

**Psychological alterations during social isolation in the COVID-19 pandemic: integrative review****Alterações psicológicas durante o isolamento social na pandemia de covid-19: revisão integrativa****Cambios psicológicos durante el aislamiento social en la pandemia de covid-19: revisión integrativa****Received: 23/06/2020****Approved: 03/08/2020****Published: 05/08/2020****Viviane Vanessa Rodrigues da Silva Santana<sup>1</sup>****Roberta Zaninelli do Nascimento<sup>2</sup>****Anyele Albuquerque Lima<sup>3</sup>****Izabelly Carollynny Maciel Nunes<sup>4</sup>**

This study aims to understand whether social isolation favors involvement of psychological changes in the world population during the COVID-19 pandemic. This is an integrative review carried out in the databases: Virtual Health Library, National Library of Medicines - Pubmed/Medline, and at the COVID-19 Control Center - JHONS HOPKINS, from February 1st, 2020 to April of 2020, using the descriptors: "mental disorders" and "social isolation" and "COVID-19". Six articles written in English were selected, published from January to April of 2020, of which five were from China. The psychological changes caused by social isolation, most pointed out were: anxiety, depression and stress. It is inferred that social isolation during the COVID-19 pandemic interferes with people's quality of life, and contributes to impairment of mental health.

**Descriptors:** Coronavírus infection; Pandemics; Mental health; Social isolation.

Este estudo tem como objetivo compreender se o isolamento social favorece o acometimento de alterações psicológicas na população mundial durante a pandemia de COVID-19. Trata-se de uma revisão integrativa realizada nas bases de dados: Biblioteca Virtual em Saúde, National Library of Medicines - Pubmed/Medline, e no Centro de Controle da COVID-19 - JHONS HOPKINS, no período de 01 de fevereiro de 2020 a abril de 2020, utilizando os descritores: "transtornos mentais" and "isolamento social" and "COVID-19". Foram selecionados 6 artigos em inglês, publicados no período de janeiro a abril de 2020, das quais cinco da China. As alterações psicológicas provocadas pelo isolamento social, mais apontadas foram: ansiedade, depressão e estresse. Infere-se que o isolamento social durante a pandemia do COVID-19 interfere na qualidade de vida das pessoas, e contribui para o comprometimento da saúde mental.

**Descritores:** Infecções por coronavírus; Pandemias; Saúde mental; Isolamento social.

Este estudio tiene por objeto comprender si el aislamiento social favorece los cambios psicológicos en la población mundial durante la pandemia de COVID-19. Se trata de una revisión integradora realizada en las bases de datos: Biblioteca Virtual de Salud, National Library of Medicines - Pubmed/Medline, y Centro de Control de COVID-19 - JOHNS HOPKINS, desde el 1 de febrero de 2020 hasta abril de 2020, utilizando los descriptores: "trastornos mentales" and "aislamiento social" and "COVID-19". Se seleccionaron seis artículos en inglés, publicados de enero a abril de 2020, cinco de ellos de China. Los cambios psicológicos causados por el aislamiento social más señalados fueron: ansiedad, depresión y estrés. Se infiere que el aislamiento social durante la pandemia de COVID-19 interfiere en la calidad de vida de las personas y contribuye al deterioro de la salud mental.

**Descritores:** Infecciones por coronavirus; Pandemias; Salud mental; Aislamiento social.

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## INTRODUCTION

The disease of the novel coronavirus (COVID-19), caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome, Coronavirus<sup>2</sup>), presents a clinical picture that varies from asymptomatic infections to severe respiratory conditions. Symptoms can manifest between 2 and 14 days after exposure to the virus, and include: cough, fever, headache, runny nose, sore throat, respiratory distress, myalgia, loss of the sense of smell and taste<sup>1,2</sup>.

The World Health Organization (WHO) declared, on January 30, 2020, that the outbreak of COVID-19 constitutes a Public Health Emergency of International Importance. On March 11, 2020, COVID-19 was characterized as a pandemic<sup>3</sup>. Specifically on June 14, 2020, there were 7,690,708 confirmed cases of coronavirus infection worldwide and 427,630 deaths. In Brazil, 828,810 people were diagnosed with COVID-19 and 41,828 died<sup>4</sup>.

Thus, as the COVID-19 pandemic progressed, many countries have implemented measures of physical and social distancing as an effort to reduce transmission of the virus<sup>5</sup>, which implies keeping distance from others outside the family environment. Presenting itself as one of the best ways to limit contact between individuals and, consequently, avoid exposure to the virus and stop its spread<sup>2</sup>.

