



# Digital Interaction: Strategy for Health Literacy and Promotion

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**Abstract.** The Covid-19 pandemic has increased people's digital interactions and highlighted the need to improve health outcomes, promoting education and engagement in health care. Thus, in a context in which we perceive an increase in inequality, it is necessary to discuss inclusive, easily accessible strategies that involve digital interaction and community strengthening to innovate in the process of health literacy and health promotion. Through a narrative review of the literature, this study attempted to critically evaluate and discuss digital interaction through virtual communities as a strategy to strengthen the literacy process and health promotion, in this new scenario in which social collaboration and strengthening of communities are sought. Digital interactions can be tools for health by enabling the formation of communities capable of contributing to literacy and health promotion, strengthening dialogic communication and generating positive results in clinical outcomes and disease prevention.

**Keywords:** Health literacy · Health promotion · Digital health · Online health communities

## 1 Introduction

Health literacy is the ability to obtain, process, communicate and understand information and basic health services [1]. In these ways, health literacy actions allow people to have a better understanding of the most appropriate ways to take care of their health and thus make informed choices and develop a critical capacity for the information that is received.

On the other hand, health promotion is a strategy of health professionals and the community to improve people's quality of life, taking into account social, economic, political and cultural factors that influence the health-disease process [2].

The current scenario of health care and lifestyle shows that it is necessary to develop an educational process that allows people to live longer and better. The results of the 2019 national health survey showed that the recommended consumption of fruits and vegetables among people over the age of 18 years occurs in only 13% of the population and that 40.3% are considered insufficiently active, that is, they do not practice what is considered the minimum amount of physical activity [3]. These data somehow justify

why 7 of the 10 main causes of death in the world occur due to chronic non-communicable diseases, mainly cardiovascular diseases [4].

The social isolation and quarantine have contributed to an increase in sedentary lifestyles, stress, and unhealthy eating habits and the post-pandemic scenario of increased economic and social inequality results in reduced access to the labor market, education and health. Due to this new reality, it is essential to resignify the innovation, returning the gaze to the community, in order to improve social coexistence, create societies modeled as ecosystems that interact with each other and nourish each other, assuring social cohesion.

Parallel to this, the increase in digital interactions and the intensification of the use of mobile devices and other communication tools that fit on the palm of a hand are also legacies of a pandemic scenario, as well as the advancement in health with the consolidation of telemedicine and tele appointments. Technology and internet access have expanded the reach of knowledge on health and the pandemic, despite having generated much insecurity and fear of contamination, also brought new ways of doing medicine and providing care, as well as allowing the use of technological devices, mainly related to digital interaction.

According to the Center for Studies on the Development of the Information Society [5] in 2019 there were 134 million internet users in Brazil and the cell phone was the preferred device, used by 99% of the research participants. This same study showed that communication activities are the most common and that 47% of the Brazilian population searched for health information on the Internet in 2019 and that there was an increase to 53% in 2020 in this regard [5].

In this scenario, it is essential to rethink ways to promote care and improve people's lifestyles. There is a need to look at health care as something that needs to be built and strengthened with the ease of communication through the use of mobile devices and with digital interactions.

Considering the increase in the use of information and communication technologies, associated with a sedentary lifestyle and inadequate and unhealthy diet, health education through digital interactions can be a strategy for the development of health literacy and to increase people's engagement in care. Technology and the increase in digital interactions create a cyber-physical learning environment capable of promoting health literacy. According to the 2020 meta-analysis, physical activity and lifestyle interventions based on mobile technologies are effective in reducing cardiometabolic risk [6].

With digital culture, the digital interactions in communities find space, since people are at the center of care and find emotional support and seek information in order to make decisions [7]. Thus, taking advantage of the facilities offered by digital technologies has become an alternative for health professionals to get closer to their patients, in order to promote engagement through the language of digital. As such, the present study seeks to answer the following question: can digital interactions through virtual communities be a strategy for literacy and health promotion?

The main objective of this article is to discuss digital interaction through virtual communities as a strategy to strengthen the literacy process and health promotion, in this new scenario in which there is a search for social collaboration and community strengthening.

