Repercussions of covid-19 on adolescent health
Repercussões da covid-19 para a saúde de adolescentes

ABSTRACT
Objective: understanding the Repercussions of the coronavirus disease 2019 pandemic on adolescent health. Method: qualitative study of the participatory action research type based on the assumptions of Paulo Freire. A Virtual Culture Circle was held with the participation of 11 adolescents, covering the following stages of the research itinerary: Thematic Investigation; Encoding and Decoding; and Critical Unveiling. Results: two main themes emerged: "COVID-19 in adolescence: transformations of the present" and "What will tomorrow be like?" The need to stay at home, not going to school or seeing friends, was discussed. The adolescents also reflected on the future, showing insecurity and concern about the financial situation of the family and the appreciation of what is important in life.
Conclusion: the need for social distancing or, in some cases, social isolation, imposed by the pandemic, resulted in sudden changes in the routine of adolescents and the entire family group.
Descriptors: Adolescent Health; Quarantine; COVID-19; Pandemics; Public Health Nursing.

RESUMO
Descritores: Saúde do Adolescente; Quarentena; COVID-19; Pandemias; Enfermagem em Saúde Pública.

RESUMEN
Objetivo: comprender las repercusiones de la pandemia de 2019 de la enfermedad del coronavirus para la salud de los adolescentes. Método: estudio cualitativo, acción-participante, basado en los supuestos de Paulo Freire. Se realizó un Círculo de Cultura Virtual, con 11 adolescentes, cubriendo las etapas del Itinerario de Investigación: Investigación Temática; Codificación y decodificación y Revelación crítica. Resultados: surgieron dos temas generadores: "Enfermedad por coronavirus 2019 en la adolescencia: transformaciones del presente" y "¿Cómo será mañana?" Se habló de la necesidad de quedarse solo en casa, sin ir a la escuela ni ver a los amigos. También reflexionaron sobre el futuro, demostrando inseguridad y preocupación por la situación de la familia y valorando lo importante en la vida. Conclusión: la necesidad de distanciamiento social o, en algunos casos, aislamiento social, impuesto por la pandemia, provocó cambios bruscos en la rutina de los adolescentes y miembros de la familia.
Descritores: Salud del Adolescente; Cuarentena; COVID-19; Pandemias; Enfermería en Salud Pública.
INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) pandemic has imposed, since its declaration by the World Health Organization (WHO), numerous changes in people’s daily lives[1]. These changes have direct repercussions on the health of adolescents, mainly due to the necessary restrictive measures related to social isolation[2]. The possibility of face-to-face interactions resulting from family ties, school friendships, and leisure time were abruptly cut off.

Subterfuges were introduced in order to deal with anxieties, concerns, fears and uneasiness about a future permeated by a pandemic that seems to have no end. Thus, information and communication technologies have become an opportunity to maintain the bonds between people. The internet, which already took a considerable part of the adolescents’ time, has expanded its relevance by pointing out a necessary intertwining for mobility in this context[3].

In light of this reality, there is an opportunity to promote adolescent health through the internet, by incorporating instruments that bring them closer to their reality and that minimize situations of vulnerability, especially in moments of uncertainty such as those experienced during the pandemic. In this context, the implementation of strategies to reduce the establishment of other conditions in the context of crisis/stress and conflicts that, perhaps, will emerge as a result of social isolation is extremely important[4].

It is noteworthy that in Brazil, the Statute of the Child and Adolescent (ECA) defines adolescence as the period between 12 and 18 years of age. In turn, the Ministry of Health (MOH) adopts the criterion of the WHO, which defines adolescence as the period between 10 and 19 years. The United Nations (UN) indicates the ages between 15 and 24 years[5]. However, the conception of adolescence involves more than a time interval, since it incorporates the adolescent as a protagonist in the construction of his personal and collective life process. It also encompasses the potential for emancipation, autonomy and social responsibility. Adolescence is characterized by several socialization processes, as well as the period in which the identity is constructed[6].

