

Health literacy of adolescents in the COVID-19 pandemic: an integrative review

Letramento em saúde de adolescentes na pandemia de COVID-19: revisão integrativa
Alfabetización en salud de adolescentes en la pandemia de COVID-19: revisión integradora

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ABSTRACT

Objective: to analyze the scientific production on health literacy (HL) of adolescents during the COVID-19 pandemic. **Method:** an integrative review, in the MEDLINE, LILACS, CINAHL and Web of Science databases, between March 2020 and August 2021. Original articles in English, Spanish and Portuguese were included. **Results:** of the 65 studies found in the search, eight were included for analysis, with no publication in Brazil, with five publications in 2021, predominantly in English (n=7) and all classified with level of evidence VI. Of the instruments used, eHealth literacy was the most applied instrument (n=2). Television, family and the internet were identified as the main sources of health information during the pandemic. **Final considerations:** the literature has indicated that HL can interfere with adolescents' decision making and that a low HL can lead to decisions and physical and mental exposure actions of adolescents.

Descriptors: Adolescent; Adolescence; Health Literacy; COVID-19; COVID-19 Pandemic.

RESUMO

Objetivo: analisar a produção científica sobre o letramento em saúde (LS) de adolescentes durante a pandemia de COVID-19. **Método:** revisão integrativa, nas bases de dados MEDLINE, LILACS, CINAHL e Web of Science, entre março de 2020 e agosto de 2021. Foram incluídos artigos originais nos idiomas inglês, espanhol e português. **Resultados:** dos 65 estudos encontrados na busca, oito foram incluídos para análise, não havendo nenhuma publicação no Brasil, com cinco publicações no ano de 2021, predominância na língua inglesa (n=7) e todos classificados com nível de evidência VI. Dos instrumentos utilizados, eHealth literacy foi a ferramenta mais aplicada (n=2). Televisão, família e internet foram apontadas como as principais fontes de informações de saúde durante a pandemia. **Considerações finais:** a literatura sinalizou que o LS pode interferir na tomada de decisão dos adolescentes e que um baixo LS pode levar a decisões e ações de exposição física e mental dos adolescentes.

Descritores: Adolescente; Adolescência; Letramento em Saúde; COVID-19; Pandemia de COVID-19.

RESUMEN

Objetivo: analizar la producción científica sobre alfabetización en salud (AS) de adolescentes durante la pandemia de COVID-19. **Método:** revisión integradora, en las bases de datos MEDLINE, LILACS, CINAHL y Web of Science, entre marzo de 2020 y agosto de 2021. Se incluyeron artículos originales en inglés, español y portugués. **Resultados:** de los 65 estudios encontrados en la búsqueda, ocho fueron incluidos para análisis, sin publicación en Brasil, con cinco publicaciones en el año 2021, predominantemente en inglés (n=7) y todos clasificados con nivel de evidencia VI. De los instrumentos utilizados, la eHealth literacy fue la herramienta más aplicada (n=2). La televisión, la familia e internet fueron identificadas como las principales fuentes de información en salud durante la pandemia. **Consideraciones finales:** la literatura ha indicado que la AS puede interferir en la toma de decisiones de los adolescentes y que una AS baja puede conducir a decisiones y acciones de exposición física y mental de los adolescentes.

Descriptor: Adolescente; Adolescencia; Alfabetización en Salud; COVID-19; Pandemia de COVID-19.

INTRODUCTION

The global spread of Severe Acute Respiratory Coronavirus 2 (SARS-CoV-2) and efforts to slow the Coronavirus Disease (COVID-19) pandemic required billions of people to change their behavior both in their professional and personal lives⁽¹⁻²⁾. Drastic and necessary changes to protect society were proposed to avoid as much as possible that SARS-CoV-2 would be disseminated in the community and so that there was no burden on the public health system and increase the number of deaths due to the worsening of the disease⁽¹⁾. As a preventive measure, basic protective actions such as hand hygiene, use of gel alcohol, some more challenging, such as the use of face masks and social distancing⁽³⁻⁷⁾ were recommended. Some countries have also guided the lockdown⁽⁸⁾.

