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Promoting Health Literacy in Adolescence in Two Public Schools in Rio de Janeiro: Action Research

Promoção do Letramento em Saúde na Adolescência em duas escolas públicas do Rio de Janeiro: pesquisa-ação

Promoción de la alfabetización en salud en la adolescencia en dos escuelas públicas de Río de Janeiro: Investigación-acción

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ABSTRACT

Objective: to identify health literacy demands among adolescents in public schools and implement co-created digital educational strategies to promote qualified access to health information.

Method: Qualitative, descriptive study with an action research approach conducted between May and November 2024. Participatory techniques, such as brainstorming and discussion groups, were used with students aged 14 to 19. After listening to their needs and analyzing informational content, an Instagram® profile was restructured and a TikTok® channel was created with content co-created with the adolescents.

Results: The identified literacy needs included conceptual gaps and low critical assessment skills on topics such as mental health, sexuality and gender, nutrition, substance use, violence, bullying, and racism. The intervention involved adapting the language, including new themes, and reformulating communication strategies, resulting in greater engagement and appropriation of the content by the adolescents.

Conclusion: the incorporation of the identified demands into digital content and in-person actions reinforces the potential of social media and participatory methodologies in promoting health literacy, indicating the importance of public policies that articulate digital technologies, qualified listening, and youth protagonism.

Descriptors: Health literacy; Adolescence; Qualitative research; Social media; Health promotion.

RESUMO

Objetivo: identificar demandas de letramento em saúde entre adolescentes de escolas públicas e implementar estratégias educativas digitais cocriadas para promover o acesso qualificado à informação em saúde.

Método: estudo qualitativo, descritivo, com abordagem de pesquisa-ação, realizado entre maio e novembro de 2024. Utilizou-se técnicas participativas, tais como “chuva de ideias” e rodas de conversa, com estudantes de 14 a 19 anos. A partir da escuta das demandas e da análise de conteúdos informacionais, procedeu-se à reestruturação de um perfil no Instagram® e à criação de um canal no TikTok® com conteúdos cocriados com os adolescentes.

Resultados: as demandas de letramento identificadas incluíram lacunas conceituais e baixa capacidade de avaliação crítica em temas como saúde mental, sexualidade e gênero, alimentação, uso de substâncias, violência, bullying e racismo. A intervenção envolveu adaptação da linguagem, inclusão de novas temáticas e reformulação das estratégias comunicacionais, o que resultou em um maior engajamento e apropriação dos conteúdos pelos adolescentes.

Conclusão: a incorporação das demandas identificadas aos conteúdos digitais e ações presenciais reforçam o potencial das mídias sociais e metodologias participativas na promoção do letramento em saúde, indicando a importância de políticas públicas que articulem tecnologias digitais, escuta qualificada e protagonismo juvenil.

Descritores: Letramento em saúde; Adolescência; Pesquisa qualitativa; Mídias sociais; Promoção de saúde.

RESUMEN

Objetivo: Identificar las demandas de alfabetización en salud entre adolescentes en escuelas públicas e implementar estrategias educativas digitales co-creadas para promover el acceso calificado a la información de salud.

Método: Estudio cualitativo y descriptivo con un enfoque de investigación-acción, realizado entre mayo y noviembre de 2024. Se utilizaron técnicas participativas, como lluvia de ideas y grupos de discusión, con estudiantes de 14 a 19 años. Tras escuchar las demandas y analizar el contenido informativo, se reestructuró un perfil de Instagram® y se creó un canal de TikTok® con contenido co-creado con los adolescentes.

Resultados: Las demandas de alfabetización identificadas incluyeron lagunas conceptuales y bajas habilidades de evaluación crítica en temas como salud mental, sexualidad y género, nutrición, consumo de sustancias, violencia, acoso escolar y racismo. La intervención consistió en adaptar el lenguaje, incluyendo nuevos temas, y reformular las estrategias de comunicación, lo que resultó en una mayor participación y apropiación del contenido por parte de los adolescentes.

Conclusión: La incorporación de las demandas identificadas en contenidos digitales y acciones presenciales refuerza el potencial de las redes sociales y las metodologías participativas en la promoción de la alfabetización en salud, indicando la importancia de políticas públicas que articulen las tecnologías digitales, la escucha calificada y el protagonismo juvenil.

