Suicide preventive strategies for the nursing team in the COVID-19: a scoping review

Estratégias preventivas ao suicídio para equipe de enfermagem na COVID-19: uma revisão de escopo

Estrategias preventivas al suicidio para un equipo de enfermería durante el COVID-19: una revisión de alcance

Divane de Vargas[1] https://orcid.org/0000-0003-3140-8394
Ana Vitória Corrêa Lima[1] https://orcid.org/0000-0002-4178-9656
José Adelmo da Silva Filho[1] https://orcid.org/0000-0002-0261-2014
Sheila Ramos de Oliveira[1] https://orcid.org/0000-0002-4405-5199
Thiago Faustino Aguilar[1] https://orcid.org/0000-0002-7776-360X
Caroline Figueira Pereira[1] https://orcid.org/0000-0001-5578-8753

Abstract

Objective: To identify strategies for the prevention of suicidal ideation and suicide during the COVID-19 pandemic for the nursing team.

Methods: Scoping review performed in PubMed, VHL, SCOPUS, Web of Science, LILACS, CINAHL, Embase, PsycINFO databases and in the gray literature, such as Google Scholar.

Results: This review comprises 11 articles, all published in English, mostly in year 2021 in the United States of America. The identified strategies include psychoeducation; spaces for embracement of professionals' demands, listening, support and promotion of wellbeing; mental health assessment and screening; referral to specialized support services; psychological intervention and counseling; strategies for recognizing and dealing with triggers, emotions and negative thoughts; self-care actions, among others.

Conclusion: Strategies that had a positive impact on the mental health of nursing teams were the creation of spaces for embracement of professionals' demands, listening, support and promotion of wellbeing, and the assessment and screening of mental health as ways of preventing suicidal actions and ideations. The importance of studies that evaluate the effect of strategies on the mental health of nursing teams stands out, so that protocols can be created to mitigate the problem.

Resumo

Objetivo: Identificar as estratégias de prevenção da ideação suicida e do suicídio durante a pandemia de COVID-19 para a equipe de enfermagem.

Métodos: Revisão de escopo realizada nas bases de dados PubMed, BVS, SCOPUS, Web of Science, LILACS, CINAHL, Embase, PsycINFO e na literatura cinzenta como Google Acadêmico.

Resultados: Compõem esta revisão 11 artigos, todos publicados em inglês, a maioria publicada no ano de 2021, nos Estados Unidos da América. As estratégias identificadas perpassam a psicoeducação; espaços para acolhimento das demandas dos profissionais, escuta, apoio e promoção de bem-estar; avaliação e rastreio da saúde mental; encaminhamento para serviços de apoio especializados; intervenção psicológica e aconselhamento; estratégias para reconhecer e lidar com gatilhos, emoções e pensamentos negativos; ações de autocuidado; escuta; apoio e promoção de bem-estar; dentre outras.

Conclusão: As estratégias que resultaram em impacto positivo na saúde mental das equipes de enfermagem foram a criação de espaços para acolhimento das demandas dos profissionais, escuta, apoio e promoção de bem-estar, além da avaliação e do rastreio da saúde mental como formas de prevenção às ações e às ideações suicidas. Destaca-se a importância de estudos que avaliem o efeito das estratégias na saúde mental das equipes de enfermagem para que protocolos possam ser criados na mitigação do problema.

[1]Escola de Enfermagem, Universidade de São Paulo, São Paulo, SP, Brazil.
Conflicts of interest: none to declare.

Resumen

Objetivo: Identificar las estrategias de prevención de la ideación suicida y del suicidio durante la pandemia de COVID-19 para el equipo de enfermería.

Métodos: Revisión de alcance realizada en las bases de datos PubMed, BVS, SCOPUS, Web of Science, LILACS, CINAHL, Embase, PsycINFO y en la literatura gris, como Google Académico.

