

Nurses' resilience in the COVID-19 pandemic: an integrative review

A resiliência dos enfermeiros na pandemia da COVID-19: revisão integrativa

Resiliencia de las enfermeras en la pandemia de COVID-19: revisión integradora

Thiago Portela Carocchini¹ , Alexandre Pazetto Balsanelli¹ , Vanessa Neves¹ 

¹ Universidade Federal de São Paulo (Unifesp), São Paulo, SP, Brazil

Abstract

Objective: to verify which factors are associated with resilience among nurses who provide hospital care in the face of the COVID-19 pandemic. **Method:** an integrative review, carried out in the Cumulative Index to Nursing and Allied Health Literature, Latin American and Caribbean Literature in Health Sciences and Medical Literature Analysis and Retrieval System Online databases. The search took place in May 2022, and 32 studies were selected. Information analysis took place in a descriptive way, confronting the relevant findings. **Results:** variables that impacted were: age; work experience; education; exposure to stress; personal skills to deal with critical and stressful situations. **Conclusion:** the literature presents associated factors that impact resilience, allowing the variables to be elucidated. In addition, it supports nurses to improve, creating coping strategies and facilitating their adaptation to challenges of life and work, especially in providing safe care.

Descriptors: Resilience, Psychological; Nursing Care; Pandemics; COVID-19; Hospitals

Resumo

Objetivo: verificar quais são os fatores associados à resiliência entre os enfermeiros que prestam assistência hospitalar frente à pandemia de COVID-19. **Método:** revisão integrativa, realizada nas bases de dados *Cumulative Index to Nursing and Allied Health Literature*, Literatura Latino-Americana e do Caribe em Ciências da Saúde e *Medical Literature Analysis and Retrieval System Online*. A busca ocorreu em maio de 2022, e foram selecionados 32 estudos. A análise das informações sucedeu de forma descritiva, confrontando os achados pertinentes. **Resultados:** variáveis que impactaram foram: idade; experiência no trabalho; escolaridade; exposição ao estresse; habilidades pessoais para lidar com situações críticas e estressantes. **Conclusão:** a literatura apresenta fatores associados que impactam na resiliência, permitindo elucidar as variáveis. Além do mais, subsidia o enfermeiro a se aprimorar, criando estratégias de enfrentamento e facilitando sua adaptação aos desafios da vida e do trabalho, principalmente na prestação da assistência segura.

Descritores: Resiliência Psicológica; Cuidados de Enfermagem; Pandemias; COVID-19; Hospitais

Resumen

Objetivo: verificar qué factores están asociados a la resiliencia entre los enfermeros que brindan atención hospitalaria frente a la pandemia de la COVID-19. **Método:** revisión integradora, realizada en las bases de datos Cumulative Index to Nursing and Allied Health Literature, Latin American and Caribbean Literature in Health Sciences y Medical Literature Analysis and Retrieval System Online. La búsqueda se realizó en mayo de 2022 y se seleccionaron 32 estudios. El análisis de la información se realizó de forma descriptiva, confrontando los hallazgos relevantes. **Resultados:** las variables que impactaron fueron: edad; Experiencia laboral; enseñanza; exposición al estrés; habilidades personales para hacer frente a situaciones críticas y estresantes. **Conclusión:** la literatura presenta factores asociados que impactan la resiliencia, lo que permite dilucidar las variables. Además, ayuda a las enfermeras a mejorar, creando estrategias de afrontamiento y facilitando su adaptación a los desafíos de la vida y del trabajo, especialmente en la prestación de cuidados seguros.

