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Burnout and mental health in COVID-19 pandemic times: systematic review with metanalysis

ABSTRACT | OBJECTIVE: To identify the impacts generated by the pandemic on the mental health of professional nurses. **METHOD:** Systematic review with meta-synthesis, where a search was performed in the Google academic databases and the Virtual Health Library (VHL/SCIELO). Descriptors in Health Sciences Burnout, professional exhaustion, pandemic and COVID-19 were used, making use of the Boolean operator AND. **RESULTS:** After conducting the search in the databases mentioned with the listed descriptors, 29 studies were found. A posteriori, the inclusion and exclusion criteria were applied, resulting in a final sample of 10 studies. **CONCLUSION:** Exhaustive workloads, poor working conditions, deficiency in staffing, few material resources, devaluation and low remuneration. These factors, associated with the fear of transmitting the disease to family and friends, social isolation and others increase the risk of developing psychological problems causing deleterious effects on mental health. **Keywords:** Nursing; Mental health; Pandemic; COVID-19.

RESUMEN | OBJETIVO: Identificar los impactos generados por la pandemia en la salud mental de los profesionales de enfermería. **MÉTODO:** Revisión sistemática con metástasis, donde se realizó una búsqueda en las bases de datos académicas de Google y en la Biblioteca Virtual de Salud (VHL/SCIELO). Se utilizaron los Descriptores en Ciencias de la Salud Burnout, Professional Exhaustion, Pandemic y COVID-19, utilizando el operador booleano AND. **RESULTADOS:** Después de buscar en las bases de datos mencionadas con los descriptores enumerados, se encontraron 29 estudios. Se aplicaron criterios a posteriori, inclusión y exclusión, lo que dio lugar a una muestra final de 10 estudios. **CONCLUSIÓN:** Cargas de trabajo exhaustivas, malas condiciones de trabajo, deficiencia en la dimensionamiento del personal, pocos recursos materiales, devaluación y baja remuneración. Estos factores, asociados con el miedo a transmitir la enfermedad a familiares y amigos, el aislamiento social y otros aumentan el riesgo de desarrollar problemas psicológicos que causan efectos perjudiciales en la salud mental. **Palabras claves:** Enfermería; Salud Mental; Pandemia; Covid-19.

RESUMO | OBJETIVO: Identificar os impactos gerados pela pandemia na saúde mental dos profissionais enfermeiros. **MÉTODO:** Revisão sistemática com metassíntese, onde foi realizada uma busca nas bases de dados Google acadêmico e a Biblioteca Virtual em Saúde (BVS/SCIELO). Foram utilizados os Descritores em Ciências da Saúde Burnout, esgotamento profissional, pandemia e COVID-19, fazendo uso do operador booleano AND. **RESULTADOS:** Após a realização da busca nas bases de dados mencionadas com os descritores elencados, foram encontrados 29 estudos. A posteriori foram aplicados os critérios de inclusão e exclusão resultando em uma amostra final de 10 estudos. **CONCLUSÃO:** Cargas horárias exaustivas, más condições de trabalho, deficiência no dimensionamento de pessoal, poucos recursos materiais, desvalorização e baixa remuneração. Esses fatores, associados ao medo de transmitir a doença para familiares e amigos, o isolamento social e outros aumentam o risco de desenvolvimento de problemas psicológicos causando efeitos deletérios à saúde mental. **Palavras-chaves:** Enfermagem; Saúde Mental; Pandemia; COVID-19.

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INTRODUCTION

The World Health Organization (WHO), in December 2019, notified the identification of a new virus detected by the Chinese authorities in a patient hospitalized with pneumonia in the city of Wuhan, later this virus was called SARS-CoV-2, which causes the COVID-19 disease. After 5 months the virus infected millions of people and

led thousands to their death, promoting a pandemic that is unprecedented today. The disease manifests itself through an acute viral infection with a high rate of transmissibility that occurs mainly through the respiratory tract through the inhalation of droplets and/or aerosols and also through direct contact between people and objects that are contaminated.^{1,2}

