

Adolescent Health Literacy and Its Importance in Promoting Informed Health-Related Decision Making

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Abstract

Background: Health development in adolescents is a pivotal period for the development of health-related behaviors. Adolescent health literacy - the capacity to access, comprehends, assess and use health information - is integral to the development of health behaviors. Yet, adolescents often struggle with health information in the digital information age during which there is a major spread of mis- and disinformation. **Objective:** This paper will review the influence of adolescent health literacy in facilitating health-related decision making and its contribution to health-related outcomes and behaviors. **Methodology:** This paper presents a narrative review of the existing evidence from scholarly journals, global health reports, and educational frameworks exploring the role of health literacy in adolescent decision making and health outcomes. **Findings:** The review suggests that adolescents with better health literacy demonstrate better decision making skills, healthier behaviors, less risky behaviors and greater use of health care services. Low health literacy leads to poor decision-making, susceptibility to health misinformation, and negative health outcomes. **Conclusion:** Building health literacy among adolescents through education at school, consultation with the community and online interventions, is necessary to promote decision making and enhance long term public health.

Keywords: Adolescents, Health Literacy, Decision Making, Preventive Health, Health Education, Public Health

1. Introduction

Adolescence, or the period between 10 and 19 years of age as defined by the World Health Organization (WHO), is a developmental stage characterized by physical, psychological, emotional and social changes [1]. This is the stage of development where many patterns of behavior are initiated that has implications for both current and long-term health [3]. Adolescence is a crucial period for health promotion and illness prevention because many health-related behaviors such as eating patterns, physical activity, substance use and sexual activity are established during this time [2]. Young people's adolescent health is also critical for establishing healthy behaviors. There is evidence that certain health-related behaviors established during this critical period of development continue into adulthood, and thus influence long term health outcomes, including chronic diseases like obesity, diabetes and cardiovascular disease [3]. And adolescents are increasingly faced with health-related decision making in a rapidly changing digital world, where information is readily available but may not necessarily be accurate [4]. This highlights the importance of having the skills necessary to access, understand and use health information appropriately. Health literacy has been identified as a critical health outcome, involving the skills to access, understand, appraise and apply health information and skills in order to make decisions [5]. This goes beyond simple literacy and numeracy skills, encompassing interactive and critical skills, needed to engage with health systems and activities and to make informed health decisions [6]. Health literacy is especially important in adolescents because it promotes independence and self-esteem, balances risks and opportunities, and promotes healthy choices (for example, regarding nutrition, mental health, and risk-taking) [7]. Even though it is important, adolescent health literacy is a global issue. Research shows that adolescents are often equipped with the skills to be considered as healthy media and social network literate [8]. These skills make them more vulnerable to misinformation, risky health behaviours, and negative health outcomes [9]. Moreover, factors such as educational background, socioeconomic background and health resource inequality all exacerbate health literacy disparities amongst adolescents [10]. Within the

education system, there is often little focus on developing practical health literacy skills despite the reliance on a knowledge-based approach [11]. These are critical areas where improvements are needed to enable adolescents to become active health decision-makers. Improving health literacy through educational programs, supportive variables and access to resources can enhance adolescents' perceptions of health risks, access to health care, and health consciousness [12].

1.1 Aim

This article seeks to understand the impact of health literacy on adolescents' informed health decision making, and its influence on behavior and health outcomes.

2 Literature review

The latest studies show a key role for adolescent health literacy in health-related decision-making in an information-rich world. Recent literature highlights that young people are often exposed to a large volume of digital health information, making the need for evaluating information even more critical [13]. Specifically, digital health literacy has become a critical element, to help young people to identify reliable information from falsehoods, particularly on social media [14]. Research evidence shows that adolescents with higher levels of health literacy have better decision-making skills in relation to nutrition, mental health and sexual and reproductive health [15]. Significantly, recent cross-sectional research findings show a strong association between health literacy and positive health-related behaviors (such as physical activity and no smoking) [16]. Additionally, health literacy is associated with improved mental health, with adolescents with higher evaluative skills more likely to seek help and less likely to engage in unhealthy coping strategies [17]. But there are socioeconomic and educational inequalities. Young people from low-income backgrounds tend to have less health literacy, in part because they have less access to good education and to health information [18]. School and community programs have been shown to be successful in closing these gaps, by embedding skill-focused health education programs into school education [19]. In summary, as recent studies highlight, it is crucial to improve the health literacy of adolescents to promote awareness and informed decision making, and to improve health over time. Such evidence highlights the importance of tailored, multi-faceted approaches which consider individual skills as well as structural factors.