Descriptores: Resiliencia Psicológica; Atención de Enfermería; Pandemias; COVID-19; Hospitales

Introduction

The COVID-19 pandemic represents one of the most acute and serious health problems in recent decades, as it has put all countries under extreme medical and ecological conditions, causing health professionals a high level of stress and the need to develop their resilience, being, to a greater extent, affected those involved in direct care of patients with the disease.¹⁻²

In Brazil, the pandemic situation impaired nursing working conditions, workload, among others. Another important factor to be considered is that it influenced the way nurses provide care, resulting in an increased incidence of adverse events, insufficient nursing staff and poor quality care.²

In this regard, policies and measures that contribute to the safe and effective practice of care need to be ensured, considering that, until June 2, 2022, approximately 63,555 nursing professionals acquired COVID-19 and about 872 victims died from the disease.^{1,3}

Resilience can be interpreted as the ability to challenge, conquer, emerge strengthened or adapted by the experience of adverse situations. This scenario makes the leadership progressively develop the ability to adapt to changes, playing a fundamental role in maintaining mental health, as well as mitigating the negative effects of employee stress and progressively developing them, making them part key to achieving organizational and personal success.⁴⁻⁸

The concept of resilience gradually receives more attention, especially in the health area in question, from nurses.⁴ This is due to the fact that nurses provide direct care to patients, and the experiences of this care are stressful. Additionally, the hospital environment is undergoing successive transformation, leaving little time for emotional recovery of the staff. In a survey by the American Nurses Association, 79% of nurses rated the workplace as the number one in danger of stress and that the COVID-19 pandemic contributed to the worsening of that stress.⁵

At the peak of the crisis caused by the coronavirus, indicators showed that nurses who had adequate levels of resilience coped better with the impact of the pandemic, resulting in reduced anxiety, post-traumatic stress, emotional exhaustion and depression, consequently providing safer care. Thus, many hospital institutions have invested in programs and interventions to develop nurses' resilience in health care.^{2,4,6}

Resilience was identified as an essential protective factor against the effects on mental health caused by traumatic events and other adversities, including the COVID-19 pandemic, resulting in greater job satisfaction, with superior retention, greater perception of quality of nursing care and better clinical performance.^{2,3}

The resilience-moderating factors identified in the studies were age, marital status, education, sex, salary and general health status. Work-related reasons included length of experience in the role, professional position and organizational climate. External aspects included family support and pandemic coping skills.^{4,6}

Studies have shown that implementing psychological training, stress management, crisis intervention training, and mindfulness meditation can strengthen resilience as well as improve quality of nursing work and service.⁷⁻⁸

The mediating elements that are related to resilience show the need to establish links between external and internal factors to the work environment. Therefore, studies characterize the main elements and their characteristics that interfere in hospital nurses' resilience. However, there are still few studies in the literature that point to effective actions that develop and increase hospital nurses' resilience in pandemic situations.⁷⁻⁸

Considering the above, it can be considered that this research aims to verify which

factors are associated with resilience among nurses who provide hospital care in the face of the COVID-19 pandemic.

Method

This is an integrative literature review, developed in six stages: research question elaboration; literature search of primary studies; data extraction; assessment of primary studies; analysis and synthesis of results; and presentation of review. As a starting point, the question was elaborated: what are the factors associated with resilience among nurses who provide care in the hospital environment in the face of the COVID-19 pandemic? When preparing the question, the PICO methodology was used (P - Population, I - Interest, Co - Context), in which it was defined as: Population: nurses; Interest: the state of resilience; Context: the hospital environment in the COVID-19 pandemic.⁹

The search for primary studies was performed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Latin American and Caribbean Literature in Health Sciences (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE) databases, through the National Library of Medicine National Institutes of Health (PubMed).

To perform the search, the following controlled and uncontrolled descriptors from the Medical Subject Headings (MeSH) and Health Sciences Descriptors (DeCS) terminology were selected: Resilience, Psychological; Nursing care; COVID-19; Pandemics; and Hospitals.

Due to the theme being recent and exclusive to the pandemic, a filter was applied for the period of publication of the articles, to ensure an adequate number of primary studies, being selected articles from December 2019, published until 2022. Furthermore, to ensure a broad search, the controlled descriptors were used in different ways, separately and in combination with the Boolean operators AND and OR. The search in the electronic databases included articles with a research focus on nurses' resilience during the COVID-19 pandemic, published in Portuguese, English or Spanish (Figure 1).