Adolescents understand human dimensions from a future perspective. The future is perceived as a framework of possibilities and needs that need to be implemented immediately. The present goes almost unnoticed, except when taken by a situation that throws them in the midst of their daily concerns[6], as in the case of COVID-19.

Thus, this study became necessary to understand the effects caused by COVID-19 on the health of adolescents. It made it possible to expand the possibilities of care, considering that the repercussions of isolation can increase the sedentary lifestyle and obesity, and also to unveil aspects related to the pandemic that can influence the health of the adolescents, contributing to comprehensive care. Therefore, this study also seeks to assist in the construction of knowledge for the health and/or nursing area in the context of adolescent care in the midst of the COVID-19 pandemic[7].

Thus, the question analyzed is: what are the repercussions of the COVID-19 pandemic on the health of adolescents? Based on this question, the study aimed to understand the repercussions of the Coronavirus Disease 2019 pandemic on adolescent health.

METHOD

This is a qualitative study of the participatory action research type, based on Paulo Freire’s theoretical-methodological assumptions. The Freire research itinerary[8] was used. This itinerary comprises three dialectically interconnected phases: Thematic investigation; Encoding and decoding; and Critical Unveiling[8-9]. In addition, the recommendations of the Consolidated criteria for reporting qualitative research (COREQ)[10] were followed for the construction of the manuscript.

The thematic investigation consists of the initial dialogue that leads to the identification of the generating themes, in which the situations of the reality of each being are allowed to appear. Coding and decoding is a critical reflection of the themes through codes that are characterized by being known to the participants, to then analyze the situation experienced, seeking to overcome the limit situations. Critical unveiling is when the participants allow themselves to remove the veil that blinds them to visualize the analysis and veracity of the facts, disclosing their possibilities, through knowledge, to achieve transformation[8,11].

These stages of the research itinerary take place in the culture circle, which is characterized by being a group of individuals who discuss common themes, in a horizontal, participatory and reflective way, mediated by a facilitator who problematizes emerging themes, with a view to instigating the collective knowledge[10].

In this research, the culture circle was carried out in a virtual way, a necessary and innovative practice, given the situation of social isolation imposed by COVID-19. For that, the Zoom® application was used. Video conferences were held using electronic devices (computers or cell phones), allowing the simultaneous and interactive participation of the participants, although physically distant.

Eleven adolescents living in different locations in Brazil participated in the study: six lived in Santa Catarina, two in Rio Grande do Sul, two in São Paulo, and one in Rio de Janeiro. To organize the participants, two adolescents and their guardians, from the researchers’ social network, were contacted by telephone and invited to participate. Later, using the Snowball sampling method[12], these adolescents invited other colleagues to join the circle. As inclusion criteria, individuals aged between 10 and 19 years were considered. And as an exclusion criterion, the presence of any condition that prevented the adolescent to speak and lack of access to the internet and electronic devices to participate in the Virtual Culture Circle (VCC) were reasons for exclusion. All the adolescents invited accepted to participate in the research; there were no refusals.

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Two days before the VCC, a virtual meeting was scheduled with the 11 adolescents, who were accompanied by one of their guardians. The researchers explained the purpose of the study and discussed the Informed Consent Term and the Assent Term. The terms were sent via email to the study participants and their guardians, who signed them and delivered them to the researchers.

A VCC was developed in July 2020, having as mediator a nurse with doctoral training, with experience in this type of approach. In order to go through the stages of Paulo Freire’s research itinerary in a creative and playful way, we chose to make an analogy with the Playstation® control, based on something concrete in the daily lives of adolescents, as illustrated in Figure 1.