Resultados: Integran esta revisión 11 artículos, todos publicados en inglés, la mayoría publicada en el año 2021, en Estados Unidos de América. Las estrategias identificadas abarcan la psicoeducación; espacios para la acogida de las demandas de los profesionales, escucha, apoyo y promoción del bienestar; evaluación y rastreo de la salud mental; derivación para servicios de apoyo especializados; intervención psicológica y orientación; estrategias para reconocer y lidiar con disparadores, emociones y pensamientos negativos; acciones de autocuidado; escucha; apoyo y promoción del bienestar; entre otras.

Conclusión: Las estrategias que tuvieron un impacto positivo en la salud mental de los equipos de enfermería fueron la creación de espacios para acoger las demandas de los profesionales, escucha, apoyo y para la promoción del bienestar, además de la evaluación y el rastreo de la salud mental como formas de prevención de las acciones y de las ideaciones suicidas. Se destaca la importancia de estudios que evalúen el efecto de las estrategias en la salud mental de los equipos de enfermería para que se puedan crear protocolos para mitigar el problema.

Introduction

The COVID-19 pandemic has generated impacts on health, economy, education, leisure and work. Health professionals, especially nurses who worked on the front lines of health care, faced greater risks of exposure and contamination by the virus. The higher flow and workload, the high number of deaths, lack of supplies and personal protective equipment (PPE), in addition to the psychological pressure resulting from care activities performed at such a delicate moment increased the losses to the physical and mental health of these professionals,[1-3] who already had a higher prevalence of hospitalization for mental disorders and suicidal ideation and were ate higher risk of suicide compared to the general population.[1,3-6] Nursing teams can face conditions that affect their mental health, making them even more vulnerable in situations of endemics and pandemics, as they comprise the main caregivers and workers on the front line.[4]

Stressors in work activities related to patient care, conflicts in the team, overload of attributions and lack of autonomy, already explored in the literature,[5] were aggravated by implications of the pandemic in the daily lives of these professionals. Factors such as social distancing from family and friends, the fear of contaminating loved ones and the lack of leisure activities generated impacts on mental health and potentiated psychological morbidity among nursing professionals, triggering insomnia, post-traumatic stress disorder, burnout, anxiety, depression, suicidal ideation and suicide.[6]

In a study on mental disorders, trauma and sleep disorders among health professionals during the COVID-19 pandemic, the prevalence of anxiety was 30.0%, depressive symptoms 31.1% and acute stress 56.5%, revealing an increase in exhaustion and psychological suffering in all areas analyzed.[7] The overload caused by the COVID-19 pandemic and the failure in health management systems are factors that lead professionals to commit suicide, especially those on the front line such as the nursing team.[8,9] A survey was conducted after the self-inflicted death of a nurse during the pandemic and the following were cited as factors contributing to the situation: lack of PPE kits; transport problems; lack of accommodation; professionals forced to attend suspected cases of COVID-19 without adequate material; and social distancing during consultations.[10]

In Brazil, published works on the topic are still scarce. A study on the mental health of the nursing team showed a prevalence of 36.6% for major depressive episodes and 43.9% for minor psychiatric disorders, and a prevalence of 7.4% (n = 66) for suicidal ideation among nurses during the pandemic, referring to the 30 days prior to the study. These problems are associated with poor working conditions that were further exacerbated during the pandemic.[11]

In general, other Brazilian authors agree with the idea that changes in work routine, long hours, feeling tired, depressed mood, lack of security and other aspects contributed to the high prevalence of symptoms of depression, anxiety, stress and suicidal ideation.[12,13] In addition to work, social factors

also affect mental health, for example, little support from family members and authorities, discrimination and stigmatization suffered by professionals for being considered a "source of infection", which contribute to illness and impact the performance and quality of their care.[1]

In order to increase the evidence base and protective strategies for this population, and considering the possibility of new catastrophes that will require measures to mitigate impacts on the mental health of these workers, it is necessary to know strategies to mitigate suicide and suicidal ideation among these professionals. Thus, this review intends to support professionals and services for coping with suicidal ideation and suicide in periods of overload and health crisis - events that tend to cause physical and mental exhaustion among members of the nursing team.

In this context, the aim of the study was to identify the strategies for prevention of suicidal ideation and suicide during the COVID-19 pandemic for the nursing team.