Adolescents are listed as a target group in COVID-19 transmission, and the group is more likely to spread the virus in their family. It is noteworthy that adolescents are in a moment of transition, where they start to develop a more critical thinking and their point of view on a variety of subjects, at which time adolescents' knowledge, attitudes and values about COVID-19, for instance, reflect on their actions and perceptions about the situation severity, and may or may not acquire health protection behavior⁽⁹⁻¹⁰⁾. Adolescence is also a critical period for determining lifelong health trajectories. As adolescents become the next generation of parents, they influence their children's health habits⁽¹¹⁾.

Recently, researchers from the United States, Germany and Canada, experts on the subject, through an editorial called "Health Literacy (HL) in amidst the international crisis of COVID-19", defined health literacy (HL) as essential skills and situational resources necessary for people to find, understand, assess, communicate and use information and services, in a variety of ways, in various environments throughout their course of life, to promote health and well-being⁽¹²⁾.

The editorial included research in different low-, middle- and high-income countries. The authors highlight that the theme was well studied in adults and little researched in children and adolescents⁽¹²⁾. They also mention the importance of HL in the school environment, where young people spend much of their time, as well as the authors focus on the relevance of nurses' role in the school context to strengthen students', parents' and professors' HL. It is added that parents are essential in their children's HL^(7,12), helping them to understand cognitively or emotionally the importance of the health measures being adopted for COVID-19 management, however many of them do not know how to do this⁽⁷⁾. Most children and teens report accessing health information through their parents or other nearby adults and on the internet, via websites such as Facebook and Twitter, or video platforms such as YouTube⁽¹³⁻¹⁴⁾.

Adolescents have a role to play in obtaining collective immunity in society, and the school environment is a possible important source of continuous transmission and outbreaks of COVID-19⁽¹⁵⁾. Thus, vaccination of adolescents is necessary to interrupt transmission⁽¹⁵⁾. Vaccine hesitation is also a challenge in the COVID-19 pandemic, with social media playing an increasing role in disseminating information that contributes to this. Population vaccination seems to be one of the most important strategies to contain the pandemic locally and globally⁽¹⁶⁾.

HL has been gaining worldwide attention in recent years, for bringing an impact on the population's health, improving health

and well-being and reducing health inequalities⁽¹⁷⁻²¹⁾. Moreover, HL is considered as one of the social determinants of health, because, when adequate and optimized, it can reduce its inequities, thus improving individuals' health and well-being⁽¹⁹⁾. It has gained even greater relevance in the current scenario of the COVID-19 pandemic and "COVID-19 infodemic"⁽¹⁷⁾, with the signaling that populations' and systems' HL is fundamental to achieve equity in health, as well as the virus deceleration⁽¹²⁾. It is noteworthy that, with better levels of HL, individuals take over their health status and become able to understand that they can positively impact their health conditions, which is essential in the current context of the COVID-19 pandemic⁽¹⁸⁾.

Therefore, this study is justified considering that synthesizing the knowledge about adolescents' HL during the COVID-19 pandemic may provide subsidies to health professionals for discussions on effective strategies, in search of prevention and disease, as well as pointing out gaps for future investigations.

OBJECTIVE

To analyze the scientific production on adolescents' HL during the COVID-19 pandemic.

METHODS

Ethical aspects

An integrative literature review is a type of secondary study that does not require an opinion to a Research Ethics Committee, because it does not directly involve human beings, but the authors' ideas were respected, as recommended by copyright law.

Methodological procedures

For this, six confluent steps were followed to the method: research question selection; literature search; data categorization; analysis of studies included in the review; interpretation and synthesis of results; and review presentation⁽²²⁾. Moreover, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)⁽²³⁾ guidelines were followed.

