## Systematic Review on Suicide Mortality, Risk Factors and Preventive Strategies amid COVID-19 Global Crisis

Charles Ganaprakasam <sup>*a*,,\*</sup>, Syeda Humayra <sup>*b*</sup>, Mohammed Tahayneh <sup>*c*</sup>, Barani Karikalan <sup>*d*</sup>, Samita Karunaharan <sup>*e*</sup>, and Basir Abidin <sup>*f*</sup>.

<sup>a</sup> Department of Educational Psychology and Counselling, University of Malaya, Malaysia. <sup>b</sup> Faculty of Medicine, University of Cyberjava, Malaysia.

<sup>c</sup> Faculty of Allied Medical Sciences, Palestine Ahliya University, Palestine.

<sup>d</sup> Faculty of Medicine, Perdana University-RCSI, Malaysia.

<sup>e</sup> Faculty of Allied Health Sciences, University of Cyberjaya, Malaysia.

<sup>f</sup> Center for Research & Graduate Studies, University of Cyberjaya, Malaysia.

## Abstract

Background: Mental wellbeing of individuals worldwide are significantly impacted by a continuous upsurge in the coronavirus (COVID-19) disease. This systematic review aims to portray the current landscape of published articles and perspectives on COVID-19 suicidal cases from the onset of the pandemic. It also highlights the contributing risk factors and preventive strategies. A systematic search was performed on PubMed, PsycINFO, and ScienceDirect for English-language publications from December 2019 to December 2020. The inclusion criteria depended on a primary outcome or measure focusing on suicidal deaths, during or after the emergence of COVID-19. Review articles, brief reports, cross-sectional studies and case series were included. Studies that did not fit the scope of our review were excluded. Data extraction and qualitative analysis were performed.

Results: The electronic search yielded 4,516 articles after removing duplicates. 17 eligible articles were selected for full text assessment, and only 11 studies were included in the review. Qualitative synthesis included COVID-19 pandemic-related suicide mortality, contributing risk factors, at-risk or vulnerable populations, strategic programs, and the global suicidal scenario.

Conclusions: The present review supports the need for further studies on suicide and its risk factors and prevention strategies to minimize the ultimate effect of the COVID-19 pandemic on suicide mortality.

Keywords: Systematic review, Suicide, Mortality, Risk factors, Prevention, COVID-19

## 1. Introduction

The COVID-19 pandemic began to spread from China at the end of 2019 [1], and by the time of this writing, it has infected approximately 39.6 million people around the globe [2]. The clinical manifestations of COVID-19 vary from asymptomatic forms to severe clinical conditions

<sup>\*</sup> Corresponding author: Charles Ganaprakasam *Email address:* ganaprakasamcharles@gmail.com