Methods

The aim of the scoping review design is to gather the existing literature on the subject, summarize data and identify gaps in the literature.[14] The PRISMA-ScR extension for scoping review was used to support and guide this study.[15]

The question to be answered with this review was "What are the strategies for the prevention of suicidal ideation and suicide during the COVID-19 pandemic among the nursing team?" The PCC acronym was used (P: population = nursing team, C: concept/phenomenon of interest= protective strategies for suicidal ideation and suicide, C: context= COVID-19 pandemic).

The search strategy was performed in three steps. Initially, a limited search was performed on Medline and the Virtual Health Library to analyze the keywords, descriptors and entry terms used to describe the articles. Then, descriptors and keywords were used together with Boolean operators (AND, OR, NOT) to perform searches in PubMed, VHL,

SCOPUS, Web of Science, LILACS, CINAHL, Embase and PsycINFO electronic databases. Gray literature (Google Scholar) was also searched. Finally, a search was performed in the references of selected articles to find studies that were not collected by the search strategy. No language restrictions were applied to the searches, which were performed between December 13, 2021 and March 10, 2022. The initial search strategy used was (suicide OR 'suicidal ideation') AND ('coronavirus disease 2019' OR 'covid 19') AND nurs*. The search strategy was adapted to each database. Opinion articles, reviews, case studies, quasi-experimental, randomized clinical trials, cohort, case-control, cross-sectional and qualitative studies addressing strategies for the prevention of suicidal behavior during the COVID-19 pandemic among members of the Nursing team were considered. Exclusion criteria comprised articles published before the COVID-19 pandemic, which did not make it clear that the sample was composed of professionals from the nursing team and did not mention strategies for the prevention of suicidal behavior.

After searching databases and the gray literature, duplicate articles were removed with help of the EndNote® software. Subsequently, the titles and abstracts were read, taking into account the eligibility criteria for the study, which comprised studies addressing suicide prevention strategies for the nursing team (Nurse, Nursing Technician and Nursing Assistant) during the COVID19 pandemic. Regarding methodology, opinion articles, reviews, experimental, observational, qualitative and mixed method studies were included. The studies considered adequate were included for a full reading in order to compose the literature of this review. In the event of disagreement between reviewers, an additional reviewer was invited to reach a conclusion.

Extracted data were organized using an Excel table with relevant findings to structure and group the literature. It included the following: author(s), year of publication, country of origin of the corresponding author, study objective, method, population, strategies used/recommended, findings/results and conclusion. The strategies were categorized,

Chart 1. Search strategies used in the databases

Database	Search strategy	n
PUBMED	(suicid* OR parasuicid* OR para-suicid* OR overdos* OR selfharm* OR self-harm* Suicide OR "Suicidal Ideation") AND (nurs* OR midwi* OR "student* nurs*" OR "student* midwi*" OR "health visitor") AND Covid-19	144
BVS	((Suicídio OR Suicide OR Suicidio) OR ("Ideação Suicida" OR "Suicidal Ideation" OR "Ideación Suicida")) AND (Nurs* OR Enferm*) AND Covid-19	561
CINAHL	(suicid* OR parasuicid* OR para-suicid* OR overdos* OR selfharm* OR self-harm* Suicide OR "Suicidal Ideation") AND (nurs* OR midwi* OR "student* nurs*" OR "student* midwi*" OR "health visitor") AND (Covid-19 OR SARS-CoV-2)	63
EMBASE	(suicide OR 'suicidal ideation') AND ('coronavirus disease 2019' OR 'covid 19' OR 'sars cov 2' OR 'severe acute respiratory syndrome coronavirus 2') AND nurs*	129
Web of Science	(suicide OR 'suicidal ideation') AND ('coronavirus disease 2019' OR 'covid 19') AND nurs*	113
SCOPUS	(suicide OR {suicidal ideation}) AND (covid-19) AND nurs*	59
PSYCINFO	(suicid* OR parasuicid* OR para-suicid* OR overdos* OR selfharm* OR self-harm* Suicide OR "Suicidal Ideation") AND (nurs* OR midwi* OR "student* nurs*" OR "student* midwi*" OR "health visitor") AND (Covid-19 OR SARS-CoV-2)	36
Gray literature	(suicid* OR parasuicid* OR para-suicid* OR overdos* OR selfharm* OR self-harm* Suicide OR "Suicidal Ideation") AND (nurs* OR midwi* OR "student* nurs*" OR "student* midwi*" OR "health visitor") AND Covid-19	632

synthesized in a narrative way and presented in a chart.

