

Original Article

Reasons for Suicides Related to the Pandemic Caused by the New Coronavirus: Integrative Review

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Abstract

Background: the pandemic caused by the new coronavirus emerged in China and brought a hard reality to the world population. The disease as well as its preventive measures, in addition to affecting people's physical health, is also affecting their mental health. The impact caused by the pandemic can lead people to put their lives at risk through suicidal acts.

Objective: to investigate in the literature the reasons for suicides related to the pandemic caused by the new coronavirus.

Methodology: it is an integrative review of articles published in 2020 through searches on Google Scholar and the National Library of Medicine - PubMed, based on the guiding question: what is the literature approach on the reasons for suicides related to the pandemic caused by the new coronavirus?

Results: the new coronavirus (SARS-CoV-2) and the social isolation brought damage to the population's mental health. In the articles analyzed, it was observed that the reasons for the suicides associated with the pandemic are related to fear of the disease and of spreading it, economic recession and fear of losing the job, isolation, depression and obsession. **Conclusions:** it is necessary to pay attention to the reasons that lead individuals to put their lives at risk as a result of the pandemic and to create measures to protect the population's mental health.

Keywords: Coronavirus Infections; Mental Health; Suicide.

Introduction

The disease caused by the new coronavirus (SARS-CoV-2) has brought a new reality to the world population. Coronavirus Disease (COVID-19) emerged in China at the end of 2019 and soon became a pandemic (WHO, 2020a). Up to September 28; 33,130,914 cases of the disease and 998,145 deaths had been recorded worldwide (Johns Hopkins University, 2020). COVID-19, as well as its preventive measures, in addition to affecting physical health, can also affect the mental health of the general population (Brooks et al, 2020; Ribeiro et al, 2020; WHO, 2020b, 2020c). In the presence of previous epidemics and pandemics, the mental health of the population was seriously affected (Cheng & Tang, 2004; Huremovic, 2019). The same has been happening during the COVID-19 pandemic. There are many reasons related to SARS-CoV-2

that can endanger the mental health of individuals. The pandemic brought mourning, the fear of contracting the disease and infecting loved ones, the fear of social isolation and also financial concerns (Brooks et al, 2020; Lima, 2020; Ozamiz-Etxebarria et al, 2020; Ozili & Arun, 2020).

Anxiety, depression, fear, stress and insomnia are some problems observed in the population due to the pandemic caused by SARS-CoV-2 (Duan & Zhu, 2020; Lima et al, 2020; Sepulveda-Loyola et al, 2020). Mental disorders related to the pandemic have caused individuals to put their lives at risk. Suicide acts increase as the disease spreads causing long-term effects on the general population and on the world economy (Gunnell et al, 2020).

Suicide is an act performed by the individual whose intention is death, it is a consciously and

intentionally act (Villarroel et al, 2013). The factors that lead a person to commit suicide are multiple and complex; biological, psychological and social factors can lead the human being to decide to kill himself (Hernandez & Milian, 2016; Knizek & Hjelmeland, 2018; Valdez-Machado & Mukamutara, 2019). Suicidal behavior has a history that dates back to very ancient times; however, it currently represents one of the main public health problems. Suicide rates, which were already high even before COVID-19, increased with the emergence of the pandemic (Cortes Alparó 2014; Gunnell et al, 2020). Through newspapers, the internet and social media it is possible to reach news related to suicides related to COVID-19. These acts are observed in several countries such as Thailand, Pakistan, Mexico, United States of America, India and Brazil (Gomez, Hernandez & Gutierrez, 2020; Hollyfield, 2020; Sakamoto, 2020; Salva, 2020; Wallen, 2020; Zulqernain 2020). It is necessary to identify the reasons that led individuals to commit suicide during the COVID-19 pandemic. It is important to protect susceptible people, preventing that the disease which as a primary cause is already causing so many fatalities also causes deaths as a secondary cause. Healthcare workers must be prepared to prevent such actions, paying attention to those who may endanger their lives and taking care of those who already tried the act.

Objective

The present study aimed to investigate in the literature the reasons for suicides related to the pandemic caused by the new coronavirus.