Descriptores: Alfabetización en salud; Adolescencia; Investigación cualitativa; Redes sociales; Promoción de la salud.

INTRODUCTION

Adolescence is a phase of human development marked by intense biopsychosocial transformations that directly impact identity development, autonomy, and sociability. This period is characterized by specific challenges, especially regarding access to and understanding of information about health, sexuality, nutrition, self-care, and interpersonal relationships.

In Brazil, the National Policy for Comprehensive Health Care for Adolescents and Young People (PNAISAJ), approved by Resolution No. 756 of August 15, 2024, highlights the need for intersector approaches that promote well-being and qualified access to information, considering schools as a privileged space for educational actions in health⁽¹⁾. In this regard, the Health in School Program (PSE) strengthens the link between health and education, encouraging preventive practices and health literacy strategies that favor youth protagonism⁽²⁾.

The concept of health literacy refers to individuals' ability to obtain, understand, and apply information to make informed decisions about their health and well-being⁽³⁾. In a digitalized environment, social media plays a key role in the construction of knowledge among adolescents, being widely used to search for health-related information⁽⁴⁾. However,

this access does not guarantee that the content consumed is scientifically based, which can contribute to the spread of misinformation and the adoption of risky behaviors⁽⁵⁾. Understanding the sources and validation criteria of information can contribute to strengthening autonomy and the adoption of preventive practices in the daily lives of young people^(5,6).

Evidence suggests that adolescents face barriers to obtaining first-rate information about health, whether due to the lack of accessible and engaging content or because of the difficulty in identifying reliable sources^(5,6). These limitations can compromise their ability to self-manage their health, increasing their vulnerability to preventable problems such as sexually transmitted infections (STIs), eating disorders, substance use, and mental health problems⁽⁷⁾. Educational strategies should be developed in a participatory manner, considering the specific demands of this population and the communication channels most used by adolescents, as evidenced by approaches focused on youth leadership and qualified listening⁽⁸⁾.

The World Health Organization (WHO) emphasizes that strengthening health literacy is essential to reduce inequalities and promote equity in access to essential services, especially among adolescents⁽⁹⁾. Low levels of health literacy are associated with negative impacts on youth, such as difficulties in using health services, lower adherence to treatments, and lower adoption of preventive behaviors⁽¹⁰⁾. Exposure to inappropriate or inaccurate health content can also increase the risk of harmful practices, reinforcing the need for structured, evidence-based interventions to strengthen adolescents' critical capacity to assess available information⁽¹¹⁾.

The role of health-promoting schools stands out as fundamental spaces for developing health literacy skills due to their ability to integrate continuous, inclusive, and evidence-based educational actions. These actions have the potential to reduce inequalities and encourage self-care among adolescents⁽¹²⁾. An international study conducted in Germany found that many health-related topics are primarily disseminated through media channels, especially the internet and social media. Therefore, combining media and health skills in the school environment will help adolescents navigate these content and digital environments critically, evaluating messages, claims, and their sources. This significantly expands health literacy, empowering young people to develop a more critical and autonomous stance toward available information, which is essential for health promotion in today's world⁽¹³⁾.

The concept of Digital Health Literacy (DHL) emerged with the advancement of the digital society, understood as the ability to access, understand, critically evaluate, and apply

health information disseminated in digital environments. DHL represents a branch of health literacy and expands the skills necessary for safe and critical navigation in the online information ecosystem⁽¹⁴⁾.

Strengthening health literacy among adolescents is directly aligned with the United Nations (UN) Sustainable Development Goals (SDGs). Target 3.7 of SDG 3 aims to ensure universal access to sexual and reproductive health information and services, one of the main challenges for this age group. SDG 4, which addresses quality education, highlights the need for innovative and inclusive approaches to ensure meaningful learning and the development of skills that contribute to the health and well-being of individuals throughout life⁽¹⁵⁾. It is believed that integrating health literacy strategies into the school context can contribute to both youth empowerment and the reduction of health inequalities, promoting sustainable development.