3 Conceptual Framework of Health Literacy

Health literacy is a complex idea that goes beyond simple health information seeking and reading. It involves a range of cognitive and social skills that allow people to find, comprehend, evaluate and use health information to make informed health decisions. Health literacy is especially important during the transition period of adolescence when young people become more active in making decisions regarding their health. The most common conceptualization of health literacy consists of three levels of literacy (functional, interactive and critical).

3.1 Definition and Components

3.1.1 Functional Health Literacy

Functional health literacy is the ability to read, write and do calculations in order to interpret basic health information. It enables the ability to read medication labels, understand medical directions and interpret health education papers. In young people, functional literacy underpins the development of other forms of health literacy. Lacking these skills could result in a person not understanding critical health information, making informed decisions, and taking on unnecessary health risks.

3.2 Interactive Health Literacy

Interactive or advanced health literacy comprises complex cognitive and communication skills that help people interact with health professionals, educators and their peers. This involves effective communication, questioning and using health-related information in a flexible way. Young people with high levels of interactive literacy are able to communicate about more sensitive topics like alcohol use or reproductive health and ask for more information about health. This improves self-esteem and decision-making abilities.

3.3 Critical Health Literacy

Critical health literacy is the highest level of health literacy and is the capacity to critically analyze health information. This is particularly crucial in the era of "digital health" in which adolescents are bombarded with all kinds of information, but not all true. Critical literacy helps them to evaluate sources of information, risk and benefits in health decision-making and be notified and independent decision-makers. It also allows them to combat incorrect information and influence their communities to make healthy decisions.

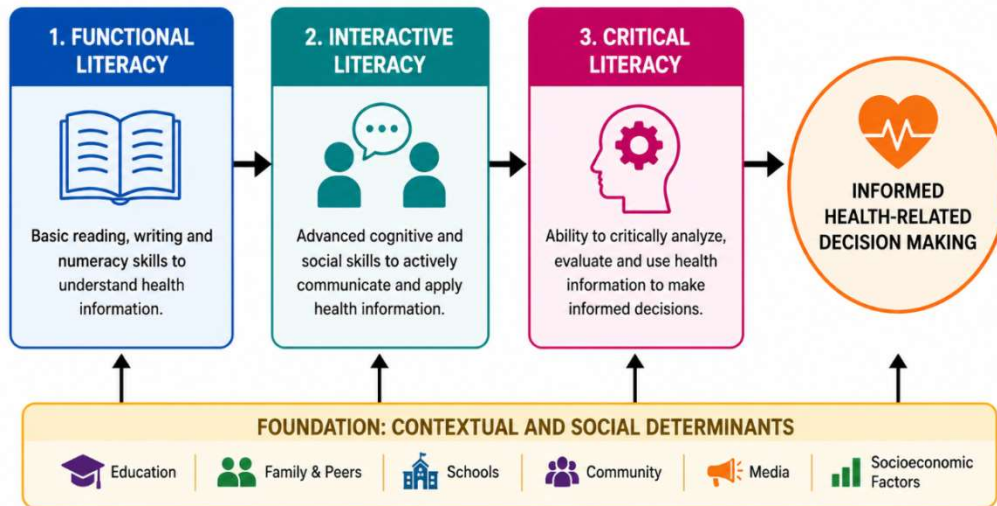


Figure 1: Health Literacy Model

The model shows the four adaptive stages of health literacy and how they influence health decision making in adolescents as shown in figure 1. It starts with functional literacy, which refers to basic reading, writing and mathematics skills that allow understanding of basic information about health. It progresses to interactive literacy where skills to communicate and interact with others are acquired to participate in health-related activities. Critical literacy allows adolescents to critically analyze, interpret and apply information. These stages interact with a range of factors including education, family and media, to ultimately inform health decision making and better health outcomes.

4. Adolescent Development and Health Behavior

Adolescence is a transitional life phase marked by profound cognitive, social and emotional development that impacts health risk behaviors. These changes influence adolescents' perception of risk and their interactions with the lived environment to ultimately shape health-related decision making.