This article is divided into three parts. In addition to this introductory section, Sect. 2 will present a conceptual foundation. In Sect. 3 the methodological framework. In turn, Sect. 4 presents the discussion on the use of digital interaction in health. In Sect. 5, Health Promotion is addressed. Finally, Sect. 6 presents the conclusion of the study.

## 2 Conceptual Foundation

### 2.1 What is Literacy?

According to the National Literacy Policy (PNA) [8] of the Brazilian Ministry of Education (MEC), literacy is an internationally consolidated concept that was disseminated in public policies in 1980. The PNA [8] defines literacy as the set of knowledge, skills and attitudes related to reading and writing, as well as their productive practice, that is, traditional literacy. As such, literacy is related to the ability to acquire knowledge.

In this sense, it is important to differentiate literacy from the concept of being able to read and write. According to Gabriel (2017) [9], literacy in its most basic form consists of entering the world of writing and comprehensive reading. On the other hand, literacy is related to the construction of orthographic representations of words, which in turn is a mechanical process of the relationship between orthographic sequences and the acoustic image stored in memory, and not interpretation [9]. This same analogy can be made with digital literacy in which one can know how to operationalize technologies, but without literacy it is not possible to interpret and question the messages and content that arrive.

### 2.2 What is Health Literacy?

The WHO defines health literacy as: “the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health” [10]. Thus, health literacy allows the individuals to be involved in decisions to be made in relation to their health, making informed and conscious choices and therefore improving adherence to proposed therapies.

Low levels of health literacy compromise care and outcomes, as they are associated with an increase in in-patient care and the demand for emergency rooms, as well as a deficiency in self-care for chronic diseases and in health promotion and prevention actions [11].

The development of health literacy is linked to health knowledge, care and navigation in health systems, the processing and use of information related to health care and the ability to self-care and manage one’s own health in association with health professionals [12]. Therefore, a communication strategy based on health literacy provides positive results for all those involved, as Palumbo (2016) [13] states, users benefit from being at the center of care, thus having their well-being valued, and health professionals have the opportunity to strengthen their ties with the user, promoting health achievements and improving results [13]. This creates the opportunity to promote user and healthcare professional satisfaction.

### 2.3 Types of Literacy

According to Nutbeam (2000) [14], there are three levels of literacy:

1. Basic or functional literacy:

Basic reading and writing skills that allow an individual to carry out everyday activities.

2. Communicative or interactive literacy:

More advanced cognitive and literacy skills that, together with social skills, can be used to actively engage in everyday activities, to extract information and meanings that allow for the application of new information.

3. Critical literacy:

More advanced cognitive skills that, along with social skills, can be applied to critically analyze information and use that information to exert greater control over life events and situations.

More recently, with technological innovations, two other types of health literacy have been incorporated [15]:

4. Media literacy:

Ability to identify, analyze and critique health-related content in the media, to recognize its influence on health behavior.

5. Digital Health Literacy (eHealth):

Ability to search, find, understand, and evaluate health information from electronic or digital sources and employ the knowledge gained to solve a health problem.

An important observation is that media literacy is considered the precursor of digital health literacy, as the first concept considered non-digital media (television, print media, radio, etc.) while the second encompasses digital media (the Internet, social media and mobile technologies) [15].

## 3 Methodology

The present study is characterized as a qualitative and descriptive study, called a narrative review of the literature, in which it seeks to develop the “state of the art” of the subject [16]. The proposal is to debate the potential of the use of digital interactions in health and to collaborate with the update and knowledge on the subject.

The collection of material for discussion was carried out in a non-systematic way from March 2021 to March 2022, in the databases: Scielo, Lilacs, Pubmed, and was complemented with books and articles recommended by experts.

For the research, the keywords were used: Health literacy, Health promotion, Digital health and Online health communities in their various combinations and selected materials from the last 5 years. The materials found were interpreted and critically analyzed in order to respond to the objective of the research.