The present study aimed to report the experience of action research in promoting health literacy among adolescent students at two public schools in the city of Rio de Janeiro, highlighting the identification of themes that are transversal to life and health, as well as the specific demands of this public.

METHOD

This study followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines to ensure compliance with transparency standards for disseminating qualitative research results⁽¹⁶⁾. This was a descriptive, qualitative study based on action research—a methodological approach that combines investigation and intervention with the aim of transforming social realities and fostering the active participation of the participants^(17,18). The action research was structured based on the phases proposed by Thiollent⁽¹⁷⁾, including: (1) problematization and diagnosis of reality; (2) collective action planning; (3) action/intervention; and (4) evaluation and replanning. This structure allowed the development of a cyclical and reflective approach, which favored the collective construction of knowledge among the participating adolescents^(18,19).

In the field of health education, this methodology has been widely used to strengthen health literacy, enabling the development of critical autonomy among adolescents and promoting a continuous process of reflection and improvement of educational strategies⁽¹⁹⁾. This approach is anchored in the critical-dialogical perspective⁽²⁰⁾, allowing participants to take an active role in constructing knowledge and formulating strategies to face challenges that directly impact their health and quality of life.

The research was conducted from May to November 2024 in two public state schools in the city of Rio de Janeiro, a context in which the research group has been involved for two years, developing extensionist initiatives focused on health promotion and disease prevention. Activities include individual care mediated by nursing consultations, educational groups, and initiatives aimed at expanding adolescents' access to qualified health information and services available through the Health Care Network (RAS). These extensionist actions led to the creation of a digital media profile called "Adoleque," which the project uses as a channel for disseminating educational content. This channel was presented to participants at the beginning of the research as a proposal for continuity and improvement and was restructured based on the needs identified throughout the study.

The selection of scenarios was based on the need to strengthen the interface between the health and education sectors, fostering intersector collaboration and ensuring comprehensive care for adolescents in line with the PNAISAJ guidelines⁽¹⁾. The study included adolescents aged 14 to 19, regularly enrolled in the participating educational institutions. The inclusion criteria were: being a high school student at the selected schools, attending classes designated by the administration, and demonstrating interest in participating in the activities. Adolescents with cognitive impairments identified by the school that could hinder understanding of the proposed steps were excluded. Signing the Assent Form and obtaining consent from guardians were mandatory ethical procedures, but not eligibility criteria.

The first phase of the action research consisted of outreach and diagnosis. A dialogue was established with the management of the educational institutions, which selected two classes of adolescents from each school, totaling four participating classes. The initial contact with the adolescents took place in the institution's auditorium, where the research team was introduced and the study objectives were explained. The "brainstorming" technique was used to explore the adolescents' most interesting topics related to health and life. The guiding question was written on a whiteboard, allowing each participant to record their answer with a marker. The data collected was recorded at each visit for later consolidation. At the end of this stage, they were invited to participate in discussion groups, deepening the discussions on the emerging themes.

In the second phase (action planning), discussion groups were organized with three groups of 12 adolescents from each school, totaling six groups. Participation was subject to acceptance, and they were then contacted directly by the students supporting the research. The groups were purposefully organized to ensure age diversity among participants, allowing for a

broader exchange of experiences and the identification of possible differences in health literacy needs. Furthermore, we sought to understand the social media they knew, used, and considered relevant for obtaining health information. Each group included a coordinating faculty member, an extension or scientific initiation scholarship holder, and two volunteers from the nursing undergraduate program.

The discussion groups took place on previously scheduled days and times and were audio-recorded. Initially, the goal was to collectively examine the school as a social space and the adolescent as a subject with rights and responsibilities, experiencing the transition to adulthood. Through these interactions, they were able to identify themes that were cross-cutting to their lives and health. In addition to identifying the topics of greatest interest, we attempted to understand which topics had already been addressed by parents, teachers, or health professionals and which had been accessed via social media on their own initiative. The coherence and reliability of the available information were also explored, as were the strategies considered most relevant for acquiring knowledge and literacy. At the end, each adolescent received an A4 sheet of paper and was asked to list all the social media platforms they knew, used, and considered relevant for searching for information.

