



## COVID-19 and suicidal behavior in children and adolescents: A bibliometric review

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### Abstract

**Introduction:** publications on the impact of the COVID-19 pandemic on child and adolescent mental health have increased considerably, but a quantitative assessment of the scientific output has yet to be made. **Objective:** To analyze the published scientific production on COVID-19 and suicide in children and adolescents.

**Material and methods:** web of Science and the Bibliometrix package were used for the bibliometric analysis.

**Results:** we found 268 publications from 92 countries. The United States, Canada, England and China contributed 69% of the total production. Mohammed A. Mamun is the author with the highest number of publications and citations. Among the top ten most productive authors are researchers Colette Degrandi, Rakhi Gupta, Fiona McNicholas, Jennifer Davis Runkle, Margaret Sugg, and Jaclyn Weiser. The journal *Frontiers in Psychiatry* recorded the highest number of published articles, and the journal *Frontiers in Psychology* the highest number of citations. Psychiatry, medicine, and psychology were the most productive areas of research. The most relevant results of the most cited articles worldwide are presented.

**Conclusions:** despite the fact that suicidal behavior has received remarkable attention during the pandemic, most of the scientific production is focused only on some countries and their populations, so the consolidation of an international collaborative networks is required in relation to the study, prevention and intervention of the impact of COVID-19 on the mental health of children and adolescents.

### Key words:

- Bibliometrics
  - Children
  - COVID-19
- Mental health
- Publications
  - Suicide

## COVID-19 y comportamiento suicida en niños y adolescentes: un estudio bibliométrico

### Resumen

**Introducción:** las publicaciones sobre el impacto de la pandemia por COVID-19 en la salud mental de los niños y adolescentes han aumentado considerablemente, pero aún no se ha realizado una evaluación cuantitativa de la producción científica. **Objetivo:** analizar la producción científica publicada sobre COVID-19 y suicidio en niños y adolescentes.

**Materiales y métodos:** se utilizó Web of Science y el paquete Bibliometrix para el análisis bibliométrico.

**Resultados:** se encontraron 268 publicaciones de 92 países. El 69% de la producción total lo aportaron Estados Unidos, Canadá, Inglaterra y China. Mohammed A. Mamun es el autor con mayor número de publicaciones y citas. Entre los diez autores más productivos destacan las investigadoras Colette Degrandi, Rakhi Gupta, Fiona McNicholas, Jennifer Davis Runkle, Margaret Sugg y Jaclyn Weiser. La revista *Frontiers in Psychiatry* publicó el mayor número de artículos publicados, y la revista *Frontiers in Psychology* obtuvo el mayor número de citas. La psiquiatría, la medicina y la psicología fueron las áreas de investigación más productivas. Se presentan los hallazgos más relevantes de los documentos más citados en el ámbito mundial.

**Conclusiones:** a pesar de que el comportamiento suicida ha recibido una atención notable durante la pandemia, la mayor parte de la producción científica está centrada solo en algunos países y sus poblaciones, por lo que se requiere de la consolidación de redes de colaboración internacional en lo que respecta al estudio, prevención e intervención del impacto del COVID-19 en la salud mental de los niños y adolescentes.

### Palabras clave:

- Bibliometría
  - COVID-19
    - Niños
- Publicaciones
- Salud mental
  - Suicidio

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## INTRODUCTION

Suicidal behaviour is a public health problem that results in 703 000 deaths per year worldwide.<sup>1,2</sup>

For each completed suicide, there are 10 to 20 non-fatal attempts,<sup>3,4</sup> with a higher frequency in children and adolescents,<sup>5,6</sup> which makes them the populations at highest risk. There is evidence that suicidal ideation is rare before 10 years of age, increases through age 12 years, and then accelerates through age 17 years, while suicide plans and attempts are most frequent between ages 12 and 15 years.<sup>7,8</sup> A previous history of nonfatal suicide attempt is the most powerful predictor of completed suicide.<sup>9</sup> In consequence, the World Health Organization (WHO) has implemented prevention strategies to reduce suicide rates globally.<sup>2,10</sup> These programmes also depend on the available scientific evidence on suicide and contributing factors, social, cultural and economic factors in each country, and, more recently, the impact of the novel coronavirus disease (COVID-19). All of these factors are woven into a broader understanding of suicidal behaviour and how to approach it with a multidisciplinary approach, especially in high-risk individuals.