4.1 Cognitive Development (Risk Perception and Impulsivity)

There are significant changes in the brain during adolescence, particularly in decision-making and self-control. Although skills such as abstract thinking and reasoning develop, the part of the brain that regulates self-control is not fully developed. This combination can result in increased impulsivity and risk-taking behaviors. This may result in riskier behaviors like drug use or dangerous practices, despite recognizing the risks.

4.2 Social Influences (Peers, Family, Media)

Social factors have a significant impact on health and health-related choices among young people. Peer influences are particularly prominent during adolescence, as they strive to fit in and gain social acceptance. Peer feedback can both motivate healthy and unhealthy choices. Parents continue to play a guiding role, setting standards and norms. Moreover, media and online influences increasingly impact adolescents, influence attitudes toward health, body image and lifestyle, and may expose them to both accurate and inaccurate information.

4.3 Emotional Factors

Adolescents undergo emotional changes including heightened sensitivity, fluctuating moods and a drive for

independence. Young people may feel stressed, anxious or have low self-esteem, influencing their health choices. Feelings may affect their decision-making, and sometimes lead to coping mechanisms like disordered eating, drug use or social isolation. Negative emotions can be reduced and resilience can be fostered through effective emotional regulation. In short, a bidirectional relationship between cognitive, social and emotion factors affects adolescent health decisions, making it essential to provide interventions promoting healthy choices.

5 Determinants of Adolescent Health Literacy

The health literacy of adolescents is determined by many factors, including personal, social, environmental, and digital factors. These factors are critical to understanding how to develop and implement strategies to improve adolescents' access, comprehension and application of health information to support decision making.

5.1 Individual Factors

Personal factors form the basis of most health literacy measures for young people.

- **Literacy:** Higher levels of formal education increase reading, comprehension and critical analysis skills, making it easier to comprehend health information.
- **Cognitive Skills:** Cognitive skills affect reasoning, problem-solving skills, and the capacity to understand complex health issues. Those with good cognitive abilities are more likely to engage in critical analysis.
- **Online Skills:** In our digital world, the skills to use online resources, search for information, and evaluate the reliability of online information are vital for finding reliable health information.

5.2 Social and Environmental Factors

Adolescents' health learning and knowledge use is also shaped by the social and environmental determinants of health.

- **Parental Support:** Support from parents and caregivers includes teaching, staffing health beliefs and modeling behaviors.
- **Education at Schools:** School systems play an important role in health education, providing a formal environment to acquire health literacy skills via curricula and programs.
- **Socioeconomic factors:** Socioeconomic factors influence access to resources and quality education and health care, contributing to health literacy inequalities.

5.3 Digital Influence

Internet and Health Information: Young people use digital media for health information as shown in table 1. These sources offer convenience, but also pose a risk of mis- and disinformation.

Table 1: Determinants of Adolescent Health Literacy

Category	Factors	Impact on Literacy
Individual	Education, cognitive skills	High
Social	Family, peers	Moderate–High
Environmental	School, community	High
Digital	Internet, social media	Variable

These factors demonstrate adolescent health literacy is not an individual characteristic only, but also influenced by social and digital contexts.

5.4 Health Literacy and Decision Making

Health literacy is integral to adolescents' health-related decision making. It provides adolescents with the skills and understanding to access, understand, critically evaluate and use health information effectively in practice. During adolescence, young people become more independent and thus need to make more health-related choices. And increased health literacy supports them in making informed judgements, avoids negative external influences and promotes healthy behaviors. On the other hand, low health literacy can result in poor decision-making, susceptibility to

misleading information and practicing risky behaviors.

6 Types of Health Decisions

6.1 Nutrition and Diet

Young people make regular decisions related to food and diet that have implications for their growth and development. Health literacy allows them to interpret dietary information, identify healthy and unhealthy foods, and make healthy dietary choices, which will prevent obesity and other diseases.

6.2 Sexual and Reproductive Health

Decision-making and practices in sexual and reproductive health are critical for avoiding unintended pregnancy and sexually transmitted diseases. Adolescents with high health literacy can navigate safe practices, information and health care more effectively.

6.3 Substance Use

Adolescents with health literacy assess the risks of substance use, such as tobacco, alcohol and drugs. It helps them withhold from trying these substances, and to make healthy choices instead.

6.4 Mental Health Care

Health decisions related to mental health include identifying symptoms, seeking treatment, and engaging in healthy coping. Adolescents with greater health literacy are more likely to provide early recognition of mental health problems, seek help and engage in healthy coping strategies.