Results

The search process initially resulted in 2,545 records, of which 1,482 were duplicates. A total of 1,063 articles were included for the first reading, of which 75 met the eligibility criteria. Chart 1 demonstrates the search strategy performed in PubMed, VHL, SCOPUS, Web of Science, LILACS, CINAHL, Embase and PsycINFO databases on March 10, 2022. After the second reading, 64 studies were excluded: four articles were not accessed in full, even after reviewers made contact with the authors (without success), and 60 did not mention nursing professionals or were not about the context of the COVID-19 pandemic. Eleven articles that met the proposed objective and eligibility criteria were included in the sample of this review (Figure 1).

Chart 2 shows the selected publications. Most articles were published in year 2021 (n=8) in the United States (n=6) and adopted the literature review (n=4) as methodology. All articles were published in English.

Ten strategies were categorized. Most articles presented more than one protective strategy against suicidal ideation and suicide. The most recommended and adopted strategies were: space for embracement of demands of professionals, listening, supporting and promoting wellbeing (n=6); mental health assessment and screening (n=5); referral to support or specialized services (n=4). Chart 3 presents the distribution of strategies and articles.
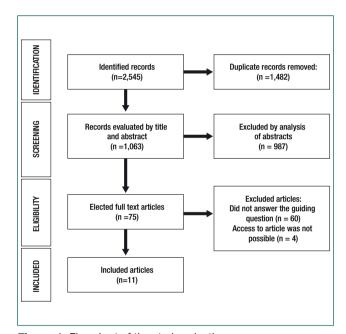

Figure 1. Flowchart of the study selection process

Discussion

The scoping review allowed the identification of strategies for the prevention of suicidal ideation and suicide during the COVID-19 pandemic for the nursing team. Only one national study was included in this review, showing the lack of Brazilian studies addressing the topic. Most studies were published in 2021, a year after the World Health Organization (WHO) declared the pandemic caused by the new coronavirus. This result may be related to the fact that it is a relatively new virus. Thus, much of the efforts and attention of scientists and researchers were focused on the virus, its characteristics, forms of transmission and physical

Chart 2. Synthesis of included articles

Authors	Year/ Country	Methods	Objective	Population
Grabbe L. et al [16]	2021/ USA	Quasi-experimental	To evaluate the impact of a simple mental wellbeing and emotion regulation training, the Community Resiliency Model (CRM), using a convenience sample of frontline professionals.	Frontline workers: nurses, physicians, nursing students, hospital pharmacists, chaplains, and community mental health/ social service providers. (n=104)
Ornell F. et al [17]	2020/ Brazil	Review	To point the problems and mental suffering of health professionals during the pandemic and identify the need for interventions aimed at reducing damage to psychological health.	Health professionals, such as nurses, nursing technicians and physicians.
Choflet A. et al [18]	2022/ USA	Review	To review the psychological impact of the COVID-19 pandemic, the strategic planning approach to identify nurses' needs, and promising interventions and practices.	Nurses who worked on the front lines of COVID-19.
Jahan I. et al [19]	2021/ India	Retrospective	To investigate the factors associated between suicide and COVID-19 of health workers around the world that were reported in print media.	Physicians, nurses, paramedics and medical students.
Heath J. et al [20]	2021/ USA	Protocol	To guide nurses on mental health and suicide prevention during the pandemic.	Frontline nurses during the Covid-19 pandemic.
Shah M. et al [21]	2021/ USA	Literature review	To explore potential psychological sequelae of nursing during the pandemic and provide recommendations for psychological support and a healthy work environment.	Oncology nurses at a hospital in New York.
Awan S. et al [22]	2021/ Pakistan	Literature review	To identify risk factors for suicide among healthcare workers, discuss the mental health challenges that have been exacerbated by the pandemic and their impact on suicidal ideation.	Physicians, nurses, pharmacists, young physicians and frontline workers.
Gilmore K [23]	2021/ USA	Opinion article	To indicate strategies to combat suicide/self-harm, anxiety and depression for nurses.	Nurses.
Kapilan N [10]	2020/ India	Letter to the Editor	To report suicide cases among professional nurses in India and discuss possible strategies.	Nurses from India.
Berry PA [24]	2021/ USA	Opinion article	To indicate strategies to combat suicide among nurses in the period of COVID-19 to case managers (nursing coordinators).	Nurses.
Xu X. et al [25]	2021/ China	Cross-sectional study	To investigate the prevalence of suicidal ideation and self-harm and their related factors among professionals in a hospital during the COVID-19 pandemic.	Physicians, nurses, technicians, administrators and others from 46 hospitals in China (n=11,507).