Responsible for causing various symptoms, including respiratory and digestive symptoms, COVID-19 presents a manifestation that can alternate from mild self-limited pathology to severe pneumonia, acute respiratory failure and septic shock. In this sense, the lack of specific treatment and the absence of a vaccine added to the exponential increase in cases, has been causing a high number of hospitalizations and deaths, resulting in an increase in the demand for health systems leading to an overload of human resources.³

Data issued by the first countries affected by the pandemic report that 40% of infected people will suffer a mild illness, 40% will experience moderate illnesses, such as pneumonia, 15% will suffer severe illness and 5% will suffer severe illness, which may result in death. The pandemic affects health services requiring an extra demand for structure, supplies and professionals. Historically, health financing in Brazil is insufficient, with the installation of the pandemic in Brazilian territory, health services began to face serious adversities, adding up to a total of 5.781.582 confirmed cases and 164.281 deaths confirmed by COVID-19.^{4,1,5}

Numerous factors have changed the working environment of health professionals, namely the lack of Personal Protective Equipment (PPE); the restricted number of beds and mechanical fans; lack of knowledge about the pathology and training to assist the confirmed or suspected patient with COVID-19; absence of an effective treatment for the disease and a

high level of complexity and severity of the patients; and need to deal with and face a high volume of deaths. In this sense, health professionals form a group at risk for infection, since they are exposed to factors that promote greater vulnerability to acquire the disease. The risks include greater exposure to pathogens, long working hours, psychological distress, physical and mental exhaustion syndrome inherent to work (Burnout syndrome), fatigue and stigma.^{6,7}

Approximately 18.870 nursing professionals experience the disease or the suspicion of it, with 341 hospitalized and 18.341 in quarantine. The number of deaths is 194 in the Brazilian territory.⁸

Even though it is a recent pathology, it is already possible to observe the negative effects of COVID-19 for the mental health of health professionals. Nursing has a greater susceptibility to the development of mental health problems, this fact is justified due to the greater time of living and interaction with patients; pressure to carry out its activities with quality; and facing the process of death and dying, since they are professionals trained and qualified to heal. In addition, the high workload, feeling of inadequate support, high rate of infection by COVID-19 among workers, fear of contaminating family members and cases of death in the health team are the main factors for adverse psychological results.^{3,9}

In the context of the COVID-19 pandemic, WHO observed that nursing professionals pressured by the current situation had high levels of anxiety, added to the risk of falling ill, causing drastic mental health problems and increasing cases of Burnout Syndrome (BS), in addition to also promoting anxiety, depression and stress.⁴

That said, the following guiding question has become important within the current context experienced by nursing professionals: What are the

impacts of the COVID-19 pandemic on the mental health of nurses?

In this sense, this study aims to identify the impacts generated by the pandemic on the mental health of professional nurses.

METHOD

This is a systematic review with meta-synthesis, where a search was performed in the Google academic databases and the Virtual Health Library (VHL/SCIELO). Descriptors in Health Sciences Burnout, professional exhaustion, pandemic and COVID-19 were used, making use of the Boolean operator AND.

The revision studies, originals, letter to the editor that were available in full free of charge, published between 2019 and 2020, in English and Portuguese, and that addressed the mental health of health professionals during the pandemic period were listed. Duplicate articles, projects, abstracts, letters to the editor and those that did not fit the theme were excluded. For this purpose, a thorough reading of the titles and abstracts was carried out, in order to exclude these studies.

The instrument used as a reference to demonstrate the research search and selection process was the Preferred Reporting Items for Systematic Review and Meta-Analyses (<http://www.prisma-statement.org/>).¹⁰

The risks of bias in the studies listed were analyzed according to the Downs and Black scale (1998)¹¹ which is structured by the analysis of the quality of the study (10 items); ability to generalize study results (3 items); study bias (7 items); determination of bias by the sample (6 items) and determination of random findings (1 item).

