, health literacy serves as a connecting link between social factors and health behavior. Improving it not only enhances individual habits but also optimizes health outcomes at the community level by reducing inequalities in access to services.

Promotion of Oral Health

Oral health is determined by a complex interplay of biological, cultural, social, and behavioral factors (24, 29). Although clinical interventions are important, they cannot by themselves prevent the development of diseases; therefore, the integration of preventive and educational approaches is necessary (30).

Health promotion is defined as a process of creating opportunities for people to improve their health through conscious, informed actions (31). It requires the active involvement of the individual, the family, and the community, as well as the support of governmental institutions.

At the core of the modern approach to health promotion stands the Ottawa Charter for Health Promotion (32), which emphasizes social determinants and collective actions. In the dental context, this means not only promoting hygiene practices but also creating an enabling environment for maintaining them.

The promotion of oral health includes both individual and population-based strategies. At the individual level, the focus is on counseling, education, and motivation for behavior change. At the societal level, it encompasses fluoridation programs, nutritional policies, and campaigns aimed at reducing sugar consumption.

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The model developed by Fisher-Owens model and colleagues (33) systematizes the determinants of children's oral health into three levels: individual (biological and behavioral factors), family (parental practices, social support), and community (health policy, access to services). In early childhood, parents play a decisive role, as their habits and beliefs are transferred to the child (24). Despite the proven effectiveness of preventive measures, dental programs often receive limited funding and attention compared with medical programs (34). This necessitates conducting economic evaluations and creating sustainable models for integrating dental prevention into broader health policies.

Psychological and communication approaches hold an important place in oral health promotion. Motivational techniques and individualized counseling have been shown to be more effective than traditional informational campaigns in improving oral hygiene and patient self-efficacy (35, 36).
With the expansion of digital technologies, new opportunities for communication and education have emerged. Online resources, mobile applications, and social media can be used to deliver accessible, visually appealing, and tailored information (1, 37, 38). Electronic health education broadens the potential for large-scale impact, especially among young people, but requires careful attention to the accuracy and quality of content.

Health Education and Training as a Tool for Prevention

Health education is one of the main instruments for improving general and oral health literacy. Its goal is to increase knowledge, shape positive attitudes, and develop skills that support informed decision-making and the establishment of sustainable healthy habits (39). The term *"dental health education"* has gradually been replaced by *"oral health education,"* which has a broader scope and includes activities aimed not only at students but also at parents, adults, and specific groups within society (40).
Training in oral health should begin in early childhood. Childhood is a critical period for establishing lasting hygiene and dietary habits that persist throughout life (41). However, studies show that many children do not brush their teeth regularly or do so incorrectly (25).
Dietary habits are another essential component of prevention. Reducing the frequency and amount of sugar consumption is the most important factor in limiting dental caries (42). Despite the availability of accessible information, the consumption of sugary foods and beverages among children remains high, reflecting a deficit in effective health education and parental supervision.
Parents play a leading role in fostering healthy habits in children. Their knowledge, attitudes, and behavior largely determine the hygiene practices within the household (42, 43). Research shows that parents with higher health literacy are more likely to ensure regular toothbrushing, the use of fluoride toothpaste, and preventive dental visits.
The school is another key environment for developing health culture. There, all children, regardless of their social status, can gain access to quality health education (44). School programs that include practical training and demonstrations have been proven to improve students' knowledge and attitudes toward oral hygiene (45).

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Traditional lecture-based methods, however, have limited impact on actual behavior change (46). Interactive approaches—such as discussions, simulations, group games, and experiential learning—are far more effective (34, 47). These methods stimulate interest and engagement, facilitating the internalization of health knowledge into everyday behavior.

Studies show that programs based on experiential learning lead to lasting improvements in hygiene habits and a reduction in the incidence of carious lesions (48). They combine cognitive, emotional, and behavioral elements, creating personal experience and emotional engagement with the topic.

Dentists play an essential role as educators and health promoters. They must adapt their communication to the age, social context, and level of health literacy of the patient. Establishing a trusting relationship between dentist and patient is a prerequisite for higher motivation and better adherence to preventive recommendations.

In recent years, digital educational resources—mobile applications, video clips, and online platforms—have become increasingly popular. They allow for personalized and interactive learning, especially among young people who are more responsive to visual and game-based stimuli. However, their effectiveness depends on the quality of the content and the ability of educators to integrate technologies with traditional methods.

Behavioral and Motivational Aspects of Health Behavior

Motivation is a key factor in the process of adopting and maintaining healthy behavior. According to self-determination theory, intrinsic motivation is based on pleasure and satisfaction derived from the action itself, while extrinsic motivation is driven by rewards or social approval (49).

The most sustainable form is autonomous extrinsic motivation, in which a person recognizes the personal value and importance of the healthy behavior and perceives it as part of their own identity (49). A social environment that fosters a sense of competence, autonomy, and relatedness supports the internalization of such behavior (50).

Models of behavioral change emphasize the importance of knowledge, attitudes, and beliefs in adopting healthy practices. For example, according to the Health Belief Model, the likelihood that an individual will undertake preventive action depends on the perceived threat of disease and the expected benefits of the action.

Self-efficacy—the individual's belief in their ability to successfully carry out the desired behavior—also plays a crucial role. Educational programs that build skills and confidence lead to better outcomes and more long-lasting effects.

The Bloom's Taxonomy provides a logical structure for designing effective learning, progressing through six cognitive levels—remembering, understanding, applying, analyzing, synthesizing, and evaluating (50, 51). Real behavioral transformation occurs only at the higher levels.

In contemporary practice, interactive and gamified approaches are also applied, where learning takes place through game elements and digital environments. Game-based motivation stimulates engagement and satisfaction, facilitating the formation of positive health habits (49).

The combination of cognitive, behavioral, and emotional elements in education is most effective when paired with an approach based on empathy, support, and active participation. This is also the

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foundation of modern health promotion programs, which aim not merely to transmit knowledge but to achieve lasting change in attitudes and behavior.

Conclusion

Health literacy is a key factor for the sustainable improvement of public and oral health. It is not simply an individual characteristic but a social resource that contributes to reducing inequalities in healthcare and increasing the effectiveness of prevention.

Improving health literacy requires integrated efforts—educational, institutional, and clinical. Dental practitioners, educational professionals, and public health experts must work together to create a culture of health starting from early childhood.

A high level of general and oral health literacy leads to better quality of life, more rational use of health resources, and a healthier society. Therefore, it should be placed at the center of public and dental health policies.

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