Chart 3. Distribution of strategies in promotion, prevention and number of studies

Classification	Strategies	Articles
Promotion	Psychoeducation	(16,17)
	Spaces for embracement of professionals' demands, listening, support and promotion of wellbeing	(17-19; 21,22,24)
	Self-care actions	(20)
Prevention	Referral to support or specialized services	(22-25)
	Psychological intervention and counseling	(10,17,25)
	Strategies training to recognize and deal with triggers, emotions and negative thoughts	(16,25)
	Actions for the protection and mitigation of COVID-19	(19,21)
	Practices to strengthen the role of nurses	(10,19)
Promotion and prevention	Mental health assessment and screening	(19,21,22,24,25)
	Spaces for embracement of professionals' demands, listening, support and promotion of wellbeing	(17-19,21,22,24)
	Other strategies	(17,18,20,22)

consequences in the body. After greater understanding of this aspect, other consequences for the mental health of the world population were observed, especially in health professionals who work in direct or indirect care of individuals infected with SARS-CoV-2 and their families. According to the Federal Council of Nursing (Portuguese acronym: COFEN), the increase in psychological suffering and mental disorders is the fourth wave of consequences of the COVID-19 pandemic.[26]

Creating spaces for embracement of professionals' demands, listening, support and promotion of wellbeing were the most cited strategies in the studies. Nursing teams face long working hours and unhealthy workplaces where, in addition to feeling invalidated and silenced, they pose risks to themselves, the team and patients. Furthermore, these teams deal with situations that can lead to physical and mental limits, generating exhaustion – burnout. Workplaces that do not support their staff's wellbeing contribute to professionals not prioritizing their own wellbeing and self-care, in addition to generating stress and negative thoughts.[22] This finding is corroborated by Melnyk et al.,[27] who stated that organizations should support employees' self-care by implementing a culture of wellbeing and addressing problems in the institution's operating system. Promoting spaces where professionals can feel embraced and talk about their difficulties without minimizing or

ridiculing them can improve stress levels and team productivity.

Assessment and screening of the mental health of professionals with referral to support or specialized services are complementary strategies when it comes to preventing suicidal ideation and suicide. Assessing the mental health status of nursing professionals can early identify those at risk for mental health. Professionals at greater risk and more complex cases should be referred to specialist services and professionals, avoiding worsening of symptoms and mental suffering, thereby preventing the suicidal act.[28]

Another strategy identified in the study was psychoeducation.[16,17] This is an evidence-based therapeutic intervention that seeks to develop users' self-stabilization of experienced traumas and/or the expression of underlying feelings, so they can learn to better manage these feelings, promote self-care with a better cognitive structure to face different experiences and help minimize adverse responses.[16,29] Strategies include the development of techniques to improve wellbeing, practices to increase self-confidence and information leaflets.[10,16,17] Among its variables, the Community Resiliency Model (CRM) proved to be an effective strategy for improving psychological wellbeing and resilience, in addition to reducing post-traumatic stress, stress, burnout and associated somatic symptoms in people who have gone through some trauma or intense stress situation – and, especially, among frontline health workers during the COVID-19 pandemic.[16,30]