In the third phase (action/intervention), the collected data were transcribed and organized based on the objective of the study. Bardin's thematic categorical analysis technique⁽²¹⁾, with a deductive approach, was adopted. The axes were predefined based on the literature and the research objective, ensuring methodological reproducibility. The axes used were: (1) themes of greatest interest to adolescents; (2) conceptual gaps; and (3) social media used as information sources. During transcription, they were identified by codes consisting of the word "Adolescent," followed by a sequential number, sex, and age (e.g., Adolescent 1, male, 15 years old), in order to preserve anonymity and allow for contextualization of the statements.

This type of categorization favors the systematic organization of data and is aligned with the nature of action research, allowing for a shared understanding of the reality investigated and supporting decisions on intervention strategies^(17,18,19).

Data from the A4 sheets were transformed into spreadsheets using the Microsoft Excel® application, with all the adolescents arranged vertically and the social media mentioned horizontally. For each site mentioned by the adolescent, a value of "1" was entered; if no mention was made, a value of "0" was entered. The data were analyzed using UCINET® software to create a matrix illustrating the social media sites they knew, accessed, and identified as relevant to knowledge dissemination. In the final phase (evaluation and

redesign), the results were shared with the adolescents, who actively participated in the discussion and restructuring of the existing digital profile ("Adoleque"), aiming to adapt the language, content, and communication strategies to the identified literacy needs. Their prior familiarity with the channel was considered a facilitator for its joint reformulation. The name "Adoleque" was retained, as it was already recognized as an initiative of the extension project.

The profile name was created by combining "Adole," referring to adolescence, and "que," referring to the doubts, uncertainties, and literacy needs of this age group. The content was then developed based on cross-cutting themes and identified needs, aiming to facilitate access to information and ensure greater engagement. In addition to social media, the extension team adjusted the entire format of in-person activities, making them more dialogic and aligned with the content prioritized by adolescents.

The study was approved by the Research Ethics Committee of Universidade do Estado do Rio de Janeiro (UERJ), CAAE No. 74548423400005282, Protocol No. 6,341,343, and had the consent of the educational institutions involved. All participants and their guardians were duly informed about the objectives and procedures of the research, observing the ethical principles established by Resolution 466/12 of the National Health Council⁽²²⁾.

RESULTS

The adolescents mentioned having had prior contact with various health-related topics, albeit superficially. However, they demonstrated little conceptual clarity, difficulty properly explaining the main concepts covered, and uncertainty about the relevance of these topics to their health. Moreover, they reported a lack of knowledge about safe ways to access reliable information. To deepen this understanding, the brainstorming technique allowed the identification of themes, central concepts, and health-related demands based on the adolescents' own perceptions, considering what they understand as relevant to achieving health literacy. Word clouds summarize the information by scenario (Figure 1) and highlight the knowledge gaps identified by the participants.

Figure 1: Themes, central concepts, and health-related demands of the scenarios. Rio de Janeiro, Rio de Janeiro, Brazil, 2025.



Source: the authors, 2025.

The systematization of the discussion groups revealed that the adolescents had prior exposure to the topics discussed, but they presented significant conceptual gaps. Table 1 summarizes the main themes that emerged and the mapping of the content of the listed topics, based on the adolescents' perceptions, their difficulties in understanding and evaluating available health information, characterizing the literacy needs identified.

Table 1: Themes cross-cutting to life and health, literacy demands, and adolescents' testimonies. Rio de Janeiro, Rio de Janeiro, Brazil, 2025.

Cross-cutting themes	Content mapping of the listed themes	Testimonies from the adolescents
Mental health	How to deal with sadness? Information about anxiety and depression.	<p><i>There are days when I feel bad and I don't even know why. I feel sad out of nowhere.</i> (Adolescent 9, female, 15 years old)</p> <p><i>I hear about anxiety, but I don't really know what it is.</i> (Adolescent 7, male, 16 years old)</p> <p><i>I see a lot of things on TikTok® about mental health, but I don't know if they're true.</i> (Adolescent 33, female, 15 years old)</p>