![Paulo Freire's Research Itinerary: analogy with the Playstation controller](https://br.pinterest.com/pin/508273507933758187/)

To start the VCC and go through the Thematic Investigation phase, the mediator held a Playstation® controller in her hands, asking who in the group liked to play and which games they liked the most, in order to start the dialogue. With their participation, she reflected that in order to play, it was first necessary to turn on the controller, and then make use of its functions. In the same way, she encouraged them to ‘connect’ their thoughts to reflect on the ‘real game of life’, in the context of the current pandemic, asking the following question: What are the repercussions of COVID-19 for your health?

The adolescents developed an extensive discussion, and their testimonies were transcribed by the mediator on a cardboard, using a representative term, in order to provide greater visualization. The mediator read all the terms to the study participants and invited them to regroup them, and this way the two generating themes chosen for discussion at the VCC emerged: 1) COVID-19 in adolescence: transformations of the present; 2) What will tomorrow be like?

To go through the encoding and decoding phase, with the Playstation® controller in her hands, the mediator asked the adolescents about the functions of the directional buttons and the different options to click during the game. Based on the responses of the participants, she introduced the idea that in the “game of real life”, it was also necessary to reflect on the current situation (present) and on what will come (future) so as to favor healthy living in times of COVID-19. So, she asked them: What transformations has COVID-19 brought to your life? How do you think your tomorrow will be?

To answer the questions, the adolescents were instructed to write, on one side of their sheet of paper, the meanings they attribute to the current repercussions of COVID-19, and on the other side, their perceptions about the future. All participants presented their answers, in a rich moment of knowledge sharing and mutual learning, through dialogic praxis⁹, which were coded and decoded (Figure 2).
To validate these records, all the codings were read for the adolescents, and the adolescents were encouraged to continue their reflections on the proposed themes, in order to seal the action-reflection-action process, to seek to understand their ability to face the challenges raised and share proposals that to promote action in the face of thinking\[8\], thus initiating the phase of critical unveiling. Thus, the mediator said that in the “game of life”, it is also necessary to reflect on the best strategies to seek to transform the current reality. To conclude, the mediator questioned the adolescents about the meaning of having participated in the VCC, enabling a discussion and reflection on the relevance of the virtual meeting.

The VCC was recorded and the dialogues were transcribed and organized, according to the two generating themes raised by the adolescents. Data organization and thematic analysis were carried out concomitantly with the development of the VCC, with the participation of all those involved, according to the itinerary proposed by Paulo Freire\[8,11\].

The study followed the principles of Resolution number 466/2012 of the National Health Council, which regulates research involving human beings, with opinion number 4,111,692, under the Certificate of Presentation of Ethical Appreciation 33736920.3.0000.5564, on June 25, 2020. The participants chose names of electronic games to be identified in the survey, so as to ensure their anonymity.

RESULTS

The 11 study participants, four female and seven male, were aged between 12 and 16 years. Six of them studied in private schools and five in public schools; however it is noteworthy that all were in social isolation, without attending face-to-face activities, living with their parents.

COVID-19 in adolescence: transformations of the present

When discussing the first generating theme, the adolescents reflected on the transformations that COVID-19 imposed on their routines. They emphasized the need to be confined to their homes, without going to school or seeing friends:

“I’m tired of staying at home all day long. This has to be resolved soon!” (FIFA).

“I don’t like having to stay at home, no going to school. I miss school, friends and also some teachers” (GTA).

“For sure, not going to school was the main change in my life because for as long as I can remember, I go to school every day and it’s weird not going” (Minecraft).

“Not seeing friends, not being able to go to their house and no one coming here is not cool” (Super Mario Bros).

Another transformation that COVID-19 caused was the impossibility of practicing physical exercises and not having anything good to do during the pandemic:

“I love going to swimming class and I can’t go because it’s closed” (Crush Saga).

“I’m not doing any physical exercise either because the soccer schools closed” (Pokémon).

“The parks are closed, there is nowhere to go and I live in the apartment, everything is very small here at home” (Free Fire).