This decision by countries to adopt social distancing is based on the way in which the coronavirus is transmitted and the lack of specific pharmacological prevention and treatment measures to combat the virus. In general, this transmission occurs through respiratory droplets, which are released when an infected person coughs, sneezes or speaks. Also, the infection can occur by touching a contaminated surface and then touching the eyes, mouth or nose, or even touching hands, kissing and hugging<sup>1</sup>.

It is noteworthy that epidemics of infectious diseases affect not only people's physical health, but also the psychological health and well-being of the non-infected population<sup>6</sup>. Thus, the growing threat of the COVID-19 pandemic has led to a global atmosphere of anxiety, depression and stress due to disrupted interrupted travel plans, overload of media information, panic to purchase essential household items such as food, and, mainly to social isolation<sup>7</sup>.

Thus, this study is justified by the need for scientific knowledge about the mental health of the population that is in isolation at this critical moment in global society, providing a basis for future measures for prevention and treatment of possible psychological changes. Thus, this research aims to understand whether social isolation favors the involvement of psychological changes in the world population during the COVID-19 pandemic.

## METHOD

This is an integrative review based on the PICO search strategy (Table 1), which has 4 components: Patient or problem; Intervention; Control or Comparison; Outcomes. This strategy allows for the correct formulation of the research guiding question, enabling the best level of evidence<sup>8</sup>.

**Table 1.** Description of the PICO strategy. Maceió, Alagoas, Brazil, 2020.

Initials	Description	Analysis
P	Patient	World population subjected to social isolation.
I	Intervention or indicator	Psychological changes due to social isolation during the COVID-19 pandemic.
C	Comparison or control	Results found from January to April 2020.
O	Outcomes	What psychological changes can social isolation cause in the population.

Source: Santos, et al<sup>8</sup>.

The search was carried out on the Virtual Health Library (VHL) platform, in the National Library of Medicines (NLM) database - Pubmed/Medline, and in a research center called the COVID 19 Control Center - JHONS HOPKINS. The following Health Sciences Descriptors (DECS) were used: social isolation, mental disorders and the keyword COVID-19, and their respective correspondents in English and Spanish. And the following Medical Subject Headings (MeSH) descriptors: social isolation, mental disorders and COVID-19. The descriptor "mental disorders" was used because there is no term "psychological changes" in the DECS or MESH, which is the term that most closely resembles the proposed theme. In addition, a search was carried out in the theoretical framework of the articles selected to be analyzed in full.

Eligibility criteria include: original articles available in full, with free access, online, with different methodological approaches, in Portuguese, English and Spanish, published between January of 2020 and April of 2020, and which answer the following guiding question: *What psychological changes can social isolation, used as a means of coping with COVID-19, cause in the population?*

The exclusion criteria were: articles that has professionals or people who already had a mental disorder as their target audience; that did not include social isolation as one of the study variables.

In each search, the use of the Boolean operators "AND" and "OR" was used to combine the set of words, configuring: Social isolation AND Mental disorders AND COVID-19; Mental disorders AND COVID-19; Mental disorders OR Mental disorders AND Social isolation OR Social isolation AND COVID-19; Mental disorders OR Mental disorders AND COVID-19.

Data extraction was carried out from February to April of 2020, and the studies were screened based on recommendations of the Statement for Reporting Systematic Reviews and Meta-Analyzes of Studie (PRISMA), attributing consistency and veracity to the research (Figure 1)<sup>9</sup>.

The ethical aspects of this research were preserved. The information and data were presented in a reliable manner and in accordance with Copyright Law no. 9,610/98<sup>10</sup>, all authors analyzed and cited in this study were properly referenced.

## RESULTS

As a process for selecting articles, the result was a total of 24 studies, of which 6 were excluded due to being duplicates, thus resulting in the identification of 18 articles. After reading the titles and abstracts, 10 articles were excluded as they did not fit the proposed theme. Eight articles were selected for reading in full and, of these, two were excluded because they did not answer the guiding question and did not meet the eligibility criteria. In total, six articles were selected to compose the integrative review, as shown in the PRISMA flowchart (Figure 1).

