

# INPLASY

## Global overview of suicidal behavior and risk factors during the COVID-19 pandemic: a scoping review

INPLASY202390101

doi: 10.37766/inplasy2023.9.0101

Received: 29 September 2023

Published: 29 September 2023

### Corresponding author:

Yi-Tseng Tsai

yttsai13@gmail.com

### Author Affiliation:

An Nan Hospital, China Medical University, Tainan, Taiwan.

Tsai, YT<sup>1</sup>; Mudiyanselage, SPK<sup>2</sup>; Tsai, YJ<sup>3</sup>; Yang, YH<sup>4</sup>; Lu, ZT<sup>5</sup>; Ko, NY<sup>6</sup>.

### ADMINISTRATIVE INFORMATION

**Support** - An Nan Hospital.

**Review Stage at time of this submission** - Data analysis.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202390101

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 September 2023 and was last updated on 29 September 2023.

### INTRODUCTION

**Review question / Objective** What is the global prevalence of, and what are the risk factors associated with, suicidal ideation, suicide attempts, and suicides during the COVID-19 pandemic?

**Background** The relationship between Coronavirus Disease 2019 (COVID-19) and suicidal behaviors is a complex and critically important subject that has drawn significant attention due to the potential mental health consequences associated with the COVID-19 pandemic. Research endeavors strive to elucidate the connection between the COVID-19 pandemic and suicide rates while concurrently investigating the multifaceted factors that may influence alterations in mental well-being and the emergence of suicidal behaviors during these extraordinary circumstances.

**Rationale** The study aimed to estimate the global prevalence and risk factors associated with

suicidal ideation, suicide attempts, and suicides during the COVID-19 pandemic.

### METHODS

**Strategy of data synthesis** A comprehensive literature review encompassed January 1, 2019, and March 29, 2023. Extensive searches were conducted across multiple databases, including Embase, MEDLINE, CINAHL, Web of Science, and Academic Search Complete. The search terms employed included 'Coronavirus,' 'suicidal behavior,' 'self-harm,' and 'self-injurious behavior.' A rigorous screening process was implemented for observational studies following a pre-registered protocol. This screening focused on critical aspects such as study design, suicide measurement techniques, identification of risk factors, and the extraction of study findings.

**Eligibility criteria** The inclusion criteria were defined as follows: (1) studies providing primary data on the prevalence or incidence of suicidal ideation, suicide attempts, or completed suicides,

assessed using validated measurement tools or coded medical records, within the context of a population-based investigation (2) studies involving participants during the COVID-19 pandemic; and (3) the report being an original, peer-reviewed article. Exclusion criteria comprised: (1) studies in which the study population did not encompass the period of the COVID-19 pandemic; (2) studies unrelated to suicide; and (3) case reports and review studies.

**Source of evidence screening and selection** A literature search was conducted across six databases: Embase, MEDLINE, CINAHL, Web of Science, and Academic Search Complete. This comprehensive search strategy was developed following consultations with a public health librarian and five research team members consultations aimed to clarify research goals and refine the selection criteria. The review encompassed studies published from January 1, 2019, to March 29, 2023, by the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines.

**Data management** All eligible studies underwent quality assessment using the Joanna Briggs Institute (JBI) Critical Appraisal for Checklist for Prevalence Studies Scale (CACPSS) 2. This tool comprises nine items with four possible responses (yes, no, unclear, and nonapplicable)<sup>2</sup>. Studies scoring eight or higher were classified as having high-quality evidence and consequently included in this systematic review. Five researchers independently assessed study quality and risk of bias, with any disagreements resolved through consultation with a sixth researcher.

**Reporting results / Analysis of the evidence** This systematic review encompassed a total of 286 studies. Our findings revealed that the highest rates of suicidal behavior were observed in the Americas, Europe, and the Western Pacific Region. Suicidal risk factors encompassed demographic characteristics, mental health conditions, and physiological, psychological, and social support factors. Notably, prevalent risk factors during the COVID-19 pandemic included being female, young (ages 19-34), unmarried, having a lower level of education, being employed, having a higher income, having a history of mental disorders, and testing positive for COVID-19. It is noteworthy that China and Spain contributed the most published journal articles on this subject. Moreover, the Patient Health Questionnaire-9 (PHQ-9) became the most widely used tool for assessing suicide risk. This review provides a comprehensive overview of suicidal behavior and its associated

risk factors in the context of the COVID-19 pandemic, with the ultimate aim of enhancing our capacity to mitigate these factors and consequently reduce the incidence of suicide.

**Presentation of the results** Figure 1. PRISMA flow diagram of the included studies; Figure 2. The relationship between suicide types and risk factors during the COVID-19 pandemic; Table 1. Study characteristics of selected 286 studies; Table 2. Risk factors of suicide among people living with COVID-19; Table 3. Measurement instrument of suicide.

**Language restriction** No.

**Country(ies) involved** Taiwan.

**Keywords** COVID-19, suicidal behavior, suicidal ideation, suicide attempts, deaths by suicide.

#### **Contributions of each author**

Author 1 - Yi-Tseng Tsai - Yi-Tseng: initiated the study, conceptualized the research framework, and formulated the research protocol.

Email: ytttsai13@gmail.com

Author 2 - Sriyani Padmalatha Konara Mudiyansele - Sriyani Padmalatha Konara: jointly conducted the initial screening of articles for eligibility and inclusion in the full-text review.

Email: pkadawatha@gmail.com

Author 3 - Yi-Jing Tsai - Yi-Jing: collaboratively extracted pertinent data from the selected studies that met the predefined inclusion criteria.

Email: barbara3772922@gmail.com

Author 4 - Ya-Han Yang - Ya-Han: collaboratively extracted pertinent data from the selected studies that met the predefined inclusion criteria.

Email: dearbluealice@gmail.com

Author 5 - Zan-Ting Lu - Zan-Ting: collaboratively extracted pertinent data from the selected studies that met the predefined inclusion criteria.

Email: kiwi9920506@gmail.com

Author 6 - Nai-Ying Ko - Nai-Ying: any disagreements resolved through discussions involving.

Email: nyko@mail.ncku.edu.tw