Across the globe, the COVID-19 pandemic has had an important psychological impact on the general population and especially on children and adolescents, be it as a consequence of the disease, the anxiety generated by its potential transmission and the changes in interpersonal interactions associated with physical and social isolation.<sup>11-13</sup> On account of the above, an increase in suicidal behaviour (including ideation, attempts and completed suicide) was expected once the pandemic was declared and measures instituted for its containment.<sup>8,14,15</sup> However, a lack of data, variations between countries and the substantial under-recording and inconsistencies in epidemiological surveillance systems limit the possibility of exactly establishing trends in suicidal behaviour, especially in children and adolescents.<sup>16,17</sup>

Despite these limitations, there is a growing interest in the academic community in reporting the

psychological effects of COVID-19, which has resulted in a considerable growth in the scientific publications related to suicidal behaviour in the paediatric population. Bibliometrics provides one of the ways to understand scientific output and the impact of changes that occur in the world on the scientific literature.<sup>18</sup>

Bibliometrics is a useful tool to analyse the output and impact of scientific research in one or more fields of knowledge.<sup>19</sup> The use of novel bibliometric methods to visually represent large volumes of scientific data, such as citation and co-authorship networks,<sup>20,21</sup> is valuable for the purpose of understanding trends in the contribution of different countries, institutions, journals and authors to the literature on COVID-19 and suicidal behaviour in children adolescents, in addition to assessing scientific output in terms of the number of publications and citations.<sup>22</sup> At present, there are few bibliometric studies on the impact of COVID-19 on research on suicidal behaviour. A study by Astraud *et al.*<sup>9</sup> analysed the scientific output on suicidal behaviour and underscored that 75% of the publications were from high-income countries. It also demonstrated that the scientific output increased by six-fold in the past 30 years (1989-2018), with a persistent gap between male and female authors in the number of scientific publications, and that psychiatry and psychology were the most productive fields in suicide research.

Other studies have focused on the number of publications and citations of different authors, organizations, journals and countries.<sup>16,23</sup> There is evidence that suicidal behaviour has attracted considerable attention from scientists and academics during the COVID-19 pandemic. The countries with the largest numbers of publications are the United States, the United Kingdom and India, but publications from France, Bangladesh and Germany were the most cited. The 10 countries with the highest scientific output, many of which were high-income countries, accounted for 92.71% of the total publications.<sup>16</sup>

However, scientific output is constantly varying, so bibliometric data should be analysed continuously.

Furthermore, there are no bibliometric studies of the literature on COVID-19 and suicide in the child and adolescent population, so the status quo remains unknown. Bibliometric studies are considered useful for keeping researchers, institutions and countries abreast of scientific progress and guide their decision-making. Thus, the objective of the study was to make a bibliometric analysis of trends in scientific publications on COVID-19 and suicide in children and adolescents.

## MATERIAL AND METHODS

The study was based on a search of the literature indexed in the Web of Science database (WoS; ISI Web of Knowledge). According to the bibliometrics literature, the largest and most influential databases in the world are Scopus and WoS, and the total number of articles indexed in each of these databases is similar.<sup>24</sup> The WoS was chosen because it indexes more than 100 million publications from 33 000 journals and its search interface is simple and easy to use.<sup>9</sup> The search string was: (Topic) coronaviruses OR "COVID-19" OR "SARS-CoV-2" AND (Topic) suicide OR suicid\* AND (Topic) children OR child\* OR adolescent OR adolescence OR teenager. The search took place on June 9, 2022. There were no restrictions regarding the time of publication, the type of article or the field of research.

The publication activity was analysed with the specific WoS tools for retrieving information about publication characteristics, year, countries of author affiliation, author, journal, areas of research and impact. The total number of publications and citations was counted for each year and the annual average calculated. In addition, the search query was exported in txt format and the Bibliometrix<sup>25</sup> package used to compare the data reported in WoS and identify the conceptual structure of publication keywords and co-citation and international research collaboration networks.