The search strategy for articles and the research question were developed from the acronym PICO⁽²⁴⁾, in which population refers to adolescents (P); interest consists of HL (I); context refers to COVID-19 (Co). In this sense, the following research question was formulated: what is the production of scientific knowledge in health on adolescents' HL in times of the COVID-19 pandemic?

Data collection and organization

The second step consisted of searching for articles in the Latin American and Caribbean Health Sciences Literature (LILACS), MEDLINE/PubMed (via National Library of Medicine), Web of Science (WoS) and Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases. Furthermore, we used manual surveys to verify the selected studies' reference lists and whether these references included reports from other studies that might be eligible for this review. The controlled terms were used in Portuguese, English and Spanish, associated in pairs and in trios, using the Boolean operators "AND" and "OR". Search strategies are shown in Chart 1.

Chart 1 - Presentation of descriptors and their crossings in databases, Brazil, 2021

Database	Descriptors (crossing)
LILACS (via The Virtual Health Library Regional Portal)	<i>(Adolescente OR Adolescentes OR Adolescência OR Jovem OR Jovens OR Juventude) AND (Letramento em Saúde OR Cultura em Saúde OR Cultura sobre Saúde) AND (COVID-19 OR COVID19 OR Doença Viral COVID-19 OR Doença pelo Novo Coronavírus (2019-nCoV) OR Doença por 2019-nCoV OR Doença por Coronavírus 2019 OR Doença por Coronavírus 2019-nCoV OR Doença por Coronavírus-19 OR Doença por Novo Coronavírus (2019-nCoV) OR Doença por Novo Coronavírus de 2019 OR Doença por Vírus COVID-19 OR Epidemia de Pneumonia por Coronavírus de Wuhan OR Epidemia de Pneumonia por Coronavírus de Wuhan de 2019-2020 OR Epidemia de Pneumonia por Coronavírus em Wuhan OR Epidemia de Pneumonia por Coronavírus em Wuhan de 2019-2020 OR Epidemia de Pneumonia por Novo Coronavírus de 2019-2020 OR Epidemia pelo Coronavírus de Wuhan OR Epidemia pelo Coronavírus em Wuhan OR Epidemia pelo Novo Coronavírus (2019-nCoV) OR Epidemia pelo Novo Coronavírus 2019 OR Epidemia por 2019-nCoV OR Epidemia por Coronavírus de Wuhan OR Epidemia por Coronavírus em Wuhan OR Epidemia por Novo Coronavírus (2019-nCoV) OR Epidemia por Novo Coronavírus 2019 OR Febre de Pneumonia por Coronavírus de Wuhan OR Infecção Viral COVID-19 OR Infecção pelo Coronavírus 2019-nCoV OR Infecção pelo Coronavírus de Wuhan OR Infecção pelo SARS-CoV-2 OR Infecção por 2019-nCoV OR Infecção por Coronavírus 2019-nCoV OR Infecção por Coronavírus de Wuhan OR Infecção por Novo Coronavírus de 2019 OR Infecção por SARS Coronavirus 2 OR Infecção por SARS-CoV-2 OR Infecção por Vírus COVID-19 OR Infecções por SARS-CoV-2 OR Pandemia COVID-19 OR Pandemia por COVID-19 OR Pandemias por COVID-19 OR Pneumonia do Mercado de Frutos do Mar de Wuhan OR Pneumonia por Coronavírus de Wuhan OR Pneumonia por Novo Coronavírus de 2019-2020 OR Surto de Coronavírus de Wuhan OR Surto de Pneumonia da China 2019-2020 OR Surto de Pneumonia na China 2019-2020 OR Surto pelo Coronavírus 2019-nCoV OR Surto pelo Coronavírus de Wuhan OR Surto pelo Coronavírus de Wuhan de 2019-2020 OR Surto pelo Novo Coronavírus (2019-nCoV) OR Surto pelo Novo Coronavírus 2019 OR Surto por 2019-nCoV OR Surto por Coronavírus 2019-nCoV OR Surto por Coronavírus de Wuhan OR Surto por Coronavírus de Wuhan de 2019-2020 OR Surto por Novo Coronavírus (2019-nCoV) OR Surto por Novo Coronavírus 2019 OR Vírose COVID-19 OR covid-19)</i>
MEDLINE/PubMed, WoS and CINAHL	<i>(Adolescent OR Adolescents OR Adolescence OR Teens OR Teen OR Teenagers OR Teenager OR Youth OR Youths OR Female Adolescent OR Female Adolescents OR Male Adolescent OR Male Adolescents) AND (Health Literacy) AND (COVID-19 OR COVID 19 OR COVID-19 Virus Disease OR COVID 19 Virus Disease OR COVID-19 Virus Diseases OR COVID-19 Virus Infection OR COVID 19 Virus Infection OR COVID-19 Virus Infections OR 2019-nCoV Infection OR 2019-nCoV Infections OR Coronavirus Disease-19 OR Coronavirus Disease 19 OR 2019 Novel Coronavirus Disease OR 2019 Novel OR Coronavirus Infection OR 2019-nCoV Disease OR 2019 nCoV Disease OR 2019-nCoV Diseases OR COVID19 OR Coronavirus Disease 2019 OR SARS Coronavirus 2 Infection OR SARS-CoV-2 Infection OR SARS CoV 2 Infection OR SARS-CoV-2 Infections OR COVID-19 Pandemic OR COVID 19 Pandemic OR COVID-19 Pandemics)</i>