Furthermore, psychological interventions and counseling[10,17,25] stand out as complementary and essential measures for the development of strategies to mitigate psychological distress and suicidal ideation. Given the high prevalence of psychological distress, anxiety and depressive symptoms among the nursing team during the pandemic, psychological intervention measures were necessary to reduce sustained mental impacts and outline more assertive forms of treatment.[31] Such strategies aim to provide professionals with appropriate information, education, training and PPE to face the COVID-19 emergency, and seek to improve emotional skills and the management of anxiety with psychological

support.[32] These are performed through the creation of psychological assistance hotlines and online counseling support.[33]

Although there are programs aimed at this scope, they are still scarce, and the lack of personnel training, the absence of treatment/management protocols of the situation and the limited resources to meet this demand have a direct consequence in the increase of risk factors for a higher incidence of psychological distress among health professionals. Thus, the development of government guidelines is essential to support programs for the implementation of mental health intervention strategies and provide support to workers.[17]

Actions to protect and mitigate COVID-19 increase confidence in the work practice. Hospital environments with air circulation systems reduce the spread of the virus. Consequently, a feeling of confidence is generated in professionals working in environments where people contaminated by the new coronavirus circulate.[10] A stressful and unsafe workplace can trigger the development of occupational diseases and mental disorders such as burnout and depression, which are directly linked to cases of suicide and suicidal ideation.[34] In addition to a safe environment, the provision of PPE and doing COVID-19 tests also increase the feeling of confidence in performing care activities and reduce anxiety, fear and negative thoughts.[10,22]

In general, the World Health Organization establishes three evidence-based levels of suicide prevention: universal prevention strategies aimed at the entire population, which strengthen protection processes, such as social support and alteration of the physical environment; selective prevention strategies aimed at vulnerable groups at high risk due to psychological, biological or socioeconomic conditions, based on specific characteristics, such as age, sex and professional occupation; and prevention strategies indicated to specific and vulnerable people within the population, such as those who show early signs of suicide or have already made or are recurrence of suicide attempts.[35]

The approaches found in this review are distributed across one or more levels of prevention. The multiple factors involving suicidal behavior and the

various forms of prevention that can be performed stand out, also requiring a multidisciplinary and multisectoral approach in health care and in the surveillance of behavior and suicide attempts.

The impossibility of fully accessing four selected articles limited the findings of this review and caused the loss of data that could have contributed to the study. The performance of searches in Latin American, North American and global databases may also have compromised the results, considering the lack of Asian databases not indexed in worldwide sources, and that this region became the first epicenter of COVID-19. Note that for the most part, studies are from the USA and the strategies adopted or recommended reflect social and cultural issues in that country, which sometimes may not meet the needs of nursing teams in other sociocultural contexts. As this is a scoping review, the quality of studies was not analyzed.

Regarding implications for the area of nursing, strategies for the prevention and coping of suicidal ideation and suicide among nursing professionals are needed by means of regular assessment of mental health, referral to specialized services and professionals, spaces for embracement, listening and psychoeducation, as well as organizational strategies and actions. The suicidal ideation and suicide of these professionals are a risk for mental and occupational health that exerts impact on the health system and the quality of care. In addition, the importance of studies that aim to identify and disseminate successful interventions and support the overcoming of the problem stands out. These strategies should be implemented with a view to contribute to the mitigation of stressful events in the work environment, which can be potentiated with catastrophic situations such as the one experienced in the COVID-19 pandemic period.

Conclusion

This review found common strategies and actions adopted to reduce the number of suicides and suicidal ideation among nursing teams. Among the findings, most had two or more actions and the most frequent were related to the general wellbeing of professionals, clear communication between managers and workers and the follow-up process as a way of preventing suicidal actions and ideation. Studies related to the topic should be conducted in the future, especially in places most impacted by the pandemic, such as Brazil and other countries in the Americas. Systematic reviews aimed to identify and summarize the effectiveness of the adopted interventions should also be considered, mainly in a quantitative way. In addition, the negative impact of COVID-19 on the mental health of nursing teams can lead its members to suicide attempt, suicidal risk and suicide. This generates invaluable losses for the professional class, the society and for health, given their importance for health promotion and disease prevention in times of health crisis, such as the one caused by the new coronavirus, in addition to its impact on the quality of care provided to patients and their families.