## RESULTS

### Growth in scientific publications

The search identified a total of 268 records published in 2020 ( $n = 41$ ; 15.3%), 2021 ( $n = 156$ ; 58.2%) and the first semester of 2022 ( $n = 71$ ; 26.5%). Of these records, 208 corresponded to scientific articles, 34 were literature review articles, 127 were early-access articles and the rest were letters to the editor and summaries of meetings and minutes. There was a 302.9% increase in scientific output between 2020 and 2021, and a 43.5% in the first semester of 2022.

### Countries with the greatest number of publications and citations

The authors of 92 countries contributed to the identified publications, with an uneven distribution. The authors of 71 countries published 1 to 5 articles and the authors of 13 countries published between 6 and 10 articles. The authors of 8 countries published more than 10 articles, and the authors of only one country contributed more than 50 articles (Table 1). We found that 69% of the total output was produced by the United States, Canada, United Kingdom and China. The largest volume of publications was produced by United States. Thus, a majority of the publications on suicide and COVID-19 in children and adolescents are from high-income countries.

### Authors with the greatest scientific output and collaborative networks

A total of 2153 authors contributed to publications on suicidal behaviour and COVID-19 in children and adolescents. Most of them published 1 to 2 articles, seven authors were listed in 3 publications, and only one author had 7 publications. Table 2 presents the 10 most productive authors. Mohammed A. Mamun was the author with the highest number of publications and citations. Female researchers were also among the most important contributors: Colette Degrandi, Rakhi Gupta, Fiona McNicholas, Jennifer Davis Runkle,

**Table 1. Profile by country of scientific publications on the subject of suicidal behaviour in children and adolescents during the COVID-19 pandemic**

Country	Publications				H-index	Citations				
	2020	2021	2022	Total		2020	2021	2022	Media anual	Total
United States	14	67	22	103	15	25	497	281	268	803
Canada	4	18	7	29	8	17	214	141	124	372
United Kingdom	3	17	7	27	9	37	512	235	261	784
China	3	17	7	27	5	0	140	85	113	225
Australia	5	9	6	20	5	6	100	89	65	195
Italia	3	8	7	18	7	0	32	48	40	80
Germany	8	3	0	11	5	0	22	36	29	58
Switzerland	3	6	2	11	6	7	37	38	27	82
India	3	7	0	10	3	0	34	27	31	61
Bangladesh	3	4	2	9	6	4	119	49	57	172

Margaret Sugg and Jaclyn Weiser. Thus, 6 out of the 10 most productive authors in this research area are women. In addition, the analysis revealed that J. D. Runkle, M. M. Sugg and J. Weiser co-authored several articles.

In addition, an analysis was conducted to map the intellectual structure of the most cited authors. **Figure 1** presents the network of the 20 most-cited authors. The most salient were the WHO, the Centers for Disease Control and Prevention (CDC) of the United States and authors with high citation counts in fields such as epidemiology, suicide prevention and mental health, such as Matthew Nock,

David Gunnell, Mark A. Reger and Samantha K. Brooks, Mohammed A. Mamun, among others.

**Figure 2** presents the global map of collaborations between authors in different countries in research and scientific literature on suicidal behaviour in children and adolescents during the COVID-10 pandemic. United States, China and Australia were the countries involved most frequently in international collaborative research. In Latin America, the most salient collaborative relationships were between Mexico and the United States, Colombia, Brazil and Portugal.

**Table 2. Most productive and most cited authors of publications on the subject of suicidal behaviour in children and adolescents during the COVID-19 pandemic**

Authors	H-index	Publications		Citations				
		Total	>10 citations	2020	2021	2022	Annual mean	Total
Mamun, M. A.	6	7	6	4	119	46	56	169
Degrandi, C.	3	3	0	0	0	0	0	0
Gupta, R.	2	3	1	0	5	13	9	18
Manzar, M. D.	2	3	2	3	17	13	11	33
McNicholas, F.	2	3	2	3	15	11	10	29
Runkle, J. D.	1	3	0	0	0	3	3	3
Sugg, M. M.	1	3	0	0	0	3	3	3
Weiser, J.	1	3	0	0	0	3	3	3
Alagarsamy, S.	1	2	0	0	3	1	2	4
Alonso, J.	2	2	1	0	3	11	7	14

**Figure 1.** Intellectual mapping of the 20 most cited authors of publications on the subject of suicidal behaviour in children and adolescents during the COVID-19 pandemic



articles, and 2 journals published más de 10 articles. The 10 most productive journals in terms of the number of articles accounted for 23.88% of the total publications in indexed journals. The journal *Frontiers in Psychiatry* had published the most articles ( $n = 14$ ), followed by *International Journal of Environmental Research and Public Health* ( $n = 11$ ). Works published in *Frontiers in Psychology* received the most citations, followed by works in *Journal of Affective Disorders* (Table 3).