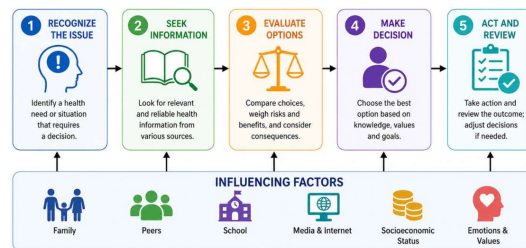


Figure 2: Decision-Making Process in Adolescents

This figure 2 demonstrates the steps in adolescents' decision making in their health. It starts with the discovery of a health problem and culminates in the search for appropriate and trustworthy information through multiple sources. They assess alternatives in terms of risks, benefits and likely outcomes. They then choose an action believed to be best in meeting their knowledge, beliefs and aspirations. Lastly, they action and reflect on the decision and make changes as needed. This is affected by a range of factors including family, friends, school, media and socioeconomic background as well as emotions, resulting in informed and healthier behavioural outcomes.

7. Impact of Health Literacy on Health Outcomes

Health literacy significantly influences adolescents' health outcomes by shaping their behaviors, attitudes, and ability to navigate healthcare systems. Young people with better health literacy are more likely to engage in beneficial health behaviors and decision-making, and actively engage with healthcare. This ultimately leads to better overall well-being and health outcomes.

7.1 Improved Preventive Behaviors

Adolescents with high levels of health literacy are more likely to practice preventive behaviours like practising good hygiene, having nutritious diets, engaging in regular exercise and vaccination programs. These help prevent disease,

improving health and well-being.

7.2 Reduced Risky Behaviors

Certainly, adolescents with increased health literacy have a better comprehension of the harmful effects of risky behavior, such as drug and alcohol consumption, unsafe sexual activity, and unhealthy lifestyles. This in turn increases their capacity to avoid these risks and engage in more protective practices.

7.3 Better Mental Health Outcomes

High health literacy during adolescence helps young people better understand their mental health, seek help and develop effective coping mechanisms. This results in better emotional health outcomes, and a reduced likelihood of anxiety, stress and depression.

Table 2: Outcomes of High vs Low Health Literacy

Health Literacy Level	Behaviors	Outcomes
High	Preventive care, informed choices	Better health outcomes
Low	Risky behaviors	Poor health outcomes

Overall, improving adolescent health literacy is essential for promoting healthier behaviors, reducing risks, and enhancing both physical and mental health outcomes shown in table 2.

7.4 Strategies to Improve Adolescent Health Literacy

To improve adolescent health literacy, it is important to consider a multi-faceted approach incorporating educational, social and technological strategies. These interventions focus on empowering adolescents to make informed health choices through the provision of knowledge, skills and resources.

8 School-Based Interventions

Education is a key medium to equip young people with health literacy skills.

Health Education Programs: Formal programs can offer the appropriate age and stage knowledge on nutrition, hygiene, sexual health, mental health, etc. These can increase students' knowledge and awareness

Life Skills Training: In addition to theoretical information, life skills training is aimed at developing skills of critical thinking, decision-making, communication and problem solving.

These skills help young people to apply health knowledge and information in practical ways.

8.1 Community and Family Engagement

Social support is important in supporting health literacy.

Parent Support: Educating and raising the awareness of parents and caregivers is an important way to build a supportive network at home which will encourage healthy living and discussion.

Peer education programs: Young people are highly responsive to their peers. Peer-led programs can help promote healthy behaviours and enhance comprehension through peer-to-peer communication.