The studies were located using the advanced search form in each informational resource in August 2021. Publications available in full related to the research question and involving adolescents' and young people's HL during the COVID-19 pandemic were included. Thus, articles should include individuals aged 10 to 19 years, considering the World Health Organization (WHO) definition, which classifies adolescence in the period 10 to 19 years, and youth, between 15 and 24 years⁽²⁵⁾. We also included articles whose authors directed the search exclusively to adolescents, in the period from March 2020 (period in which the WHO declares the Coronavirus Disease 2019 as a pandemic) to August 2021 (time of the search), in English, Spanish and Portuguese. Studies addressing only adults and productions not directed to the focus of the review, as well as theses, dissertations and monographs, were excluded.

The research selection phase was carried out by one of the authors, PhD student in nursing and with expertise in the methodology. Title and abstract analysis were performed and, then full reading by two researchers, and discrepancies were resolved by a third researcher. There were no differences between the reviewers about the inclusion of manuscripts, both agreed on which studies met the necessary elements to answer the guiding question of this study.

Data analysis

For data collection of selected studies, we used a standardized form⁽²⁶⁾, which was adapted by the authors for the purpose of this research, containing: article identification code; 1st author; year

of the article; country; article language; study objective; research design; sample definition; instruments available to identify the level of HL; main results and conclusions; and level of evidence. This data was organized into a database in the Microsoft Excel 2007 program. Then, they were analyzed and synthesized by the review authors. To facilitate the identification of selected studies, an alphanumeric sequence code was used (S1, S2, S3... S8), whose first letter refers to the studies, followed by the Arabic number, in the sequence in which the studies were organized.

To assess the classification of evidence from the studies, we adopted the one proposed by Melnyk and Fineout-Overholt⁽²⁷⁾, which allows the researcher to analyze different types of methods, based on the following criteria: I for systematic reviews and meta-analysis of randomized controlled trials; II for randomized clinical trials; III for a non-randomized controlled trial; IV for case-control or cohort studies; V for systematic reviews of qualitative or descriptive studies; VI for qualitative or descriptive studies; and VII for expert opinion and/or expert committee reports. This hierarchy classifies levels I and II as strong, III to V as moderate, and VI to VII as weak⁽²⁷⁾.

In the review presentation, the discussions of results were descriptively interpreted in empirical categories.