### **3.1 Sample Selection**

As inclusion criteria, complete original articles were selected, available in full in full, books and government publications that addressed the topic of digital interaction and literacy and/or health promotion. Articles that were not in English and Portuguese were excluded.

From the selected articles, the first filter was performed through the title and abstract, at this stage articles related to the validation of the literacy scale and articles that referred to the use of digital products that did not involve digital interaction for health care were excluded. Articles that addressed literacy and health promotion in the context of digital interactions, mainly in online communities, were considered for the discussion of the theme, topics related to the use of mobile devices for health interventions were also considered.

### **3.2 Data Collection and Organization**

After selection, the articles collected were read in full to extract the potential and criticism of the use of digital interactions to generate health education. With the reading of the articles, central themes were identified such as: digital interaction in health in communities and health promotion through mobile devices that gave rise to the topics covered in this review.

### **3.3 Data Analysis**

The analysis and discussion of the themes was based on the selected references and the author's experience with digital communities via WhatsApp for lifestyle changes. The ideas of the articles were organized and complemented in order to answer the question: can digital interactions through virtual communities be a strategy for literacy and health promotion?

## **4 Digital Interactions in a Health Setting**

Digital interactions can strengthen the health system, as they allow access to health care to be available in the palm of the hand, establishing connections with distant places and with needy communities that would not even have access to information were it not for this interaction.

Considering the importance of digital health, the WHO [1] proposed for 2020–2025 the document “Global Digital Health Strategy” which proposes to improve people's health by accelerating the development of digital health strategies [1].

Among the possibilities of digital health strategies, we can mention digital communities, which are interactive environments in which people share their practical experiences on a given subject, thus allowing members to express what went right and wrong and how they found solutions [17]. They are currently present on mobile devices, digital platforms, websites, or social media.

In addition, digital communities can be formed by professionals from a certain area who want to share knowledge about a topic or even by patients who experience a certain

disease and want to find support among peers who share those experiences. Communities can also be geared towards achieving a goal and taking advantage of the space to share doubts and anxieties of the process leading to the goal, such as for people who want to lose weight.

#### **4.1 Digital Interaction and Health Literacy**

Interaction in communities has the potential to improve the psychological and physical well-being of participants and promote health literacy, since they constitute an environment of common interest, generate exchanges of information and knowledge and facilitate the communication process [18].

People have different health literacy needs throughout their lives, so the interaction with peers, strengthened by a health professional, can enhance the continuous development of skills that allow them to take better care of their health in the period of life they are going through.

Interaction through questions and shared experiences allows participants to learn about their health conditions and treatment. In addition, the simplicity of the language in which the exchanges within the community take place facilitate understanding and generate advice that is more appreciated and perceived as useful (RUEGER, 2021). In this way, communities can provide an environment for dialogic communication, collective construction, reflection on content, empathy and respect.

Digital communities can constitute a rich environment in the health education process and, according to [14], health literacy is one of the main results of health education processes. In this way, the development of health literacy through educational actions brings about positive effects for the individual and for the group: for the individual, it improves knowledge about health risks, develops motivation and self-confidence, increasing the ability to adapt to adverse situations; as for the group, participation in community health programs increases and the ability to influence social rules improves, as well as that to influence the promotion of community engagement and empowerment [11, 19].

#### **4.2 Engagement and Empathy in Digital Interactions and Communities**

The digital community environment allows people to feel safe enough to expose their anxieties and doubts and, at the same time, creates a need to support those who share the same feeling and seek answers. In this way, they constitute a space to share emotional and personal experiences, helping with emotional healing and in the process of dealing with negative experiences [20].

The value perceived by participants positively influences engagement in digital communities, and the health status of individuals is an important indicator of willingness to share information, that is, healthy individuals perceive that sharing information in the community can positively influence their health management, while for unhealthy people, like those with chronic illnesses, the search for information in communities can be more positive [7]. A phenomenon of contemporary society, the involvement in communities increases access to information and enables those involved to become protagonists of their own health [20].