Articles present in more than one database were counted once. The search for primary studies in the selected databases took place in May 2022, being prepared by one of the authors of this study. The selection of articles was carried out by two review authors, independently, in which they obtained an agreement rate above 80%, and, in cases of disagreement, the third reviewer selected the article. All selections were made through

Rayyan software.

We excluded studies that did not report resilience, as they had a mixed audience, unable to separate a sample of nurses and nursing professionals in general. We also excluded articles identified as reflection/theoretical, editorial or response letter, comments, theses and dissertations.

Data extraction was performed independently, and a data collection form was developed to organize the main information regarding the studies as: publication identification (article title, language, authors, publication date); publication journal; and methodological characteristics (publication type, research type, sample/participant and results).

For material analysis, it was decided to group and categorize resilience information according to the type of research, number of participants, results obtained in relation to resilience, presenting moderators that interfered with resilience (Chart 1). The analysis of results was performed descriptively. Subsequently, comparisons were made, emphasizing the differences and similarities of the studies.

The flowchart presents the selected articles and the sequence adopted until the inclusion of those considered relevant for analysis, according to the criteria proposed for the study (Figure 1).

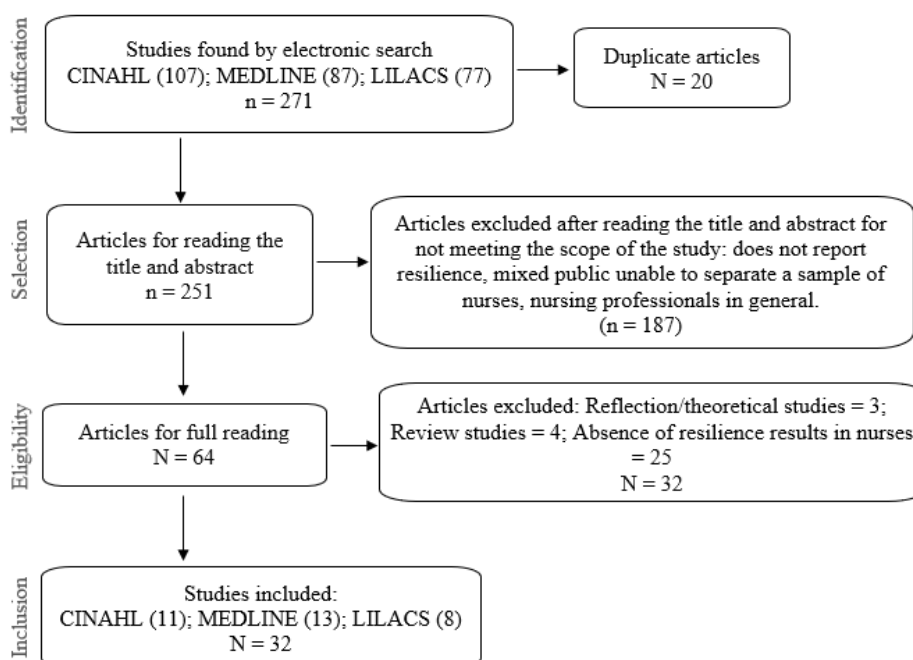


Figure 1 - Study selection process flowchart. Sao Paulo, SP, Brazil, 2022

Results

The 32 articles analyzed portray the level of resilience in nurses, with 75% referring to cross-sectional descriptive studies; 9% did not report the type of research in their method; 6% were qualitative; and the others, with 3% each, were observational, mixed and correlational. There was a predominance of studies carried out in China (n = 8), followed by Spain, Iran and Turkey (n = 4, each), the Philippines and the United States (n = 2, each), and the other countries appear with 1 job, such as Indonesia, Kenya, Switzerland, Saudi Arabia, Korea, Italy, France and India. The year with the highest number of publications, taking into account the chosen criterion, was 2021, with 22 articles published. Chart 1 contains information extracted from publications.