RESULTS

The search resulted in the following distribution among the studies found in each database, totaling 63 articles: MEDLINE/PubMed (n= 52); CINAHL (n= 7); WoS (n= 4). It is worth noting that no evidence on the subject was found in the informational

resources in LILACS. When we use manual searches to check the reference lists, we identified two articles. Then, the studies found were analyzed, then the duplicated manuscripts were excluded by title and abstract (n=04). Next, studies were excluded by reading each title, abstract and use of inclusion criteria.

Thus, after reading and final assessment, eight studies were included in this review. Figure 1 describes the steps of the screening process performed to achieve this selection in PRISMA⁽²³⁾ format.

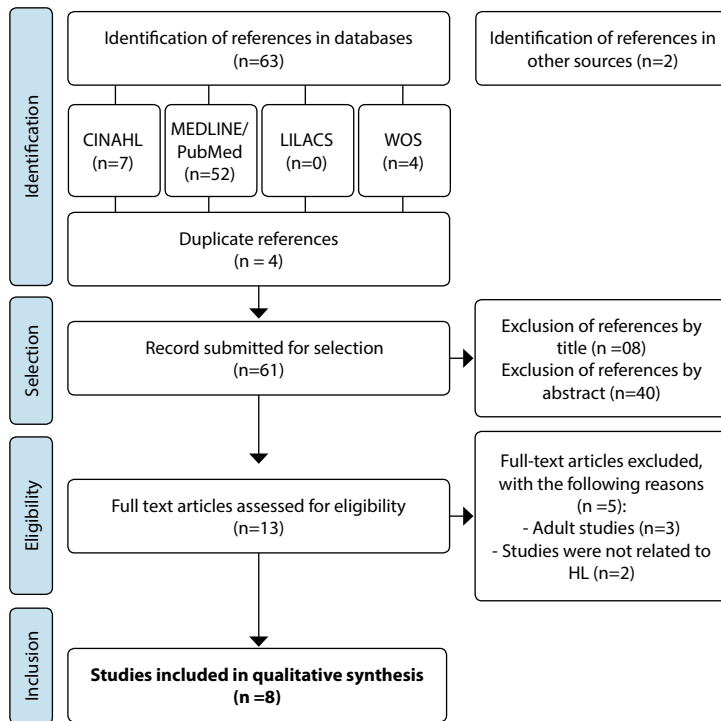


Figure 1 - Flowchart of selected articles for integrative review, prepared from the PRISMA recommendation, 2021

Of the eight selected studies, none were conducted in Brazil, five are from 2021 and seven articles were published in English.

The methodological approach used mainly included the development of observational studies (n=6), and all were classified with evidence level VI (n=8). Based on these criteria, most of the studies analyzed in this review present a low level of evidence, which is consistent with the recent theme.

Among all the articles included in this review, in relation to the search for information from adolescents about COVID-19, television (TV) and family were pointed out as sources of health information⁽⁸⁾. The internet was also a means to raise awareness of the pandemic and formation of habits⁽²⁸⁾. Instruments that were applied to adolescents for literacy assessment were: eHealth literacy, identified in two studies⁽²⁸⁻²⁹⁾; Health Literacy in School-Aged Children (HLSAC)⁽⁸⁾; and Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)⁽³⁰⁾. Only one study addressed acceptability of parents about COVID-19 vaccination for their children and their related factors and adolescents' perception⁽³¹⁾. The synthesis of the studies selected for this review is presented in Chart 2.

DISCUSSION

To better ratify the findings and discuss them in a reasoned manner, through the convergence of subjects, from corpus analysis, three categories emerged: *Adolescents' health literacy in times of the COVID-19 pandemic*; *Resources used to obtain health information about COVID-19*; *Use of health information for COVID-19 prevention*.

Adolescents' health literacy in times of the COVID-19 pandemic

In the present study, it was evidenced that, most adolescents presented adequate HL level regarding COVID-19. HL is a new subject in Brazil, with few studies, especially related to adolescents⁽³⁵⁾.