**Figure 1.** Flowchart of collection of articles that composed the results. Maceió, Alagoas, Brazil, 2020.

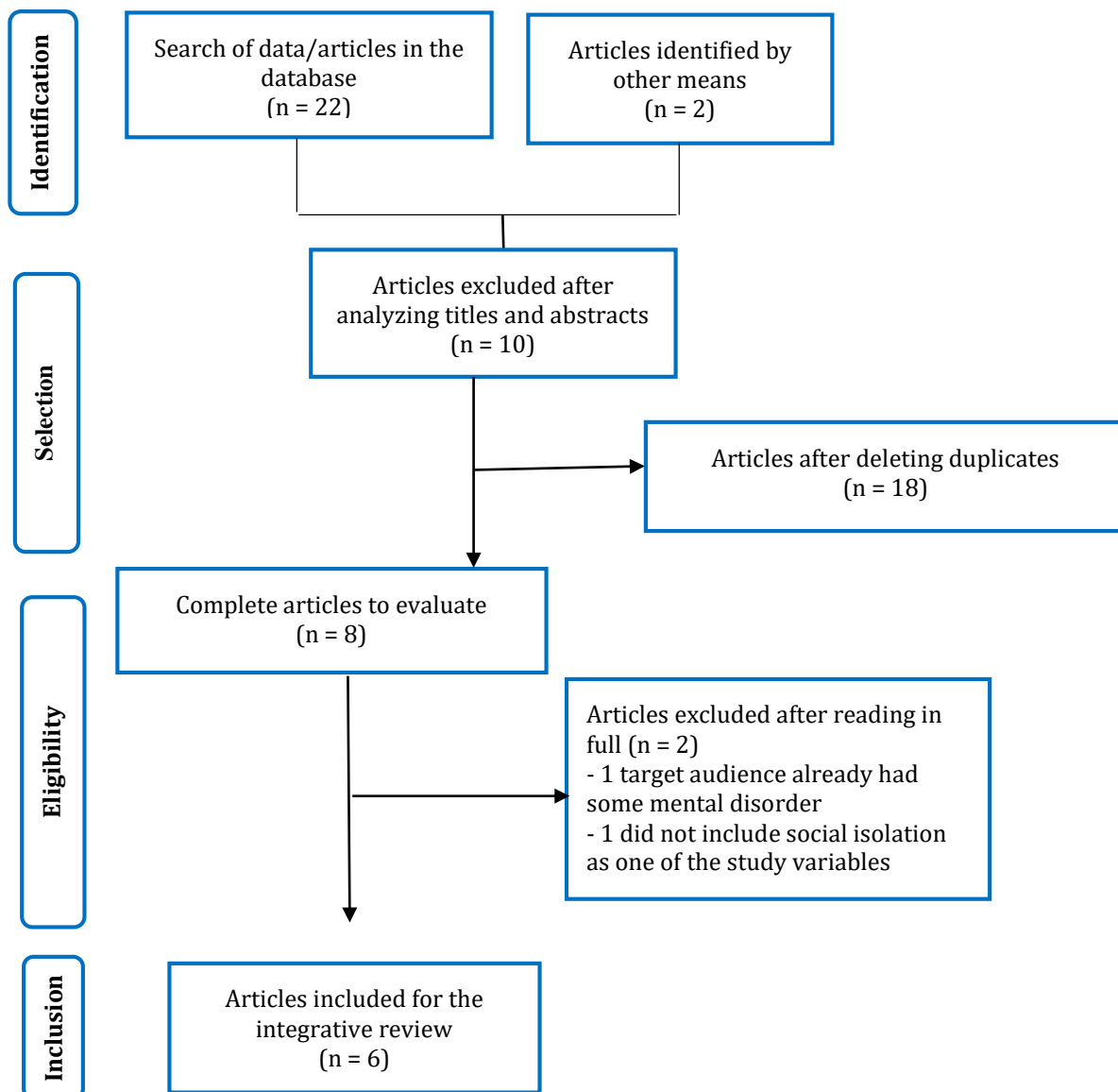


Chart 1 contains information regarding the six articles selected in full by the PICO strategy, all in English. Chart 1 presents data for each survey, based on the variables: article title; authors and year of publication; country of publication; research method; and results. In the latter, answers are pointed out regarding the guiding question of this research.