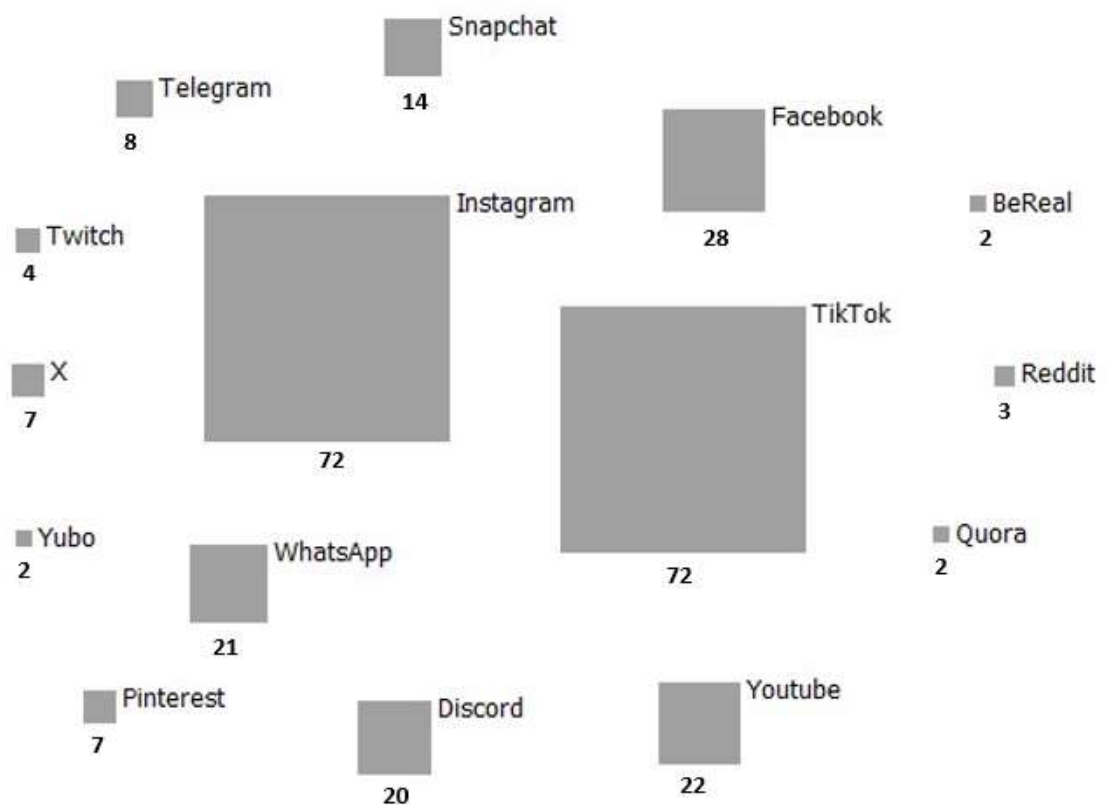
Sexuality and Gender	<p>Same-sex sex;</p> <p>Changes in the body;</p> <p>Unprotected sex;</p> <p>Sexually transmitted infections;</p> <p>Prevention methods;</p> <p>Tests for infections;</p> <p>Teenage pregnancy;</p> <p>Contraception.</p>	<p><i>The school never talked about sex between two boys or two girls. (Adolescent 22, male, 15 years old)</i></p> <p><i>I don't know how to use a condom properly. (Adolescent 17, male, 14 years old)</i></p> <p><i>I didn't even know you could get STI and pregnancy tests for free. (Adolescent 29, female, 16 years old)</i></p> <p><i>I've heard that I shouldn't have gotten the HPV vaccine, but I thought it was complete nonsense. (Adolescent 40, female, 14 years old)</i></p>
Food	<p>Influence of the media on the relationship with the body;</p> <p>Restrictive diets;</p> <p>Healthy eating.</p>	<p><i>I see girls on Instagram® and I feel bad about my body. (Adolescent 51, female, 17 years old)</i></p> <p><i>There are a lot of diets that we see, but we don't know if they're good for us. (Adolescent 42, female, 15 years old)</i></p>
Tobacco, alcohol and other drugs	<p>Questions about consumption, effects and impacts on the body.</p>	<p><i>They say cigarettes and marijuana are bad for you, but they never explain why. (Adolescent 5, male, 15 years old)</i></p> <p><i>What happens if I only drink occasionally? (Adolescent 43, male, 16 years old)</i></p> <p><i>At school they talked a little about drugs, but they never explained how to help a friend who uses them. (Adolescent 46, female, 16 years old)</i></p>