From the information collected, a table was structured with the identified data referring to the author/year of the study, objective, main findings and the score on the Downs and Black scale (1998).¹¹

RESULTS

After conducting the search in the databases mentioned with the listed descriptors, 29 studies were found. A

posteriori, the inclusion and exclusion criteria were applied, resulting in a final sample of 10 studies. Figure 1 describes the methodological flowchart of the steps that were used to select

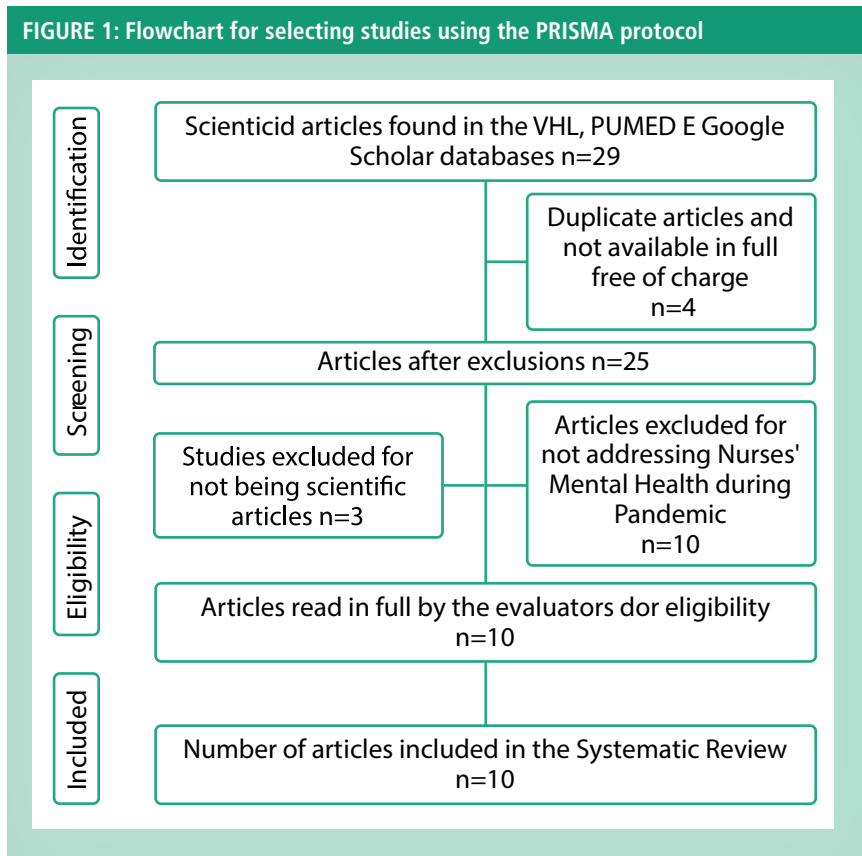
the articles included in the study.

Table 1 summarizes the information extracted from the studies listed, including the analysis of the risk of bias using the Downs and Black scale, the author and the year, the objective and the main findings of each study.

DISCUSSION

Regardless of the health service, the nursing team, are the professionals who are in greater contact with the population and always work on the front line, this factor justifies, taking into account the current reality, the worldwide concern to increase the number of nurses and nursing technicians. Public health experts emphasize the need for the nursing category to play a leading role in carrying out educational, preventive and awareness-raising actions in order to reduce the spread of the disease.²

The intensity and high prevalence of COVID-19 infection among health professionals is evident. According to The Lancet magazine, there are reports of a prevalence of more than 10% among these workers, reaching 20% among Italians. The editorial also states that around 3.300 health workers were infected in China and that approximately 22 had died by



SOURCE: Prepared by the authors

TABLE 1: Risk of bias in the selected studies			
AUTHOR/ YEAR	OBJECTIVE	MAIN FINDINGS	SCORE ON THE DOWNS AND BLACK SCALE
RIBEIRO et al., 2020 ¹	Analyze the scientific production on the health of health workers who care for patients in the context of the COVID-19 pandemic.	The knowledge of nurses and doctors about the disease was considered adequate; absence of training for mental health care for patients with COVID-19 and that the feeling of fear is a reality among the professionals who make up this health team; health professionals represent 3,8% to 20% of the infected population in Brazil; frontline professionals experienced a greater impact on their mental health, demonstrating it as a risk factor for the symptoms of anxiety, depression, insomnia, anguish and fear; female nursing professional was associated with severe symptoms of depression, distress and anxiety.	23