**Chart 1.** Summary of the studies analyzed in full. Maceió, Alagoas, Brazil 2020.

Title	Authors and year	Country	Study method	Results
<i>Social Capital and Sleep Quality in Individuals Who Self-Isolated for 14 Days During the Coronavirus Disease 2019 (COVID-19) Outbreak in January 2020 in China</i>	Xiao H, Zhang Y, Kong, D, Li S, Yang N, 2020 <sup>6</sup>	China	Cross-sectional	Anxiety and stress levels in isolated individuals were high, while sleep quality was low, which indicates that psychological health should be considered for individuals who isolate themselves during epidemics.
<i>Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China</i>	Wang C, Pan R, Wan X, Tan Y, Xu L, Ho C, et al., 2020 <sup>11</sup>	China	Cross-sectional	In this study, most respondents spent 20 to 24 hours a day at home (84.7%). Of these, 53.8% rated the psychological impact of the COVID-19 outbreak as moderate or severe; 16.5% reported moderate to severe depressive symptoms; 28.8% of respondents reported symptoms of moderate to severe anxiety; and 8.1% reported moderate to severe stress levels.
<i>The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users</i>	Sijia L, Wang Y, Xue J, Zhao N, Zhu T, 2020 <sup>12</sup>	China	Quantitative	The results indicate significant differences in emotional indicators between the Chinese population in two time periods, T-before (January 13 to 19, 2020) and T-after (January 20 to 26, 2020). After January 20, negative emotional indicators of psychological traits increased in anxiety, depression and indignation, while positive emotional indicators of psychological traits decreased.
<i>The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence</i>	Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al., 2020 <sup>13</sup>	United Kingdom	Quantitative	The study suggests that longer quarantine were specifically associated with mental health problems, post-traumatic stress symptoms, avoidance behaviors and anger. Overall, this Review suggests that the psychological impact of quarantine is broad, substantial and can be long lasting.
<i>A Longitudinal Study on the Mental Health of General Population During the COVID-19 Epidemic in China</i>	Wang C, Pan R, Wan X, Tan Y, Xu L, McIntyre RS, et al., 2020 <sup>7</sup>	China	Longitudinal	Isolation had several adverse impacts on mental health, especially among 12 and 21-year-old respondents, with the highest levels of stress, depression and anxiety. This age group was composed mainly of students who were affected by the prolonged closure of schools.
<i>The psychological effects of quarantining a city</i>	Rubin G, Wessely S, 2020 <sup>14</sup>	United Kingdom	Qualitative	The study points out that quarantine promotes the development of anxiety symptoms in individuals, either due to the exacerbated exposure of news about COVID-19 or the feeling of being trapped inside the home. Furthermore, it addresses what pathological effects of these symptoms are also possible in the long run.

## DISCUSSION

The articles used in this study mention several psychological changes caused by social isolation, namely: anxiety, depression and stress.

Social distancing for long periods can provide negative feelings, such as: increased anxiety in people who have a daily routine outside the home, such as students<sup>6,7,11-13</sup>; depressive feelings due to the forced distance of relatives and friends, loneliness, and exacerbated propagation of news through the media<sup>7,12</sup>; and stress due to people's fear of becoming infected or transmitting the virus to family members<sup>11,13</sup>, and reduced sleep quality<sup>6</sup>.

One of the studies pointed out in its results that the studied population had high levels of stress, anxiety and depression. However, these levels remained stable between two groups and different periods analyzed, despite the sharp increase in the number of cases of COVID-19. This study suggests that this was due to the rapid adoption of decisive measures by the Chinese government in relation to the pandemic, such as the imposition of social isolation. However, this same survey states that this prolonged isolation had several adverse impacts on mental health, especially among respondents aged 12 to 21, in which the majority were students. This audience was affected, according to the study, mainly by the prolonged closure of schools, which required online educational support. This fact contributed to the emergence of stress and anxiety in this population<sup>7</sup>.

On the other hand, in another study carried out in China, the older population presented more severe psychological symptoms, due to, according to interviewees, the average age of death by the coronavirus being 55 years. In addition, they felt anxious just thinking about the possibility of becoming infected<sup>15</sup>. In this context, it is clear that anxiety is a prevalent feeling in the population that is in isolation anyway.

Anxiety can be defined as the anticipation of a future threat, which is usually experienced by individuals<sup>16</sup>, but these sensations can intensify and persist throughout the social distance, tending to aggravate the state of anxiety. The presence of deaths and the number of new cases of COVID-19 are possible agents that contribute to this fact. The situation of isolation itself, too, can be attributed as an influencing agent, since it indicates the seriousness and severity of the situation experienced. In addition, there is the possibility of experiencing long-term effects, such as the potential to feel anger due to situations present during and after social distance<sup>14</sup>.