		old)
Violence and Bullying	Types of violence and bullying; Prevention strategies; Psychological support; Help channels.	<i>They've made fun of my way of speaking and no one has done anything.</i> (Adolescent 26, male, 15 years old) <i>I'd like to know where to call when someone is being bullied.</i> (Adolescent 54, female, 14 years old)
Racism	Types of racism; Impact on social relations; Support for coping.	<i>They called me a monkey at school.</i> (Adolescent 32, male, 16 years old) <i>It seems that black people have to put up with everything in silence.</i> (Adolescent 18, male, 17 years old)

Source: the authors, 2025.

Adolescents identified various social media platforms in terms of knowledge, use, and identification as relevant for obtaining information related to the topics. The consolidation of the data established a consensus around Instagram[®] and TikTok[®] as the most accessed and attractive platforms (Figure 2).

Figure 2: Social media identified as relevant for searching for information. Rio de Janeiro, Rio de Janeiro, Brazil, 2025.



Source: the authors, 2025.

Knowledge of the social media platforms most used by adolescents allowed them to choose those that, in their view, provide greater access to health information. This time, there was consensus among them in choosing Instagram® and TikTok® as the most appropriate platforms and capable of contributing to the dissemination of content focused on their health and well-being.

Using an action research approach, the language of existing content on the Instagram® profile was adapted through joint analysis between researchers and participating adolescents. This adaptation consisted of: (1) replacing technical terms with expressions accessible to adolescents; (2) using colloquial language that reflects everyday youth; (3) including emojis and visual elements that foster engagement; (4) comprehension tests during the meetings, in which adolescents were invited to read and comment on the adapted content. Validation was conducted dialogically: participants provided immediate feedback on the clarity and attractiveness of the posts. As evidence of this validation, participants noted that the content became "easier to understand" and "seemed written by someone our age." New content was also developed based on the needs mapped in Table 1, based on the suggested themes and

their testimonies. This content was co-created in face-to-face meetings, using participatory methodologies such as collective video scripting and the creation of surveys based on real questions raised by participants.

Based on action research, the languages of the existing content on the profile that already existed on Instagram were adapted and new content aligned with the themes that emerged in table 1 was programmed. A profile was created on TikTok® aiming to incorporate the content already existing on Instagram and disseminate new information based on the literacy demands signaled by them (Figure 3).

Figure 3: Profiles on social media Instagram® and TikTok®. Rio de Janeiro, Rio de Janeiro, Brazil, 2025.



Source: the authors, 2025.

Finally, to highlight the incorporation of cross-cutting themes and literacy demands that emerged in the brainstorming sessions and discussion groups, examples of posts made on the project's social media are presented (Figure 4).

Figure 4: posts on social media Instagram® and TikTok®. Rio de Janeiro, Rio de Janeiro, Brazil, 2025.



Source: the authors, 2025.

DISCUSSION

The findings highlight challenges in adolescent health literacy and reinforce the need for innovative strategies to ensure comprehensive care and reduce health inequities. Word cloud analysis identified terms and concepts that emerged most frequently, highlighting topics such as mental health, sexuality, nutrition, violence, and racism as their main concerns. These findings were corroborated by the systematized data from the discussion groups, which revealed significant conceptual gaps, indicating that, although they had prior exposure to the topics, their understanding was superficial and often based on inaccurate or fragmented information.

The results indicated that, although adolescents had prior exposure to health issues, their conceptual gaps hindered the adoption of preventive behaviors and the appropriate use of health services. This finding reinforces the importance of educational initiatives that go beyond the mere dissemination of information, promoting critical understanding and the applicability of content in everyday life. In Brazil, the PNAISAJ⁽¹⁾ and the PSE⁽²³⁾ emphasize the need for intersector strategies that bridge the gap between education and health, ensuring that adolescents are protagonists in the construction of knowledge.