Adolescence is a phase of a complex nature, with a succession of phenomena and intense growth, anatomophysiological and psychological transformations, such as the search for an identity, the valorization of social groups and the development of sexuality⁽³⁵⁻³⁹⁾. In particular, high school students in their early teens show the greatest growth and development⁽³⁶⁾. They are early in their cognitive development and are forming and expressing their own thoughts and views on a variety of topics, while reacting and adapting sensitively through interaction with their environment⁽³⁶⁾.

As highlighted in a study in Norway, adolescents aged between 16 and 19 are facing highly conflicting and stressful situations, such as sudden changes in routine, restriction of social and family life, as well as changes in leisure activities during the pandemic⁽⁸⁾. A literature review pointed to the need for a support network based on socio-emotional support to alleviate the psychological effects of the COVID-19 pandemic on adolescents, encouraging the provision of mental HL

in order to strengthen adolescents in their abilities to manage emotions and knowledge about factors that protect their mental health and develop the search for information on mental health and access to adequate services, with possibilities to complement the mental health approach in the context of COVID-19⁽³³⁾.

Social networks provide interaction and knowledge construction, favoring their self-care and the development of competencies and autonomy⁽³⁹⁾, which is related to the level of HL. Thus, it is essential that schools promote favorable environments that help them develop knowledge to achieve good HL⁽³⁴⁾. The school universe represents for adolescents a learning space for their relationship with the world. Additionally, a low HL can lead to decisions and actions of physical and mental exposure of adolescents, as well as consequences that can compromise the personal, professional and family future⁽⁴⁰⁾. College students with an average age of 20 years, with a high level of literacy, have more advanced knowledge about viruses, vaccines and drug targets⁽⁴¹⁾. In this perspective, HL stands out as an essential tool in providing information on coronavirus contamination at the three levels of health care: healing and care; disease prevention; and health promotion⁽⁴²⁾.

Chart 2 - Characteristics of articles selected for review second identification code of selected articles/1st author/year/country/language/objective/study design/instrument/age group of adolescents/main results and level of evidence, Brazil, 2021