**Research fields with the greatest number of publications and citations**

The analysis by research field evinced that the fields and specialities of psychiatry, medicine and psychology accounted for the largest numbers of publications and citations between 2020 and the first semester of 2022 (Table 4).

**Journals with the greatest number of publications and citations**

Studies on suicidal behaviour in children and adolescents during the COVID-19 pandemic were published in 171 academic journals, of which 150 published 1 to 2 articles, 15 journals published entre 3 and 4 articles, 4 journals published entre 5 and 7

**Conceptual structure of the scientific publications**

Figure 3 presents the 20 words used most frequently in the scientific publications. It includes the most widely used terms and the relation network of psychological concepts used in scientific publications.

**Figure 2.** Global map of the collaboration of authors from different countries in the scientific output on the subject of suicidal behaviour in children and adolescents during the COVID-19 pandemic



**Table 3. Journals that published the most articles and that were most cited on the subject of suicidal behaviour in children and adolescents during the COVID-19 pandemic**

Journal	H-index	Quartile	Publications		Citations				
			Total	>10 citations	2020	2021	2022	Annual mean	Total
<i>Frontiers in Psychiatry</i>	5	Q2	14	1	0	16	27	22	43
<i>International Journal of Environmental Research and Public Health</i>	3	Q1	11	1	0	33	49	41	82
<i>Journal of Affective Disorders</i>	3	Q1	7	2	0	84	35	60	119
<i>Journal of Adolescent Health</i>	3	Q1	6	2	0	17	17	17	34
<i>Frontiers in Psychology</i>	3	Q2	5	2	0	104	62	83	166
<i>Jama Network Open</i>	2	Q1	5	1	0	6	15	11	21
<i>BMJ Open</i>	2	Q2	4	2	0	51	46	49	97
<i>Current Psychiatry Reports</i>	2	Q1	4	0	0	8	5	7	13
<i>European Child Adolescent Psychiatry</i>	3	Q1	4	1	2	17	4	8	23
<i>JMIR Research Protocols</i>	1	----	4	0	0	2	2	2	4

### Most cited documents at the global level

Of the 268 publications, only 12 included more than 50 citations; 3 publications, more than 100 citations; and a single article had more than 500 citations. **Table 5** shows the 10 most cited articles, out of which 6 had a quantitative cross-sectional design and 3 were systematic and non-systematic literature reviews. The study conducted by Loades<sup>26</sup> was the most cited, followed by the studies by Tanaka and Okamoto<sup>15</sup> and Holland.<sup>27</sup> We found a considerable increase in the number of citations in 2021 of articles published in 2020, the year when the earliest articles were published. The most cited studies focused on assessing the impact of the

COVID-19 pandemic and imposed lockdown measures on the increase in suicidal behaviour and the deterioration of the mental health of individuals, especially children and adolescents.