### 4.3 Challenges of Digital Communities

Changes within a community usually present peaks of greater and lesser interaction. Given the oscillations, the challenge is to maintain a level of interest and engagement among participants, as well as to enable the profile differences to complement each other and not hamper the interaction between its members [20]. Another challenging issue for communities is controlling the quality of shared information [21]. However, even with the dissemination of health information, knowledge on the subject does not yet reach all people with quality.

A study carried out in China showed high rates of vaccine hesitancy and one of the factors that contributed to this result was the spread of false information on the internet [22]. Thus, in the context of health, investing in a moderator is therefore critical to prevent misinformation and the spread of any false content.

## 5 Promotion of Health, Well-Being and a Healthy Lifestyle

In 1986, the First International Conference on Health Promotion took place in Canada; the conference gave rise to the Ottawa Charter, which defines health promotion as:

“Health promotion is the name given to the process of enabling the community to act to improve its own quality of life and health, including greater participation in the control of this process. To reach a state of complete physical, mental and social well-being, individuals and groups must know how to identify aspirations, satisfy needs and modify the environment in a favorable manner. Health should be seen as a resource for life, not an goal of living. In this sense, health is a positive concept, which emphasizes social and personal resources, as well as physical capabilities. Thus, health promotion is not the exclusive responsibility of the health sector, and goes beyond a healthy lifestyle, spreading towards global well-being” [23].

In this way, health promotion goes beyond the limits of health services, must be inserted within society and is related to the empowerment of the community to improve quality of life. Therefore, digital health communities can contribute to health promotion and improve the quality of life of those involved.

A healthy lifestyle contributes to improving the quality of life, improving health and increasing the years of life without chronic illnesses [24, 25].

In a prospective multicohort study that analyzed the relationship between a healthy lifestyle and the gain in terms of years without developing chronic diseases, for 116,043 people followed for an average of 12.5 years, the conclusion was that a BMI less than 25 and at least 2 healthy behaviors (never smoking, physical activity, and moderate alcohol consumption) are associated with a greater number of disease-free years, with an approximate 9 additional years without chronic diseases [24].

The increase in life years, cited above, confirms that lifestyle-related health interventions combined with diet and physical activity are effective in preventing metabolic syndrome [26], an important risk factor for cardiovascular, cerebrovascular, and diabetes that is closely associated with inadequate diet and physical inactivity.

However, what is found, especially with the COVID 19 pandemic, is a reduction in the practice of physical activity and an increase in time in front of screens and in the

consumption of ultra-processed foods, alcoholic beverages and the number of cigarettes smoked [27]. This bolsters the need to address the issue and promote health actions that contribute to improving people's lifestyles.

Nevertheless, traditional health education and lifestyle approaches are time-consuming and encumber health services, though they may be replaced by the use of mobile technology in health [6]. This could occur particularly by strengthening digital interactions. According to the results of the netnography carried out by Fernandes (2018), people who engage in the digital community have a more proactive attitude towards their health and are better able to manage chronic disease [19].

Among the benefits of using mobile devices for health interventions are: cost-effectiveness, ease of use from anywhere, the ability to customize messages for each audience, and the ability for messages to arrive quickly on a device that is "always on" [28].

Digital interaction is often made up of simple technologies, easily accessible by mobile devices and which, according to Sequi-Dominguez, are effective in promoting lifestyle changes [6].

## 6 Conclusion

The post-pandemic society requires a new look at health that combines health care and promotion with digital interaction and has a participatory approach based on the community capable of promoting social cohesion and equality.

The study showed that digital interaction could be a tool for health, enabling the formation of communities capable of contributing to literacy and health promotion, strengthening dialogic communication and generating positive results in clinical outcomes and disease prevention.

Understanding the individual's moment in life and their need for health literacy is essential to create digital interactions with groups that share common goals, ideas and actions, as well as having health professionals in the community who can curate the contents in order to guarantee the quality of the discussion and actions in the community.

It is hoped that this study will awaken ideas and possibilities for innovation in the process of literacy and health promotion, in order to allow the collective construction of knowledge to positively influence individual choices for a healthy lifestyle.

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