<p>MOREIRA, 2020²</p>	<p>Describe and discuss the role of nursing professionals, their exposure to risk factors at work and the importance of psychosocial support in the COVID-19 pandemic.</p>	<p>Nursing faces problems associated with work overload, poor working conditions, lack of resources and low professional valuation; the high number of contaminated and estranged professionals contributes to the overload of the health teams and contributes to the psychic exhaustion of the nursing team; the psychosocial impact of these professionals is also high, especially in females; occupational stress is an important indicator of psychic exhaustion reflecting on the mental health of nursing professionals; there are reports of psychic illness such as generalized anxiety, depression, panic attacks, Burnout syndrome or professional burnout.</p>	<p>22</p>
<p>JÚNIOR et al., 2020⁶</p>	<p>Systematize knowledge about occupational stress mitigating strategies in healthcare workers during the coronavirus pandemic.</p>	<p>The workday is a factor that generates stress among health professionals, and work overload, in a time of pandemic, is a factor that can lead to professional exhaustion; measures such as dialogue, communication between professionals and bosses, improvement of food, propagation of successful stories, management and education are strategies listed to reduce psychic impacts.</p>	<p>24</p>
<p>PEREIRA et al., 2020¹²</p>	<p>Carry out a theoretical reflection on the emotional suffering of nurses in the hospital context in the face of the COVID-19 pandemic.</p>	<p>Nurses face situations of physical, verbal and psychological violence, and only 29% of these professionals feel safe in their work environments; nurses during the pandemic face the factors of high risk of contamination, illness, death, the possibility of infecting other individuals, anguish, exhaustion, exposure to deaths in large proportions, disappointment of not being able to save lives and the distancing of friends and family members due to high workloads; Brazil has a preponderance of depressive symptoms in nursing professionals.</p>	<p>22</p>
<p>SILVA, 2020⁸</p>	<p>Identify the conditions imposed by the pandemic on the professional, focusing on perceiving the interference in care for the suspected or confirmed user for COVID-19.</p>	<p>Current conditions demonstrate a significant factor in the triggering of biological, mental and social health problems in nurses; increased professional exhaustion due to the high number of patients, associated with ignorance of the disease and its complications; fear feeling on the part of the nurse about the possibility of transmitting the disease to spouses, parents, children and other relatives; scarcity of resources is shown to be an important factor in the illness of nurses, which can lead to professional exhaustion, which is expressed through myalgia, fever, depression, lowering of spirits and immunological decline.</p>	<p>25</p>
<p>SANTOS et al., 2020³</p>	<p>Evaluate, in the literature, the mental health of health professionals working in the pandemic of COVID-19.</p>	<p>The risk factors associated with the mental illness of health professionals during the pandemic include the risk of infection during professional practice, social isolation, long working hours, death of patients, physical and mental exhaustion, feeling of powerlessness in relation to the cure of severe patients and lack of PPE's; psychological feelings include anxiety, depression, anguish, feeling of helplessness, insomnia, stress and exhaustion; female nurses and technicians who work on the front lines have been identified as having the most severe psychological symptoms.</p>	<p>23</p>

<p>NOGUEIRA et al., 2020⁹</p>	<p>To understand how the Professional Burnout Syndrome affects the health of nursing professionals, their symptoms and related factors, to elaborate and present intervention strategies to minimize the aggravations of the disease in nursing professionals.</p>	<p>One of the professions most affected by the professional burnout syndrome is nursing; in the health area, it is considered one of the most risky professions for the development of emotional illnesses; the symptoms manifested include lack of empathy, intolerance, indifference, sleep disturbances, chronic fatigue, irritability, loss of heart and depressive manifestations; in the current scenario of the pandemic, there has been a great increase in the workload and preventive care, promoting an increase in physical and emotional exhaustion.</p>	<p>24</p>
<p>HUMEREZ et al., 2020⁴</p>	<p>Reflect on the mental health of Brazilian nursing professionals in the context of the COVID-19 pandemic.</p>	<p>Nursing workers under pressure with the current situation have high levels of anxiety, increased risk of falling ill, causing severe mental health problems and increasing cases of burnout syndrome, in addition to anxiety, depression and associated stress; feelings most declared by professionals were anxiety, due to the lack of PPE's, stress, the high level of patients and deaths, fear of becoming infected or infecting a family member or friend, depression and exhaustion.</p>	<p>22</p>
<p>SILVA et al., 2020⁷</p>	<p>Discuss the health and safety conditions of workers who care for patients with COVID-19.</p>	<p>Most health professionals who care for an infected patient are subject to a high risk of acquiring the disease; the intensity and high prevalence of the infection among health workers is clear, reports of prevalence above 10% in this population, reaching 20% in Italians; Brazil is still the country where the most nurses die, 157 deaths of nursing professionals; increased workload among nurses due to a shortage of doctors and other health professionals.</p>	<p>25</p>
<p>DAL'BOSCO et al., 2020¹³</p>	<p>Identify the prevalence and factors associated with anxiety and depression in nursing professionals who work to cope with COVID-19 at a university hospital.</p>	<p>Prevalence of anxiety among nursing professionals was 48,9% and depression 25%; most of the sample comprised of women, people over 40, married or in a stable relationship; nursing professionals with anxiety are technicians in care positions (44,2%), work in critical sectors (55,8%), are gazetted (44,2%) and have worked in the health field for more than 10 years (27,9%).</p>	<p>25</p>