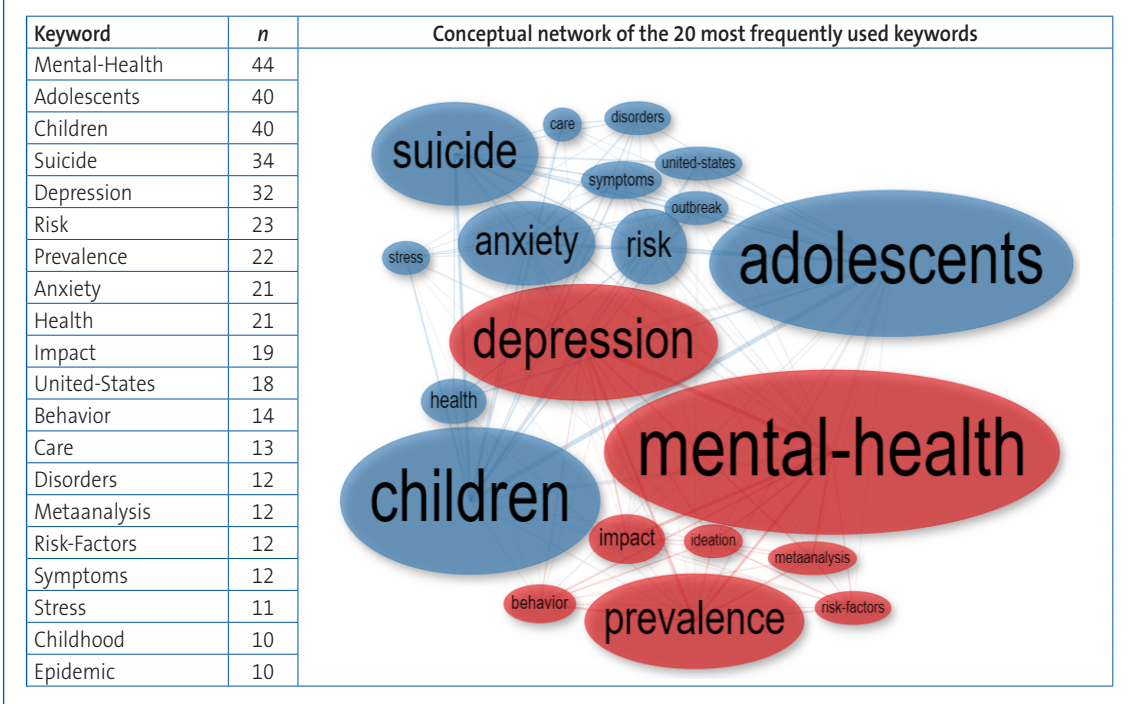
### DISCUSSION

This study examined the literature indexed in the Web of Science database on the topics of “suicide” and “COVID-19”. To my knowledge, this is the first bibliometric study of the scientific output on suicidal behaviour in children and adolescents during the COVID-10 pandemic. There was an exponential increase in the number of scientific publica-

**Table 4. Most productive areas of research based on the Web of Science**

Research area	Publications				H-index	Citations				
	2020	2021	2022	Total		2020	2021	2022	Annual mean	Total
Psychiatry	18	55	20	93	15	66	955	447	489	1468
Public, environmental and occupational health	3	19	12	36	7	3	90	85	59	178
Paediatrics	4	19	12	35	9	43	488	235	255	766
General internal medicine	1	19	6	26	4	2	71	79	51	152
Multidisciplinary psychology	6	12	4	22	8	0	68	28	32	96
Clinical psychology	3	12	6	21	6	5	82	57	48	144
Developmental psychology	3	14	4	21	7	39	448	197	228	684
Environmental sciences	1	7	4	12	3	0	33	47	40	80
Health sciences	2	5	2	9	3	0	12	7	10	19
Clinical neurology	0	7	1	8	3	0	84	35	60	119

**Figure 3. Conceptual mapping of the most frequent keywords used in scientific publications**



tions concerning the impact of the COVID-10 pandemic on the risk of suicide and the mental health of children and adolescents, especially in 2021 and the first semester of 2022. These findings suggests that publications on the subject are proliferating rapidly, which reflects an increased interest of researchers worldwide in investigating suicidal behaviour in children and adolescents in the context of the COVID-10 pandemic.

The scientific output, in terms of the number of publications and citations, was predominantly from high-income countries, and more specifically by United States, Canada, United Kingdom and China. In addition, the high productivity of these countries was associated with a higher frequency of collaborative work. Authors from the United States, China and Australia formed strong scientific collaboration networks. These countries contributed 69% of the total output of 92 countries, which means that the current scientific output may not actually reflect global trends in suicidal behaviour in children and adolescents during the

COVID-10 pandemic, as the evidence is focused on the populations corresponding to the regions where most of the research is conducted. In contrast, the output of Latin American countries was small and the collaboration networks with other countries were weak. These findings are relevant, since more than 77% of fatal suicides worldwide occur in low- to middle-income countries,<sup>10</sup> but the research is focused on high-income countries and their populations.