Code	1 st author/ year/country/ language of article	Study objective/design	Adolescent instrument/age group	Main results	Level of evidence
S1 ⁽⁸⁾	Riiser et.al 2020 Norway English	Describe HL, health protection measures and health-related quality of life (HRQoL) during the initial phase of the COVID-19 pandemic with adolescents (16 to 19 years). Observational study	16 to 19 years HLSAC	Tv and family were identified as the main sources of health information. Snapchat and Facebook were the most widely used social media platforms Washing hands, physically distancing themselves and limiting the number of social contacts were the most reported measures. The HL score had a mean of 35.2 (4.0)	VI
S2 ⁽²⁸⁾	Choi et.al 2021 South Korea English	Identify the relationships between eHealth literacy in pandemic infectious diseases and healthy lifestyle in high school students. Descriptive and correlational study	High school students (1 st to 3 rd grade of high school, not explaining age group) eHealth literacy	It showed that HL through the internet can be an important aspect to raise awareness about the pandemic and the formation of healthy lifestyle habits in Korean high school students.	VI
S3 ⁽²⁹⁾	Li et.al 2021 China English	Develop and verify a COVID-19-related health behavior questionnaire, explore its status and structure, and examine the associations between these behaviors and HL. Observational study	College students with a mean of 20 years old eHealth literacy	Of the 1,873 students with a mean age of 20 years included in the study, it showed that 781 students (41.7%) had an adequate HL level associated with conventional health behaviors, indicating that college students with a higher level of HL could maintain healthy lifestyles during the pandemic.	VI
S4 ⁽³⁰⁾	Sharpe et.al 2021 Sierra Leone and Zambia English	Examine children's and adolescents' mental health during the COVID-19 lockdown in Zambia and Sierra Leone. Observational study	12 to 25 years old SWEMWBS	It showed low levels of HL with COVID-19.	VI
S5 ⁽³¹⁾	Choi et.al 2021 Republic of Korea English	Investigate the acceptability of parents of COVID-19 vaccination for their children, factors that affect their acceptability and the perceptions of children (10 to 18 years) about COVID-19 vaccines in the Republic of Korea. Observational study	10 to 18 years old Question with Likert-type scale.	A study with 226 parents and 117 children and adolescents between 10-18 years showed that 64.2% intended to vaccinate their children; however, only 49.6% of children answered that they would receive vaccination against COVID-19. The main reason for vaccination was COVID-19 prevention for the family, and the main reason for the hesitation was the concern with adverse events following immunization.	VI
S6 ⁽³²⁾	Faisal et.al 2021 Pakistan English	Examine college students' knowledge, attitudes and practices in Pakistan. Observational study	College students, divided into 3 groups: group 1: 17 to 27 years old; group 2: 28 to 38 years old; group 3: over 39 years old KAP- total score ≥ 8 , considered a good knowledge.	College students' HL level is considered appropriate for preventive measures against COVID-19.	VI
S7 ⁽³³⁾	Cecilia et.al 2020 Chile Spanish	Give relevance and present reflections on the contribution that mental HL can make as a health promotion strategy in the context of the COVID-19 pandemic in the adolescent population. Literature review	None	It highlighted the need for initiatives that provide mental HL, in order to strengthen adolescents in their abilities, to manage emotions and knowledge about factors that protect their mental health and develop the search for information on mental health and access to appropriate services, with possibilities to complement the mental health approach in the context of COVID-19.	VI
S8 ⁽³⁴⁾	Chesser at.al 2020 USA English	Describe the population's knowledge and beliefs about COVID-19 and the current coverage of social media to address a gap in what is known about risk communication during health crises. Observational study	College students (18-79 years), with HL measured through three questions used by the Center for Disease Control and Prevention (CDC).	Of the 1,136 college students, 23% of interviewees started the research, 43% reported a high level of HL (n= 365/855), although only 18% (n= 173/966) correctly identified the symptomatology of COVID-19.	VI

A study conducted in South Korea including students (1st to 3rd grade) suggests that HL, through the internet, may be an important aspect to raise awareness about the pandemic and understanding of health problems, being correlated to development of healthy lifestyles⁽²⁸⁾. HL measurement tools in adolescents still need to be established. In fact, in this review, among the eight studies included, the presence of eHEALS was observed in two studies. The eHEALS is a useful tool to identify potential difficulties of individuals in accessing, assessing and using information on online health, in which it can verify the need for educational interventions in electronic health for the population and contributions of professionals in the dissemination of reliable and high quality knowledge⁽⁴³⁾.

Since its publication, eHEALS has been used in studies in different groups, cultures and countries and has been translated into several languages, always achieving consistent performance⁽⁴²⁾. In Brazil, Maschio and Cruvinel performed the translation and cross-cultural adaptation of eHEALS into Portuguese, for use in health studies, being validated with higher education students aged between 15 and 55 years⁽⁴³⁾.

In order to facilitate the search and understanding of health information, official public health organizations and health authorities play a critical role in providing the public with high quality health information in a way that ensures that information is easily accessible, understandable and usable, culturally appropriate and relevant to various populations⁽⁴⁴⁾. The present study illustrates the importance of implementing measures to protect adolescents' mental health.

Resources used to obtain health information about COVID-19

The internet provides constant access to all types of information (accurate and fake) from various sources, with individuals, to some extent, autonomous, independent, anonymous and free access to health information. With the SARS-CoV-2 virus pandemic, the need for information has increased, so people seek information even more frequently and at the same time create it and make it available to others on social media. All this leads to an abundance of information and has helped strengthen the "infodemic"⁽⁴⁵⁾.