Regarding social media, it is clear that different platforms were cited by participants, demonstrating the diversity of sources used by this audience. The social media that emerged in the survey, in order of citation, were: BeReal[®] (2), Quora[®] (2), Yubo[®] (2), Reddit[®] (3), Twitch[®] (4), X[®] (7), Pinterest[®] (7), Telegram[®] (8), Snapchat[®] (14), Discord[®] (20), WhatsApp[®] (21), YouTube[®] (22), Facebook[®] (28), Instagram[®] (72), and TikTok[®] (72). The emphasis on Instagram[®] and TikTok[®], mentioned by the largest number of participants, clarifies their preference for platforms that prioritize visual and interactive content.

Each of these social networks has specific characteristics that influence adolescents' information experience. Networks like Quora[®] and Reddit[®] allow the exchange of information and personal experiences, while apps like WhatsApp[®] and Telegram[®] are used for direct communication and rapid content sharing. Platforms like TikTok[®] and Instagram[®] have established themselves as spaces for disseminating short videos that combine entertainment and information. The widespread use of these media by adolescents reinforces the need to adapt health literacy strategies to these spaces, ensuring that scientific information is presented in an accessible and engaging manner.

However, it should be considered that these practices do not impact all adolescents equally. Internet access, digital literacy, technological resources, socioeconomic conditions, race, gender, and territory are determinants that produce inequalities in access to health information. In Brazil, a country marked by profound social disparities, such inequalities have direct implications for information equity among adolescents. Incorporating an intersectional perspective—which understands how multiple forms of oppression intertwine—is essential for planning more effective interventions⁽²⁴⁾. Health inequalities are socially produced and, to be addressed, must be understood in their complexity⁽²⁵⁾. Therefore, the use of intersectional approaches is recommended as a strategic axis for reducing inequalities⁽²⁶⁾.

The dominance of the Big Techs in the digital ecosystem reflects the central role these companies play in mediating access to information. Meta (the parent company of Facebook®, Instagram®, and WhatsApp®), Google (YouTube®), and ByteDance (TikTok®) use algorithms to determine which content reaches young audiences. This dominance can reinforce information bubbles and spread misinformation, compromising adolescents' autonomy in seeking reliable information⁽²⁷⁾. The lack of effective regulation of algorithms and content monetization limits the visibility of evidence-based information, favoring viral content, often without scientific basis.

Digital colonialism refers to the domination of large corporations and developed countries over the access, production, and dissemination of information in the digital environment⁽²⁸⁾. In the context of health literacy, this dynamic can result in the imposition of foreign narratives, algorithms that prioritize content from certain regions, and dependence on global platforms for obtaining knowledge. Thus, populations in developing countries may face barriers to accessing culturally relevant and appropriate information, directly impacting their autonomy in the pursuit of health and well-being.

Furthermore, the monetization of social media directly impacts the dissemination of health information⁽²⁹⁾. Platforms prioritize sponsored content, which reduces the visibility of educational materials that lack financial investment for promotion. As a result, scientific information may have less reach than sensationalist content or content based on unsubstantiated opinions⁽³⁰⁾. This scenario reinforces the importance of producing educational content adapted to the operating logic of these platforms, ensuring greater engagement and accessibility for adolescents.

The demand for information about mental health stood out as one of the main concerns among adolescents, especially regarding feelings such as sadness, anxiety, and depression. This finding reinforces the need for strategies that promote emotional well-being and

demystify mental disorders, contributing to reducing the stigma associated with these conditions. The project's social media redesign addressed this aspect by including content on symptom identification, self-care strategies, and information on where to seek professional support. Studies indicate that mental health care delivered through digital media has emerged as a method of mental health support, increasing access for marginalized racial groups and the LGBTQIAPN+ population⁽³¹⁾.

The conceptual gaps identified regarding sexuality and gender indicate the need to expand access to scientific information on the topic, especially regarding the prevention of sexually transmitted infections (STIs), adolescent pregnancy, and sexual diversity. The literature shows that well-structured digital sex education programs are associated with reduced risk behaviors and increased adherence to contraceptive methods⁽³²⁾. The redesign of social media included the creation of posts on prevention, protection methods, and debunking myths related to sexuality, ensuring that adolescents have access to reliable, evidence-based information.