These findings are consistent with those of the bibliometric assessment of Grover *et al.*<sup>16</sup> on the subject of suicide and COVID-19, who reported that most of the publications were from the United States (30.2%), the United Kingdom (13.4%) and India (10.8%). Since these countries have been severely impacted by the pandemic in terms of the number of cases, deaths and deleterious socioeconomic repercussions, these figures may reflect an increased investment in researching the effects of the pandemic on the mental health of individuals. However, the bibliometric analysis of Astraud *et*

**Table 5. Articles most cited worldwide on suicidal behaviour in children and adolescents during the COVID-19 pandemic**

Author (year)	Objective	Design	Citations				
			2020	2021	2022	Annual	Total
Loades <i>et al.</i> (2020)	To assess the impact of social isolation and loneliness on the mental health of children and adolescents during the COVID-19 pandemic	RS	37	401	160	199	598
Tanaka & Okamoto (2021)	To analyse suicidal behaviour during the COVID-19 pandemic in Japan	TV	0	100	44	72	144
Holland <i>et al.</i> (2021)	To analyse trends and reasons for visits to emergency departments in the USA during the COVID-19 pandemic	TV	0	84	52	68	136
Pedrosa <i>et al.</i> (2020)	To analyse the emotional, behavioural and psychological impact of the COVID-19 pandemic	RnS	0	68	28	32	96
Mamun <i>et al.</i> (2021).	To assess the psychological impact of COVID-19 in Bangladesh during the lockdown period	TV	0	67	16	42	83
Gadermann <i>et al.</i> (2021)	To analyse the impact of the COVID-19 pandemic on the mental health of families in Canada	TV	0	40	40	40	80
Courtney <i>et al.</i> (2020)	To analyse the impact of the COVID-19 pandemic on anxiety and depression in children and youth	RnS	4	57	18	26	79
Meherali <i>et al.</i> (2021)	To analyse the impact of the pandemic on the mental health of children and adolescents	RS	0	28	37	33	65
Isumi <i>et al.</i> (2020)	To analyse the impact of the first wave of the COVID-19 pandemic on suicidal behaviour in children and adolescents	TV	1	40	21	21	62
Fitzpatrick <i>et al.</i> (2020)	To assess the association of social vulnerability and individual risk factors and social and personal resources with suicidality	TV	6	44	9	20	59

CS: cross-sectional; NSR: non-systematic review; SR: systematic review.

*al.*<sup>9</sup> of the publications in the field of suicidology in the past 30 years (1989- 2018) showed that United States accounted for nearly the 39% of the total publications about suicide, which suggests that the “dominance” of high-income countries in scientific output is independent from the impact of the pandemic. On the other hand, the output of the European Union increased on account of the scientific publications related to suicide in the United Kingdom.<sup>9</sup>

Among the 10 most productive researchers, 6 turned out to be female, which reflects a narrowing of the gender gap in science reported in previous publications<sup>9</sup> and a marked difference in com-

parison with the publications in the field of suicidology. Previous studies have found that less of 30% of all researchers worldwide are female, and on average they publish fewer articles compared to their male peers.<sup>28</sup> When it comes to publications about suicide, only 28% of the 100 most productive authors are female.<sup>9</sup> There is also evidence that the gender gap is decreasing slowly, with the proportion of female authors increasing from 23% between 1989 and 1998 to 26% between 1999 and 2008 and to 30% between 2009 and 2018.<sup>9</sup>

Comparing the different journals, those that published the most articles were *Frontiers in Psychiatry*



( $n = 14$ ) and *International Journal of Environmental Research and Public Health* ( $n = 11$ ), which could be related to an interest in attracting submissions related to COVID-19 and considering their publication earlier. However, the articles published in *Frontiers in Psychology* and *Journal of Affective Disorders* received the most citations, which may be related to their open-access format and the quality of the published articles.

On the other hand, most publications corresponded to cross-sectional studies and literature reviews, which suggests that most of the literature on the subject is based on quantitative methods and systematic reviews. The keywords identified most frequently in the publications reflect a tendency to analyse the effects of the COVID-10 pandemic on the mental health, the presence of psychiatric comorbidities and suicidal behaviour, which is consistent with the most productive fields of research, which were psychiatry, medicine and psychology.