Also, it is noted that the advancement of technology and ways of communicating in online networks favor the establishment of social interaction<sup>17</sup>. This is evident in the isolation period, when face-to-face contact is not possible. In this context, the population tends to make massive use of social networks to communicate and express their feelings. This situation is confirmed by a study<sup>12</sup>, which analyzed emotional indicators and words expressed by the Chinese population, during isolation, in posts made on a social network. The study points to the use of many words of concern by users, such as concern for health, reporting insomnia, with family and friends, and money. While the emotion indicators indicated that people showed more negative emotions, such as anxiety, depression and indignation, than positive ones<sup>12</sup>.

These negative emotions, especially depression, were directly associated with the way in which health information had been disseminated in China. This dissemination of health information via radio was the main factor responsible for high levels of depression. They assume that it would be more feasible for governments and world health authorities to adhere more to media such as television and the internet to increase public awareness of COVID-19, thus reducing symptoms of depression and anxiety<sup>7</sup>.

In this context, WHO recommends, during the pandemic, avoiding exposure to a large amount of news about the outbreak. Official news that is considered reliable must be followed, disregarding rumors and "fake news", since the current critical situation, by itself, is already capable of bringing psychological harm, however, these can be aggravated due to published untruths<sup>18</sup>.

China was the first country to suggest that people remain at home and respect social isolation in order to prevent the spread of the virus and contain the number of infected individuals, since it was the first epicenter of COVID-19. Therefore, a study shows that 53.8% (n = 651) of the interviewees who were isolated reported moderate or severe psychological impact, with symptoms, mainly, of anxiety (28.8%), depression (16.5 %) and stress (8.1%)<sup>11</sup>.

That same study pointed out that the correlation between concerns about the COVID-19 epidemic and the psychological impact on the population is evident. In this survey, about 75.2% of respondents were very concerned about the fact that other family members were infected with the virus. This concern was, according to the research, mainly associated with the high levels of stress analyzed by scales.

It is suggested that these high levels of stress occur because, during isolation, individuals may experience various situations that trigger stress, such as: duration of quarantine; inadequate information provided by the government, health authorities and the press itself; lack of essential supplies for survival, such as food; feelings of frustration and boredom<sup>13</sup>; in addition to the fear of becoming infected and infecting other people, becoming even more fearful when thinking about the possibility of a family member being affected by COVID-19<sup>11,13</sup>.

The correlation between isolation, sleep quality and psychological changes are factors that are directly associated with people's social capital, according to one of the studies<sup>6</sup>. Social capital refers to how the person is inserted in society, their feeling of belonging, the social relations established by them, the group support they receive, and their social participation. This capital are social resources that revolve around trust, cooperation, reciprocity and reliability<sup>19,20</sup>.

Thus, the interviewed individuals who had a higher social capital had reduced levels of anxiety and stress, and, consequently, their sleep quality was better. While those with low levels of social capital, according to the applied scale, had high levels of anxiety and stress. These two factors, together, collaborate to reduce the quality of sleep<sup>6</sup>.

The WHO recommends some attitudes that can be followed by the population in isolation to avoid anxiety, stress and depression, such as: seeking to keep in touch with family and friends, even if this proximity is through digital means, such as social networks, e-mails, telephone. Also try to regulate sleep, and maintain a physical exercise routine and a good diet, seeking, to the maximum, to maintain or innovate the daily routine. They propose that people pay attention to their feelings and internal demands. In addition, seek to be informed about COVID-19 by reliable sources<sup>18</sup>.

## CONCLUSION

The findings of this study lead to the inference that social isolation during the COVID-19 pandemic contributes to the involvement of psychological changes, mainly anxiety, depression and stress, since humans are social beings, dependent on interactions, communications and interpersonal contacts and, when kept in a situation of isolation, they nourish feelings of boredom, loneliness and sadness and, among feelings experienced during isolation, anxiety stands out as the most experienced. In addition, the research findings demonstrate that the quality of life of people who are in isolation is intrinsically linked to their mental health.

As limitations of this study, we highlight the scarcity of scientific research on the theme, which occurred due to the contemporary nature of the content with the pandemic of COVID-19. Despite the correlation between social distance and the occurrence of psychological changes described in the articles, it is necessary to carry out more research involving this topic, especially with populations in other countries, in addition to China.

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### CONTRIBUTIONS

**Anyele Albuquerque Lima** and **Izabelly Carollynny Maciel Nunes** contributed to the collection, analysis and interpretation of data, writing and revision. **Viviane Vanessa Rodrigues da Silva Santana** and **Roberta Zaninelli do Nascimento** worked in the conception and outline of the study and revision.

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