Methodology

It is an integrative literature review that aims to synthesize the results of the available studies related to the researched theme. It was elaborated in six phases: determination of the guiding question and the objective; systematic search through sampling or based on pre-established criteria according to the theme; data collection; critical analysis of the included studies; discussion of results; and presentation of the integrative review (Souza, Silva & Carvalho, 2010). The selection of articles was guided by the PRISMA methodology (Preferred Reporting

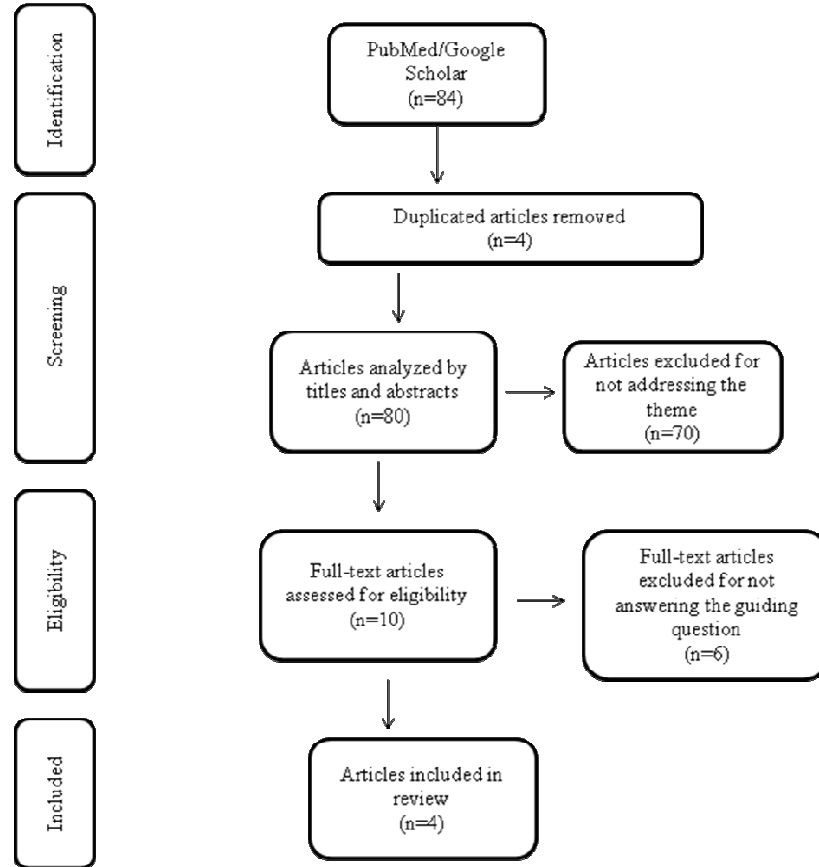
Items for Systematic Reviews and Meta-analyses), as shown in Figure 1. The study was guided by the following question: what is the literature approach on the reasons for suicides related to the pandemic caused by the new coronavirus? Which was established using the method PICo (Stern, Jordan & McArthur, 2014), where the “P” corresponds to the population: people who committed suicidal acts; “I” corresponds to the interest: reasons for suicides; and “Co” corresponds to context: pandemic caused by the new coronavirus. The search for articles on the theme was carried out in the following databases: Google Scholar and National Library of Medicine - PubMed using descriptors selected through the Medical Subject Headings (Mesh): “coronavirus infections” AND “mental health” AND “suicide”. The search for articles published between January and July 2020, about the theme “suicides during the pandemic caused by the new coronavirus” which full and free texts were available on the internet in Portuguese, English or Spanish was held in July 2020. The studies’ methodology was not used as a form of articles’ exclusion. The ethical aspects of the study were assured through the legitimacy of information and authorship of the researched articles, which were cited and referenced properly according to the Harvard referencing system.

Results

A total of 84 articles were found, with the exclusion of four duplicate articles the result decreased to 80. After reading the titles and abstracts, 70 articles were excluded because they did not correspond to the theme of the study. The remaining 10 articles were read in full and four of them were selected as they answered the guiding question, while six articles were excluded because they reported on the possibility of an increase in the incidence of suicide and preventive measures against suicide during the COVID-19 pandemic.

The synthetic compilation of the four articles selected for the development of the research with references, countries, titles and objectives is shown in Chart 1. Designs, participants and results are shown in Chart 2.

Figure 1. PRISMA flow diagram of the articles’ selection process for the integrative literature review



Source: elaborated by the author, 2020

Chart 1. Articles about the reasons for suicides related to the COVID-19 pandemic: references, countries, titles, objectives and type of study

References	Country	Title	Objectives
Mamun & Ullah (2020)	Pakistan	COVID-19 suicides in Pakistan, dying off not COVID-19 fear but poverty? – The forthcoming economic challenges for a developing country	To investigate the actual COVID-19 suicide causalities by considering all the COVID-19 suicide cases from a developing country (e.g., Pakistan)
Valdez-Florido et al. (2020)	Spain	Reactive psychoses in the context of the COVID-19 pandemic: Clinical perspectives from a case series	To describe a case series of brief reactive psychosis due to the psychological distress from the current coronavirus pandemic.
Elengoe (2020)	Malaysia	COVID-19 outbreak in Malaysia	To describe COVID-19 and its outbreak in Malaysia
Diamond et al. (2020)	United States of America (USA)	A call to Arms: Emergency hand and upper-extremity operations during the COVID-19 Pandemic	To study the effect of shelter-in-place orders on emergent operative upper-extremity surgery

Source: elaborated by the author 2020.