Chart 1 – Characteristics of studies included in the integrative review. Sao Paulo, SP, Brazil, 2022

Place /year*	Objective	Design and sample	Results
China, 2019 ⁴	Investigate mental health among health care professionals struggling with COVID-19 and explore the associations between social support, resilience and mental health.	Type of study not reported. 546 nurses	New collaborators had had minor resilience, compared with oldest of the institution. There are no factors that undermine more experienced employees' resilience.
Indonesia, 2021 ¹⁰	Determine the correlation between resilience and anxiety in health professionals during the COVID-19 pandemic.	Cross-sectional study 134 nurses	The lower the resilience, the higher the level of anxiety. Resilience acts as a protective factor for nurses' mental health, and experience, learning and formal training contribute to increased resilience.
Spain, 2021 ¹¹	Assess Burnout Syndrome and nurses' resilience during the COVID-19 pandemic, to establish future actions and to deal with stress at work.	Cross-sectional descriptive study 101 nurses	The average Burnout score was not related to the resilience score. The "Emotional fatigue or emotional exhaustion" dimension was negatively related to resilience.

Place /year*	Objective	Design and sample	Results
Phillipines, 2020 ¹¹	Examine the relative influence of personal resilience, social support, and organizational support on reducing COVID-19 anxiety in frontline nurses.	Cross-sectional study 325 nurses	Tonic immobility and sleep disturbance were reported as the most rated symptoms during the pandemic, worsening resilience. Social support and organizational support play an important role in increasing resilience and, consequently, have a protective role for employees on the front line.
Switzerland, 2021 ¹²	Assess the impact of the COVID-19 pandemic on hospital nurses in the Italian-speaking region of Switzerland, in terms of exposure to ethical conflicts and psychological stress.	Cross-sectional observational multicenter study 548 nurses	There were no differences in the level of resilience between nurses from COVID-19 and non-COVID-19 units. Professional experience and the highest level of resilience play a protective role against ethical conflict in the pandemic.
United States, 2021 ⁷	Understand nurses' experiences and perceptions during the COVID-19 outbreak and examine their resilience.	Mixed methods 43 nurses	Resilience was affected during the pandemic, as there was increased stress due to daily changes in protocols, in addition to physical exhaustion from using Personal Protective Equipment. Resilience only improved from the use of self-care behaviors with nurses.
Saudi Arabia, 2021 ¹³	Determine preparedness predictors in the management of COVID-19 patients and psychological burden and resilience among clinical nurses to face the COVID-19 crisis in Saudi Arabia.	Cross-sectional study 281 nurses	Age, experience, area of activity, knowledge in administration and hospital preparation for COVID-19 increased the resilience score.
Korea, 2021 ¹⁴	Compare anxiety, resilience and depression across COVID-19 units, with confirmed patients and suspected patients, and assess their effects on depression.	Descriptive study 128 nurses	Resilience was significantly higher in nurses working with patients with suspected COVID-19 and lower in nurses in units of patients with COVID-19. Age and previous experience are factors that increase resilience, encouraging the acceptance of responsibility in being nurses.
Turkey, 2021 ¹⁵	Investigate the relationship between resilience psychology and work performance in nurses during the COVID-19 pandemic in terms of descriptive characteristics.	Cross-sectional and correlational study 284 nurses	There was a positive and significant relationship between resilience and work performance. There were higher levels of resilience and higher performance at work in nurses aged ≥ 41 years.