References

1. Hong S, Ai M, Xu X, Wang W, Chen J, Zhang Q, et al. Immediate psychological impact on nurses working at 42 government-designated hospitals during COVID-19 outbreak in China: a cross-sectional study. Nurs Outlook. 2021;69(1):6-12.

2. Bassi M, Negri L, Delle Fave A, Accardi R. The relationship between post-traumatic stress and positive mental health symptoms among health workers during COVID-19 pandemic in Lombardy, Italy. J Affect Disord. 2021;280(Pt B):1-6.

3. Polat O, Coskun F. Working in a pandemic hospital during COVID-19 outbreak: current conditions and depression, anxiety, and stress levels. Eur Arch Med Res. 2021;37(3):183-91.

4. Rahman A. A scoping review of COVID-19-related stress coping resources among nurses. Int J Nurs Sci. 2022;9(2):259-67. Review.

5. Alderson M, Parent-Rocheleau X, Mishara B. Critical Review on Suicide Among Nurses. Crisis. 2015;36(2):91-101.

6. Lasalvia A, Amaddeo F, Porru S, Carta A, Tardivo S, Bovo C, et al. Levels of burn-out among healthcare workers during the COVID-19 pandemic and their associated factors: a cross-sectional study in a tertiary hospital of a highly burdened area of north-east Italy. BMJ Open. 2021;11(1):e045127.

7. Marvaldi M, Mallet J, Dubertret C, Moro MR, Guessoum SB. Anxiety, depression, trauma-related, and sleep disorders among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis. Neurosci Biobehav Rev. 2021;126:252-64. Review.

8. Rahman A, Plummer V. COVID-19 related suicide among hospital nurses; case study evidence from worldwide media reports. Psychiatry Res. 2020;291:113272.

9. Höller I, Forkmann T. Ambivalent heroism? Psychological burden and suicidal ideation among nurses during the Covid-19 pandemic. Nurs Open. 2022;9(1):785-800.

10. Kapilan N. Suicides cases among nurses in India due to COVID-19 and possible prevention strategies. Asian J Psychiatr. 2020;54:102434.

11. Oliveira MM, Treichel CA, Bakolis I, Alves PF, Coimbra VC, Cavada GP, et al. Mental health of nursing professionals during the COVID-19 pandemic: a cross-sectional study. Rev Saude Publica. 2022;56:8.

12. França AB, Trzesniak C, Schelini PW, Junior GH, Vitorino LM. Exploring depressive symptoms among healthcare professionals and the general population during the COVID-19 pandemic in Brazil. Psychol Rep. 2021;332941211025264.

13. Campos JA, Martins BG, Campos LA, Fátima Valadão-Dias F, Marôco J. Symptoms related to mental disorder in healthcare workers during the COVID-19 pandemic in Brazil. Int Arch Occup Environ Health. 2021;94(5):1023-32.

14. Arksey H, O'Malley, L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol. 2005;8(1):19-32.

15. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169(7):467-73.

16. Grabbe L, Higgins MK, Baird M, Pfeiffer KM. Impact of a resiliency training to support the mental well-being of front-line workers: brief report of a quasi-experimental study of the community resiliency model. Med Care. 2021;59(7):616-21.

17. Ornell F, Halpern SC, Kessler FH, Narvaez JC. The impact of the COVID-19 pandemic on the mental health of healthcare professionals. Cad Saude Publica. 2020;36(4):e00063520.

18. Choflet A, Barnes A, Zisook S, Lee KC, Ayers C, Koivula D, et al. The nurse leader's role in nurse substance use, mental health, and suicide in a peripandemic world. Nurs Adm Q. 2022;46(1):19-28.