Broadly speaking, the 10 most cited studies analysed the impact of the COVID-10 pandemic and confinement on the mental health of individuals, especially children and adolescents. These studies have evinced that social isolation and loneliness were directly associated with an increase in mental health problems in children and adolescents, including an increased risk of depression, self-harm, post-traumatic stress, anxiety and suicidal behaviour.<sup>26</sup> Depression and anxiety were the most common mental health disorders in children and adolescents during the pandemic and were associated with significant impairment in daily functioning and a high risk of suicidal behaviour (ideation and attempts).<sup>29-31</sup> Literature reviews reported the following effects on mental health: high stress levels, symptoms of anxiety, depression and post-traumatic stress, alcohol and psychoactive substance abuse, in addition to an increased risk of domestic violence and changes in daily habits.<sup>26,29,31,32</sup> These studies show that children and adolescents are more vulnerable to these effects and at higher risk of suicide.

These effects were reflected in an increased number of emergency department visits in the United

States. An study that analysed 187 508 065 visits made between 2019 and 2020 found that visit rates for mental health conditions, suicide attempts, drug overdoses, intimate partner violence, and child abuse and neglect were higher in mid-March through October 2020, during the COVID-19 pandemic, compared with the same period in 2019.<sup>27</sup>

When it comes to trends in suicidal behaviour, the evidence is heterogeneous. A study conducted by Fitzpatrick *et al.*<sup>33</sup> in a sample of 10 368 individuals in the United States found a high risk of suicide in 15%, with higher scores in socially vulnerable groups: African Americans, Hispanics, families with children, adolescents and unmarried individuals. Another study found a deterioration of mental health and an increase in suicidal ideation in parents of children under 18 years as a result of the pandemic, in addition to significant mental health deterioration in their children.<sup>34</sup> Yet another reported an increase in suicidality during the COVID-10 pandemic in patients with mental health disorders and a previous history of suicide attempt, especially in male adolescents and adult women.<sup>8</sup> The overall suicide rate decreased in children and adolescents (< 19 years), but increased in individuals aged 19 to 65 years and especially in those aged more than 65 years.<sup>8</sup>

A study conducted by Gracia *et al.*<sup>14</sup> found that in the first year of the COVID-19 pandemic in Spain, suicide attempts increased by 25% in adolescents and decreased by 16.5% in adults. There was also a salient increase in suicide attempts in girls of up to 195%. On the other hand, Tanaka and Okamoto<sup>15</sup> analysed 88 512 suicide records from between 2016 and 2020 in Japan and found that suicide rates decreased by 14% in the first 5 months of the pandemic (February-June 2020), but then increased by 16% in the second wave (July-October 2020), with larger increases in women (37%) and children and adolescents (49%). Isumi *et al.*<sup>35</sup> analysed the impact of the first wave of the pandemic on suicidal behaviour in children and adolescents and did not find evidence of a significant increase in suicide rates in this population during the school

closure of the first wave of the COVID-19 pandemic in Japan.

The discrepancies in the evidence, the heterogeneity of the findings of different studies and the predominant focus of the research on only a few countries underscores the possibility that the evidence on suicidal behaviour in children and adolescents in the context of the current pandemic may be inaccurate and incomplete. Thus, while there has been a marked increase in the scientific output on the subject, the current literature does not seem to offer a global and integral perspective on suicidal behaviour in children and adolescents. This analysis may help researchers and scientific institutions to make decisions regarding the future of interdisciplinary research and the consolidation of international collaborative networks in relation to the study of the impact of the COVID-19 pandemic on the mental health of children and adolescents at the global level, its prevention and interventions to address it.

We ought to mention several limitations. The findings reported in this article depend on the quality of indexing and the processing tools of the WoS, which may have resulted in missing data due to shortcomings in the indexing of specific journals, an aspect mentioned in a previous article.<sup>9</sup> The quality of the studies was not evaluated for the present work. Since it was a bibliometric analysis, it analysed research output and scientific publications.

## CONFLICTS OF INTEREST

The author has no conflicts of interest to declare in relation to the preparation and publication of this article.

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