In the study conducted with high school students from South Korea, when the eHealth literacy instrument was applied, there was a score of 29.75 out of 40 points, showing that, although students have the greatest "ability to search for useful health information on the internet", they have the lowest "ability to assess health information obtained on the internet"⁽²⁸⁾. Previous study also shows that adolescents (high school students) are able to access abundant information about health on the internet, but do not have the ability to find and distinguish reliable information⁽⁴⁶⁾. A study conducted in Germany with adults on HL regarding information on COVID-19 also showed that people have difficulty assessing the reliability of media information about COVID-19 and its health-related problems⁽⁴⁷⁾.

In a study conducted in Norway, TV and family were identified as the main sources of health information. Snapchat and Facebook were the most widely used social media platforms⁽⁸⁾. Thus, studying how people behave online, how and what information they

look for, how they browse the web and the clutter of information related to COVID-19 is valuable insight into an individual's health-related behavior, especially among young people who often use digital platforms^(20,48). These scientific content platforms aimed at adolescent audiences need to be created and disseminated for use. This is a theme still to be explored with a simple language and easy to understand, since the practice of HL, with the choice of resources used to obtain information in times of pandemic, expresses their ability to make health decisions, enabling an increase in personal control over health and the ability to seek information.

Use of health information for COVID-19 prevention

As highlighted in the Norway study, the vast majority of teens reported complying with the guideline on protective measures both with regard to hand washing and social distancing. However, the proportion of interviewees who reported compliance was higher among girls than among boys. Adolescents, as shown by the authors, seem to be generally well-informed about protective behavior advice, with hand washing, physical distancing and limitation of social contact being the most remembered recommendations⁽⁸⁾. Hand hygiene gains greater importance in the current context. With protective measures in place for COVID-19 prevention, it is necessary to assess the level of commitment of people and the degree to which people comply with recommended protective measures⁽²⁾. WHO and CDC highlight the importance of applying proper hand hygiene behaviors, since the hands represent a critical vector for the transmission of microorganisms, and their hygiene with soap and water or the use of 70% ethyl alcohol should be performed frequently⁽⁴⁹⁾.

Vaccination of adolescents is a theme that certainly needs further investigation, since HL can contribute to the decision to be vaccinated, consequently becoming a gap, not only for the vaccine for COVID-19 prevention, but also for other vaccines available to the group. In this review, vaccination was evidenced as a health information use for COVID-19 prevention, highlighting in one of the researches that the main reason for vaccination was COVID-19 prevention for the family, but the main reason for hesitation was their concern with adverse events following immunization⁽³¹⁾. The study showed that, of the 226 and 117 adolescents aged 10-18 years, 76.5% and 64.2% of parents intended to receive the COVID-19 vaccine and intended to vaccinate their children, respectively, by obtaining vaccine-related information through media reports (79.1%) or government announcement (66.8%)⁽³¹⁾.

Study limitations

As a limitation of this study, it is highlighted that, although the articles included adolescents, data collection and analysis were performed including children, young people and adults. Thus, we believe that a specific analysis for adolescents could bring new findings. Another limitation was the lack of moderate or strong scientific evidence in the literature on the subject, a condition justified because it is an emerging disease, but which indicates the need for updating when new studies are conducted. Literature has indicated that HL can interfere with adolescents'

decision-making and that a low HL can lead to decisions and actions of physical and mental exposure of adolescents, in addition to consequences that can compromise their personal, professional and family future.

Contributions to nursing, health, and public policies

This study contributes to the care and management practice in the health area, as it identified current evidence about HL with adolescents during the COVID-19 pandemic and that the subject is little explored in Brazil, indicating that there are several gaps in

knowledge. The importance of nurses in the school context is also highlighted to strengthen students', parents' and professors' HL.

FINAL CONSIDERATIONS

It was found that there was no country that stood out in the topic addressed, that the contribution of Spanish-speaking countries, none of Portuguese-speaking countries was small, and that the studies have a low level of evidence. Parents are essential in their children's HL, helping them to understand cognitively or emotionally the importance of health measures being adopted to manage COVID-19.

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