19. Jahan I, Ullah I, Griffiths MD, Mamun MA. COVID-19 suicide and its causative factors among the healthcare professionals: case study evidence from press reports. Perspect Psychiatr Care. 2021;57(4):1707-11.

20. Heath J, Villaran T, Welch B, Manson D. Kentucky Nurses Association leaders speak out about mental health and wellness for nurses during the pandemic – statewide effort to prevent nurse suicide. Kentucky Nurse (KY NURSE). 2021;69(2):11.

21. Shah M, Roggenkamp M, Ferrer L, Burger V, Brassil KJ. Mental health and COVID-19: the psychological implications of a pandemic for nurses. Clin J Oncol Nurs. 2021;25(1):69-75.

22. Awan S, Diwan MN, Aamir A, Allahuddin Z, Irfan M, Carano A, et al. Suicide in healthcare workers: determinants, challenges, and the impact of COVID-19. Front Psychiatry. 2022;12:792925. Review.

23. Gilmore K. When the provider needs a provider. Columbia, SC: The South Carolina Nurse; 2021. 16 p. [cited 2022 Mar 29]. Available from: https://web.p.ebscohost.com/ehost/detail/detail?vid=0&sid=f00d6eff-8977-4193-90d9-2ee3158802db%40redis&bdata=Jmxhbmc9cHQtYnImc2l0ZT1laG9zdC1saXZl#AN=152480534&db=c8h Accessed

24. Berry PA. Combatting nurse suicide. Prof Case Manag. 2021;26(5):255-7.

25. Xu X, Wang W, Chen J, Ai M, Shi L, Wang L, et al. Suicidal and self-harm ideation among Chinese hospital staff during the COVID-19 pandemic: prevalence and correlates. Psychiatry Res. 2021;296:113654.

26. Conselho Federal de Enfermagem (Cofen). Guia de Saúde Mental Pós-pandemia no Brasil. Brasília (DF): Cofen; 2020 [citado 2022 Mar 29]. Disponível em: http://biblioteca.cofen.gov.br/guia-saude-mental-pos-pandemia-brasil/#

27. Melnyk BM, Hsieh AP, Davidson J, Carpenter H, Choflet A, Heath J, et al. Promoting nurse mental health. Am Nurse J. 2021;16(1):20-3.

28. Davidson JE, Choflet A, Earley MM, Clark P, Dilks S, Morrow L, et al. Nurse suicide prevention starts with crisis intervention. Am Nurse J. 2021;16(2):14-8.

29. Wiseman H, Mousa S, Howlett S, Reuber M. A multicenter evaluation of a brief manualized psychoeducation intervention for psychogenic nonepileptic seizures delivered by health professionals with limited experience in psychological treatment. Epilepsy Behav. 2016;63:50-6.

30. Freeman K, Baek K, Ngo M, Kelley V, Karas E, Citron S, et al. Exploring the usability of a community resiliency model approach in a high need/low resourced traumatized community. Community Ment Health J. 2022;58(4):679-88.

31. Liu Z, Han B, Jiang R, Huang Y, Ma C, Wen J, et al. Mental health status of doctors and nurses during COVID-19 epidemic in China [preprint]. Social Science Res Network. 2020 April 3. doi: http://dx.doi.org/10.2139/ssrn.3551329.

32. Chirico F, Nucera G, Magnavita N. Protecting the mental health of healthcare workers during the COVID-19 emergency. BJPsych Int. 2020;18:1–2.

33. Xiong H, Yi S, Lin Y. The psychological status and self-efficacy of nurses during COVID-19 outbreak: a cross-sectional survey. Inquiry. 2020;57:46958020957114.

34. Carvalho DN, Aguiar VF, Costa RE, Neves LN, Souza ML, Nogueira MA, et al. A enfermagem adoecida: da sobrecarga de trabalho ao suicídio. Rev Recien. 2021;11(36):390-401. Review.

35. World Health Organization (WHO). Preventing suicide: a global imperative. Geneve: WHO; 2014 [cited 2022 Mar 29]. Available from: https://www.who.int/publications/i/item/9789241564779