The fact of not practicing physical exercises and staying at home made some adolescents gain weight, and they claimed to feel anxious:

“I’m just gaining weight, I can’t stop eating all the time and I don’t exercise, I’m going to explode from fat in a few days. I think it causes me anxiety and I start to eat more than usual” (Mario Kart).

“I get anxious, it causes me anguish and when I realize it, I already have a packet of cookies in my hands” (Minecraft).

Besides saying that there is nothing different to do, the adolescents expressed the overload of online school activities, in addition to the need to help their families with household activities. This overlapping of activities also created anxiety and inferred negatively in their learning:

“I’m going almost crazy with so many things to do. Teachers don’t stop posting activities and I can’t keep up because I need to help my mother with my little sister and do other things around the house” (FIFA).

Insecurity
Good news
Missed school year
Challenges
The world must have hope
Concern with financial issues
Learning
More bugs
Valuing what is important
Will it ever go back to normal?
People changed: for better or for worse?

To validate these records, all the codings were read for the adolescents, and the adolescents were encouraged to continue their reflections on the proposed themes, in order to seal the action-reflection-action process, to seek to understand their ability to face the challenges raised and share proposals that to promote action in the face of thinking\[8\], thus initiating the phase of critical unveiling. Thus, the mediator said that in the “game of life”, it is also necessary to reflect on the best strategies to seek to transform the current reality. To conclude, the mediator questioned the adolescents about the meaning of having participated in the VCC, enabling a discussion and reflection on the relevance of the virtual meeting.
The adolescents discussed some of the challenges they will face in the future, such as probably having two years in a single year school and one more year depending on their parents. However, they also showed hope, stating that they believe there will be good news in the future:

“Our challenge will be to cover two school years in just one year” (FIFA).

“I think a challenge is going to be another year depending on my parents, because I always thought I was going to work after I finished high school” (Super Mario Bros).

“I know that we will have a lot of challenges, but I have faith that everything will be ok and that there will also be good things waiting for us to live” (Minecraft).

All the adolescents appreciated having participated in the VCC, in which they showed interest, for the opportunity of learning, exchanging experiences, becoming something interesting to do on an afternoon during the quarantine:

“I liked it a lot because here we talked and exchanged our experiences” (Minecraft).
“It was good and so we did something different, talked to people out of here, without having to leave the house” (Fortnite).

“I really enjoyed it; it was a nice afternoon, full of knowledge and news” (FIFA).

DISCUSSION

The situation imposed by the pandemic caused by COVID-19 showed the need to adapt and create new ways of living. Like any change, it brought with it some implications for the daily lives of those involved in this process. When seeking to understand this reality from the point of view of adolescents, major transformations are evident in their routines, in their daily lives, in their relationships, be they friendship or family relationships, in addition to concerns about the future that awaits them after the pandemic.

The effects of COVID-19 on the psychological health of adolescents may have been neglected during this health crisis\(^{(13)}\). Although children and adolescents initially appear to be less vulnerable to infection by this disease, initial reports from Chinese areas affected by the outbreak indicate that children and adolescents were psychologically impacted\(^{(14)}\). The need for social restriction imposed by the pandemic situation conditioned adolescents to stay at home most of the time, without physical contact with friends, unable to attend school.

This scenario gave rise to symptoms of anxiety and caused the adolescents to gain weight, as they looked to food for a form of comfort. A study carried out with adolescents in the same situation pointed out, among the negative aspects of the pandemic, consequences for the mental health of these individuals\(^{(10)}\). Two studies, carried out with children and adolescents, revealed that changes in sleep, diet and sedentary behavior are some of the complaints reported by adolescents\(^{(13,15)}\).

Allied to the context, the impossibility of attending school in person, led to a high demand for online activities. In a study developed with adolescents aged between 11 and 20 years in China who attended elementary and high school, 9,554 were interviewed, and 19% of them had anxiety. The excessive workload of homework was one of the factors associated with the incidence of depression among students\(^{(13)}\).