Chart 2. Articles about the reasons for suicides related to the COVID-19 pandemic: designs, participants and results

References	Designs and participants	Results
Mamun, & Ullah (2020)	Correspondence. Study based on Pakistani press reports. According to the authors since January 2020, a total of 29 suicides have been reported by the country's media, 16 of them (4 attempts and 12 deaths) related to COVID-19 and were included in the study.	Four suicides occurred for fear of the disease, while 12 were due to the economic recession. So, in Pakistan the most of the cases of suicides related to the pandemic occurs due to economic recession. Although in neighborhood countries, such as Bangladesh and India, the first case studies of suicides due to the pandemic point to fear of infection and social isolation as main reasons. Suicide is a crime, so not all the suicides in Pakistani press media were documented what can limit the study. Despite its limitations, the study provides new data on social isolation, the economic crisis and the recession. Concludes that the study will be of great help for the protection of financially underprivileged people
Valdez-Florido et al. (2020)	Report of cases. A case series including patients aged from 18 to 65 with brief reactive psychoses during the COVID-19 pandemic who were admitted to one of two university hospitals in Spain from 14th to 28th March 2020. Exclusion criteria: organic, affective and substance-induced psychoses, being COVID-19 positive or having symptoms of respiratory infection. Were used the recommendations outlined in the case Report (CARE) guidelines to report the case series.	During the mentioned period four patients were admitted for acute reactive psychosis caused by stress from the pandemic. Two of the patients hospitalized in the first week of compulsory quarantine due to psychotic episodes attempted suicide. One of them, was at home confinement and afraid of losing his job, began to think that his family members were being controlled by machines and that the world would end. The second patient in distress was constantly checking the number of deaths by COVID-19 in the world; he began to hear voices and to believe that he would be tortured. It points to the need for constant monitoring of patients with acute and chronic episodes of psychosis, as there is a high risk of suicide attempts in this group of patients.
Elengoe (2020)	A non-systematic literature review where the author describes COVID-19 and its outbreak in Malaysia	With regard to psychological stress due to the pandemic caused by the new coronavirus, a patient suspected of having COVID-19 committed suicide probably due to depression. The study offers a general view of Malaysia during the pandemic. The study mentioned a case of suicide and its reason. It concludes that the experience gained from global efforts in dealing with COVID-19, should propel countries globally to be prepared for disease control for novel outbreaks, epidemics and pandemics of the future.
Diamond et al. (2020)	Retrospective research carried out with 58 patients who underwent emergency operations due to trauma to the fingers, hands, wrists or forearms. 24 patients were operated on before social isolation and 34 during isolation.	One of the patients attempted suicide due to fear of spreading the coronavirus, despite not having symptoms or test positive for COVID-19. The study is not about suicide but as mentioned that one of the patients committed the act due to fear of spreading the disease it answered the question of the study so was included in the research. Points to the importance for hospitals and health systems to maintain unrestricted patient access to emergency hand surgical care and provide the full scope of services.

Source: elaborated by the author 2020.

The selected articles are from four different international journals: *Brain, Behavior, and Immunity*, *Revista de Psiquiatria y Salud Mental*, *Osong Public Health and Research Perspectives*, and *Journal of Hand Surgery Global Online*. Regarding the type of study, they are a correspondence, a report of cases, a review article and a retrospective research.

Discussion

After a detailed analysis of the articles, it was found that the suicides associated with the pandemic had diversified reasons to be committed. In all the researched studies, symptoms of mental disturbs due to the pandemic were found in individuals who committed suicidal acts (Diamond et al, 2020; Elengoe 2020; Mamun & Ullah, 2020; Valdes-Florido et al, 2020).

SARS-CoV-2 for being a virus still little known, causing a highly contagious disease that have been causing many deaths around the world, affect both, the physical health and the psychosocial health of the population. In addition, one of the main preventive measures against COVID-19, social isolation, can trigger new diseases, presenting itself as a risk, mainly to the mental health of individuals (Brooks et al, 2020; Ribeiro et al, 2020). Social isolation itself can cause physical, psychological and social disorders (Lima et al, 2020; Ribeiro et al, 2020; Valdes-Florido et al, 2020). The human is a social being, isolating him implies taking risks: Isolation can make the isolated person feel abandoned. In addition, social exclusion is associated with risks of cognitive impairment, which can cause mental diseases and consequently suicidal acts (Friedler, Crasper & McCullough, 2015; Elman et al, 2020; Valdes-Florido et al, 2020).