Place /year*	Objective	Design and sample	Results
Italy, 2021 ¹⁶	Explore nursing management issues in the COVID-19 narratives of Italian frontline nurses.	Qualitative and descriptive study with thematic analysis 23 nurses	Teamwork increases nurses' resilience levels. Managers' role is vital for psychological support, especially in resilience, through interventions focused on increasing it.
United States, 2021 ¹⁷	Examine the factors associated with nurses' resilience during the COVID-19 pandemic.	Cross-sectional descriptive study 883 nurses	Nurses who tested positive for COVID-19 reported lower resilience than those who tested negative. The stronger the intention to leave the profession, the lower the resilience.
Spain, 2021 ¹⁸	Analyze the cross-sectional effect of sources of stress during the peak of COVID-19 on nurses' psychological distress, focusing on the mediating role of problem-focused coping and resilience.	Cross-sectional and quantitative study 421 nurses	The factors that most reduced nurses' level of resilience were fear of infection and death. Nurses who suffer from stress due to lack of preparation did not have adaptive actions to overcome the situation, and their resilience was lower than that of the others.
China, 2021 ¹⁹	Investigate the prevalence and factors associated with anxiety and depression among nurses on the front lines of the COVID-19 pandemic.	Cross-sectional study 282 nurses	COVID-19 unit nurses who participated in the fight against the Ebola outbreak or Severe Acute Respiratory Syndrome were more resilient.
Iran, 2021 ²⁰	Recognize the demographic and psychosocial factors associated with higher or lower levels of resilience during the COVID-19 pandemic.	Cross-sectional study 387 nurses	Stress, job satisfaction, burnout and age were the main predictors of nurses' resilience during COVID-19. Work experience increases resilience and is negatively associated with job demand.
Turkey, 2020 ²¹	Determine the relationship between levels of support and psychological resilience perceived by nurses in Turkey during the coronavirus disease-2019 (COVID-19) pandemic.	Cross-sectional descriptive study 370 nurses	Age, work shift and working time affected nurses' psychological and social support and their resilience, with nurses with previous experiences in pandemic situations having a higher level of resilience.
Philippines, 2021 ²	Examine the mediating role of resilience in the relationship between frontline nurses' fatigue (job satisfaction and turnover intention) and quality of care.	Cross-sectional study 270 nurses	Resilience was positively associated with quality of care, and job satisfaction reduced the effects of fatigue and was negatively associated with intention to leave the institution.
Iran, 2021 ²²	Investigate the level of resilience and its relationship with hypochondria in nurses working at a referral hospital for COVID-19 in southern Iran.	Cross-sectional study 312 nurses	There is no correlation between resilience and their differences with hypochondria in the nurses in question. With increased resilience, nurses' hypochondria decreased.

Place /year*	Objective	Design and sample	Results
China, 2021 ²³	Describe the resilience of nurses who cared for patients with a confirmed diagnosis of COVID-19 as well as factors that potentially contributed to resilience.	Descriptive and qualitative study 23 nurses	Key enablers of resilience included support, knowledge of infectious disease protocols, continuing education provided by the hospital, skills and self-regulation during quarantine.
Spain, 2021 ²⁴	Explore the mediating roles of self-efficacy and resilience between stress and the physical and mental components of quality of life in nurses during the COVID-19 pandemic.	Cross-sectional study 308 nurses	Indirect effect of perceived stress, mediated by self-efficacy and resilience. The less exposure to stress situations, the greater the resilience.
Spain, 2021 ²⁵	Assess the levels of perceived stress, resilience, well-being and mental health in nurses who provide direct care to patients with COVID-19 and investigate possible associations between these variables.	Cross-sectional study 214 nurses	Participants' self-reported stress levels were negatively correlated with resilience. Resilience was positively correlated with well-being and negatively with anxiety, anxiety and depression.
China, 2020 ⁸	Explore how organizational identity and psychological resilience affect frontline nurses' engagement in coronavirus prevention and control and establish the relationship model based on these factors.	Cross-sectional study 216 nurses	Positive correlation between nurse's organizational identity, resilience and work engagement. Strengthening nurses' sense of organization, emotional identity and improving resilience are key factors to increase engagement and improve care provided.
Turkey, 2021 ²⁶	Determine the influence of psychological resilience and the various sociodemographic factors and professional characteristics on nurses' perception of stress in the COVID-19 pandemic.	Cross-sectional study 201 nurses	Perceived stress decreased as resilience increased, and there was no statistical significance in sociodemographic data. Nurses trained and trained in COVID-19 presented higher levels of resilience.
Turkey, 2021 ²⁷	Determine the relationship between resilience, burnout, stress and sociodemographic factors with depression in nurses and midwives during the COVID-19 pandemic.	Cross-sectional study 377 nurses	There was a negative correlation between depression and all resilience subdimensions. High resilience was considered a protective factor against the risk of depression.
China, 2021 ²⁸	Explore the mediating role of post-traumatic growth and the perceived professional benefits between resilience and intention to stay among Chinese nurses.	Cross-sectional study 200 nurses	Resilience has a direct impact on the intention to leave the profession and work and affects perception, post-traumatic growth and professional benefits.