The influence of social media on adolescents' relationship with food and self-image was a recurring theme. Studies show that exposure to unrealistic aesthetic standards on digital media can lead to body dissatisfaction and the development of eating disorders⁽³³⁾. To address this challenge, new social media posts have begun to address a healthy relationship with the body, balanced nutrition, and the impacts of restrictive diets on health. Including this topic in health literacy strategies seeks to deconstruct stereotypes and strengthen adolescents' critical thinking about media content.

Adolescents' curiosity about the effects of alcohol, tobacco, and other drugs reinforces the importance of educational strategies based on harm reduction and raising awareness about the impacts of these substances on the body. Literature suggests that interactive and accessible educational campaigns are more effective than punitive approaches in preventing drug use among young people⁽³⁴⁾. The project's social media adaptation included posts about the short- and long-term effects of using these substances, promoting a dialogical and informative approach to the topic.

Adolescents' concern about violence and bullying reinforces the need for strategies that promote safer and more inclusive school environments. Adolescents exposed to physical and psychological violence are at greater risk of developing emotional disorders and socialization difficulties⁽³⁵⁾. The redesign of social media addressed this issue with content on identifying situations of violence, reporting channels, and coping strategies.

Racism also emerged as a significant concern, highlighting the need to include this topic in health literacy. Research indicates that Black adolescents face additional barriers to accessing health services and are more exposed to social determinants that negatively impact their well-being⁽³¹⁾. Adapting digital content to include discussions about structural racism and its effects on health seeks to raise awareness and promote the addressing of these inequalities.

Thus, in line with the action research proposal^(17,18), the project's social media was reformulated based on the literacy needs identified during fieldwork, and new approaches have been adopted in the in-person activities developed by the extension project. The decision to maintain the existing Instagram® profile and create a new TikTok® channel was based on adolescents' preference for these platforms, corroborating studies that point to these networks as the main means of searching for information among young people⁽³⁶⁾, as well as highlighting the relevance of action research in producing knowledge for action ^(17,18). The adoption of these media for disseminating educational content reflects a necessary adaptation to new forms of communication and the way adolescents consume information, ensuring greater engagement and impact on health promotion.

Internationally, health literacy programs targeted to adolescents have been most successful when they incorporate interactive digital tools, intersector collaboration, and youth leadership⁽³⁾. In this context, the strategic role of nurses in school health stands out, working to connect health, education, and the region, mediating with families, and using innovative digital methodologies⁽³⁷⁾. Strengthening this leadership role of nurses is essential to consolidate effective health literacy actions that respond to their real needs.

A limitation of this study is the fact that it was conducted in only two public schools in a single municipality, which limits the diversity of sociocultural contexts explored and may influence the transferability of the findings to other contexts. Furthermore, although there was extensive participation of adolescents in the different phases of the action research, the aim was not to represent all possible youth groups, but rather to broadly understand the context of the participating groups.

CONCLUSION

The action research enabled the identification of priority themes and conceptual gaps relevant to adolescent health literacy, especially in areas such as mental health, sexuality, nutrition, racism, and violence. Qualified listening and youth empowerment emerged as central elements in formulating educational strategies more responsive to adolescents'

sociocultural and digital practices, strengthening their autonomy and critical thinking skills regarding health information.

Incorporating these demands into the reformulation of digital content through Instagram® and TikTok®, combined with in-person engagement in schools, contributed to the development of dialogic spaces and communication practices that expand access to and engagement with evidence-based health information. The experience reported in this study reaffirms the potential of participatory methodologies in addressing informational inequalities and developing culturally sensitive educational strategies.

In this context, the importance of public policies that integrate digital technologies and participatory approaches into school health programs stands out, enhancing the effects of intersector actions between health and education. The protagonism of adolescents in the creation and validation of content proved strategic in ensuring relevance, clarity, and greater reach of the messages conveyed. These findings contribute to strengthening the field of health literacy in adolescence and to recognizing the role of nursing in mediating information, care, and territory.

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