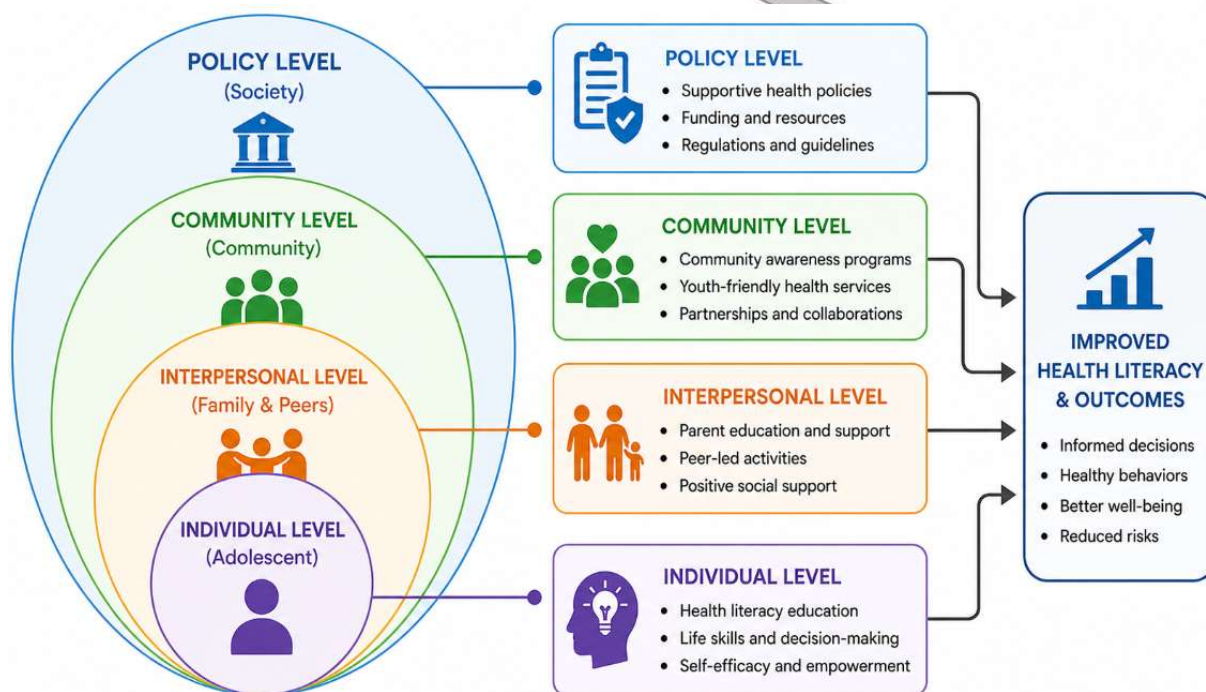


Figure 3: Multi-Level Intervention Model

This model shows the holistic, multi-level approach to increasing adolescents' health literacy. Four interrelated levels are shown: individual, interpersonal, community and policy. Individuals learn skills and knowledge about health. The interpersonal level provides support from both parents and peers. Schools and community programs are examples of the community level. The policy level involves supportive policies and funding for interventions. These levels thus work together to improve health literacy, for better decision making about, and adoption of healthy behaviors, that can lead to improved health and well-being for adolescents.

9 Discussion

The evidence discussed in this paper shows the important role of health literacy among the young for health related decision-making and behaviors. There is evidence that young people with high levels of health literacy are able to better access, process and use health information, which results in better preventive health practices, lower levels of risky behaviors, and better psychological health. In contrast, low levels of health literacy are linked to suboptimal decision-making, more vulnerability to health misinformation and thereby negative health outcomes. Health literacy has implications for health over time. Health-related behaviors adopted in the teenage years are likely to carry on in adulthood, affecting the risk of chronic conditions like obesity, diabetes and heart disease. Young people who acquire high health literacy skills are better equipped to make healthy choices, use health services efficiently and have improved health outcomes and well-being throughout life. Our results align with the current research, which underscores the importance of health literacy as a key factor in health across the life course. Other research has also shown that enhanced health literacy leads to improved health, decreased health inequalities, and greater participation in health care. The present discussion confirms these findings and emphasizes the increasing importance of digital health literacy in the digital age of information.

10 Conclusion and future scope

Overall, health literacy among adolescents is a key predictor of health-related decision making and well-being. This paper illustrates that young people with greater health literacy are more likely to engage in preventive health behaviors, steer clear of risks and make informed decisions about nutrition, mental health and health-care. And with the knowledge that adolescents' health behaviors can carry into adulthood, improving health literacy during this period will positively impact the health and well-being of the population in the future. Yet, there are gaps in health literacy because of educational

inequalities and limited access to information and digital media. Multifaceted approaches at school, home, community, and through the use of digital health technologies are needed to overcome these barriers. The next frontier is to create innovative, digital health interventions such as artificial intelligence (AI) literacy programs, mobiles apps, and tailored health education and communication programs. Research is needed to assess the impact of these technologies in different communities. Governments must also priorities embedding health literacy in the education curriculum to sustainably enhance health and decision-making skills among adolescents.

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