However, with schools closed, in addition to the situation of social restriction, adolescents may have lost affirmative and self-fulfillment experiences, which may be related to lower satisfaction with life\(^{(16)}\). The strict measures adopted during the COVID-19 outbreak, such as school closures, quarantine, cancellation of sporting events and distance learning, may have become risk factors for the development of anxiety symptoms in this population\(^{(13)}\). They experience fears, uncertainties, physical and social isolation due to being absent from school for a prolonged period, resulting in limited connection with classmates and reduced physical activity\(^{(14)}\).

The fear of contracting the disease, of losing family members, sadness and discouragement are part of the daily lives of these adolescents conditioned to social distance. Children and adolescents are not indifferent to the dramatic impact of COVID-19 on society\(^{(24)}\). Uncertainties regarding infection and disease can negatively affect the quality of life and well-being\(^{(10)}\). It should be noted that the more reliable information adolescents obtain about the situation, the lower the risk of developing anxiety\(^{(13)}\).

In addition, the pandemic situation has established a new reality within the households of families. Parents develop home office activities, adolescents are at home due to the suspension of face-to-face classes, there uncertainties regarding the health situation, causing excessive interaction, which can become conflicting. Concerns about the pandemic and more fights in the family during this period were associated with lower satisfaction with life\(^{(16)}\), which can increase exposure rates to domestic violence, becoming another reason for concern for vulnerable adolescents\(^{(17)}\).

In the context of the pandemic, ensuring the physical health and material needs of people is urgent, but this view can leave the mental health of individuals in the background\(^{(17)}\). One possibility of care that can be used by health professionals to minimize this condition among adolescents is telehealth. This strategy can be adopted by health services in order to identify the demands of this group and, from there, propose actions, including embrace that can reduce risks, minimizing the effects of the repercussions of COVID-19\(^{(19)}\), and to promote confrontation, based on the empowerment of people.

As a limitation of the study, the need to include in the study only those who had electronic devices and internet access in their homes to participate in the VCC was a limitation. However, after recognizing this limitation, which is peculiar to the method used during the need for social isolation, its replication to other adolescents and audiences, who also lack spaces to reflect on the repercussions of COVID-19 in Brazil and in the world, is encouraged.

In the current pandemic situation, the VCC has proved to be a relevant technology for nursing and other health professionals to develop research and actions to promote the health of individuals and communities in times of COVID-19 and in other moments of in-person impossibility, because it provides comprehensive and humanized care, providing a space for exchanging experiences and mutual learning in a resolute and low-cost way.

FINAL CONSIDERATIONS

When seeking to understand the repercussions of COVID-19 on the health of adolescents, we found a dynamic scenario, which needs constant reconfiguration and/or readaptation. The need for social distancing or, in some cases, social isolation, imposed by the pandemic, resulted in sudden changes in the routine of adolescents and the entire family group. The impossibility to attend school, to find friends, to practice physical activities, excessive online school activities associated with intense interaction with family members, who often develop their work activities at home, create an explosive environment that can become a promoter of stress and anxiety.
In addition to today, the adolescents expressed their concerns about the post-pandemic moment, pointing out aspects that, in their perceptions, could be valued and improved in order to maintain good coexistence in society. The complexity of this experience for the adolescent public is highlighted, which, because they are not being directly impacted by the disease, may be being relegated by the health teams.

In addition, it is worth noting the diversity of living conditions of adolescents in Brazil and therefore, the repercussions of the pandemic, will certainly be divergent in different regions of the country, groups and social classes. Thus, it is suggested that further research replicate the method in different social groups of adolescents, in order to identify the real demands of this population.

In this sense, it is considered pertinent for nursing professionals to look at this public, advising family members on coping strategies, namely, providing information with clarity and scientificty to expand the knowledge about the situation, providing an opportunity for awareness and understanding on the part of adolescents. Such actions can help minimize the risk of developing anxiety due to the fear of the unknown, and when unveiled, they can empower them to identify ways to face this condition.

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