According to a survey carried out in Turkey, the general population of the country has been showing average levels of anxiety related to the pandemic caused by SARS-CoV-2 (Ekiz, Iliman & Donmez, 2020). The authors of another study from the same country stated that there is a correlation between the fear of COVID-19 and the depression, anxiety and stress currently observed in the population (Satici et al, 2020). A study carried out in China, during the COVID-19 pandemic, pointed to an increase in the occurrence of mental problems in the country's population. According to the same study,

especially young people spend long time thinking about the disease, what increases the risk of mental disorders (Huang & Zhao, 2020). Studies from Italy (Ozamiz-Etxebarria et al 2020) and Spain (Mazza et al, 2020) showed an increase on the levels of depression, anxiety and stress during the COVID-19 epidemic in the general population of the respective countries.

The development of mental health disorders related to COVID-19 has led individuals to put their own lives at risk. The study from Spain pointed that one of the patients admitted to a hospital of the country due to a psychotic condition, was distressed and developed an obsession, which led him to attempt suicide (Valdes-Florido et al, 2020). In Malaysia, on the other hand, what led to the suicide of an individual was apparently a case of depression due to the pandemic (Elengoe, 2020).

Fear of contagion, death and also the fear of contaminating loved ones are among the various factors related to the pandemic that can cause mental problems in the population leading to suicide (Brooks et al, 2020). The researched study from Pakistan related that some Pakistani citizens attempted suicide for fear of COVID-19 (Mamun & Ullah, 2020) and in the United States of America; suicide attempts occurred for of spreading the disease (Diamond et al, 2020).

Anxiety, depression and fear are normal emotional responses toward the unknown. Even patients who have never had mental health illness in the past are at a greater risk during a pandemic due to the level of stress experienced. People who considered suicide during the COVID-19 pandemic presented symptoms such as anxiety and depression (Czeisler et al 2020; Nelson & Adams, 2020).

Correct information about the pandemic and ways of prevention to avoid the emergence of myths and prejudices as well as public policies to promote psychosocial health and suicide prevention are essential at a time when the population is threatened by a disease as serious as COVID-19.

The pandemic poses a major threat not only to the health sector, but also to the world economy. Social isolation has had a negative impact on the financial market, corporations, businesses and events. The decrease in the economic cycle leads to higher unemployment rates, which

significantly affects the mental health of the population (Ozili & Arun, 2020). In two researched studies financial problems were pointed as causes of suicides. In Pakistan, most suicidal acts that occurred during the COVID-19 pandemic are related to the economic recession (Mamun et al 2020). In Spain, suicide attempts occurred due to social isolation and fear of job loss (Valdes-Florado, 2020). Governments must create financial support measures and pass laws to ensure the economic security of the population during the COVID-19 pandemic.

There are many reasons associated to the pandemic caused by SARS-CoV-2 that can result in mental disorders causing suicidal acts. Preventive measures need to be taken to avoid such actions and healthcare workers need to be prepared to take care of emotionally vulnerable individuals.

The extinction of SARS-CoV-2 will not bring a definitive solution to the problems caused by it. As much as the pandemic does not have a deadline to end, it is also necessary to think about how the period after it will be. The world population will have a great challenge when dealing with individuals, physically, mentally, socially and financially affected. Healthcare facilities and professionals must be prepared to lead with post-pandemic trauma.

Limitation of the Study: It is pointed out as limitations of the study, the scarcity of research with higher levels of scientific evidence. In addition, another limitation concerns the restriction of possible aspects in relation to suicidal acts during the period, as the pandemic continues therefore, new risks and reasons for suicidal acts may be noticed at a posterior moment.

Conclusion: Despite its limitations, the study provides new data on the impact of the pandemic on the mental health of the population, presenting some reasons that may lead people to commit suicide during the pandemic period. COVID-19 as a primary cause and also as a secondary cause represents a major threat to the world population. Fear of the illness, social isolation and economic recession can lead to the development of mental disorders, which in some cases can cause suicidal acts. The study points to the necessity of keeping health facilities ready not only to attend the increased demand of patients infected by the SARS-CoV-2, but also to

support those who have had their mental health negatively impacted due to the pandemic.

Alternative types of entertainment and physical activities that can be performed indoors must be developed to protect the population's integral health. Institutions and healthcare workers should be guided to identify, welcome and treat vulnerable groups, aiming to reduce the number of suicidal acts. Remote support methods such as telemedicine and telenursing can be used to help individuals considering commit suicide.

This study is expected to promote new researches evaluating the risks and reasons for suicidal acts during and after the pandemic period, pointing for measures to prevent such acts from occurring in the future.

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