SOURCE: Prepared by the authors

the end of February 2020, among them was the professional who warned about the beginning of the epidemic.⁷

Work overload, poor working conditions, lack of resources, low valuation and remuneration are problems faced by the nursing team. In addition, this professional category, in the current scenario, found itself at the forefront of the COVID-19 pandemic, this factor has become a risk for

the development of symptoms such as anxiety, depression, fear, anguish and insomnia.^{2,1}

Everyday nursing is exposed to stressful situations, such as assistance to critically ill patients, intensive and direct care, bureaucratic functions and work overload, factors that contribute to the development of anxiety and depression, leading to a deleterious state of mental health.¹³

In view of the current reality, there was an increase in workload and preventive care, accentuating physical and emotional exhaustion. It is important to note that these professionals tend to neglect their mental health and experience challenges such as coping with the social distance from their own family members, fear, tiredness, anguish and death that has become part of the daily routine in the

midst of chaos installed by the COVID-19 pandemic.⁹

During pandemic times, the feeling of horror and apprehension is common, in addition to increased concern for family and friends. Health professionals may have this concern at higher levels due to the increased possibility of transmission of the infectious disease to their family members.⁶

It is worth mentioning that patients diagnosed with COVID-19 and their families are experiencing a moment of emotional fragility, and they look to health professionals for a support mechanism in relation to clinical and emotional aspects, however, it is noticed that health professionals health are also affected by the context in which they are inserted, which may reflect on the capacity of humanized attention to patients.³

Nursing performs exhaustive tasks, in addition to long working hours and accompanied by strenuous shifts, which increases the susceptibility of these professionals to the risk of developing BS. In view of the current pandemic caused by COVID-19, nursing profes-

sionals have been discouraged from maintaining close relationships with other individuals, leading to an increased feeling of isolation and tiredness related to work due to the protocols for the use and removal of PPE's, which has considerable time within the working environment.¹²

The experience of nurses in the systematization of care for patients with COVID-19, has negative psychological consequences for the professional, such as fatigue, discomfort and helplessness, triggered, mainly, by the high workload and limitation of PPE's in the midst of a pandemic. It is important to highlight the fear that these professionals have of acquiring the virus and put their family and friends exposed, a factor that culminates in the establishment of social isolation, being harmful to mental health.³

The high number of contaminated professionals and away from the work environment leads to an even greater work overload for the health teams, contributing in an important way to the psychic exhaustion of the nursing team. Occupational stress is

considered an important indicator of psychological exhaustion related to coping with the pandemic and has generated some uncertainties reflecting on the mental health of nursing professionals.²

CONCLUSION

It is evident that nursing works in a scenario of exhausting hours, poor working conditions, deficiency in staffing, few material resources, devaluation and low remuneration. Faced with the pandemic caused by COVID-19, this scenario became even worse, since the nursing team is one of the professional categories that are on the front line providing assistance to the population.

These factors, associated with the fear of transmitting the disease to family and friends, social isolation and death as part of daily life, further increased the physical and psychological overload on these professionals, increasing the risk of developing psychological problems and causing a deleterious effect on mental health. 🌿

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