Place /year*	Objective	Design and sample	Results
Iran, 2021 ²⁹	Determine the resilience score and its predictive demographic factors among nurses working in hospitals involved with COVID-19 in Ahvaz, Iran.	Descriptive and analytical study 387 nurses	Variables age, experience and education level had a positive correlation with nurses' resilience score during the COVID-19 pandemic. Training programs increase resilience.
China, 2021 ⁶	Correlate resilience and burnout. Correlate resilience with positive and negative affect and burnout.	Type of study not reported 180 nurses	Resilience showed a negative correlation with burnout, emotional exhaustion and depersonalization. Resilience showed a positive correlation with positive affect.
France 2021 ³⁰	Investigate and compare the psychological impact of the pandemic on regular Intensive Care Unit employees and temporary workers.	Type of study not reported 58 nurses	There was no association or variables regarding resilience levels.
China, 2020 ³¹	Investigate the resilience of outside workers sent to support local workers in dealing with the 2019 new coronavirus disease (COVID-19) outbreak.	Cross-sectional study 70 nurses	Resilience correlated negatively with anxiety and depression, but positively with active coping styles, such as training/support provided by the permanent hospital.
China, 2020 ³²	Investigate the psychological status of nurses in the isolation ward and assess the impact of hospital support interventions on their psychological symptoms.	Cross-sectional study 92 nurses	Resilience was negatively associated with most Symptom Checklis-90 dimensions. Improve nurses' resilience can reduce symptoms of anxiety, depression, and interpersonal sensitivity.
Iran, 2021 ³³	Investigate the association between frontline, nurses' psychosocial status, life satisfaction and resilience during the prevalence of COVID-19.	Cross-sectional study 185 nurses	Less resilient nurses are 6 times more at risk of psychological disorders.
India, 2020 ³⁴	Determine burnout and resilience and its associated factors among frontline nurses in the emergency department of a tertiary center in northern India.	Cross-sectional descriptive study 120 nurses	Higher level of resilience helps mitigate burnout symptoms. Nurses who treated patients with COVID-19 and perceived the unsafe environment had higher levels of resilience.

*Item identification (A), followed by the order number.

Discussion

Studies on resilience in the pandemic show that perceived stress decreased as resilience increased. Factors such as age, experience, area of expertise, knowledge in administration and in hospital preparation for COVID-19 showed a statistically significant

and positive relationship, bringing a growing body of evidence, suggesting that health professionals' resilience impacts the provision of safe care and represents an important source of research to understand it as an essential protective factor against the mental health effects of traumatic events and other adversities, including the pandemic.^{2,4,14,27}

Sociodemographic variables may or may not affect resilience. Female participants had lower scores and there was a difference between age groups. The results found were linear in various age groups so that the lowest resilience was 25 years old, and the highest, above 45 years of age. With professional experience and level of education, it was no different, the higher the level of education and the time of experience, the greater the degree of resilience. On the other hand, there was no statistically significant relationship in resilience between nurses with different marital status and those who exercise. However, the reported resilience score in nurses who did not exercise was lower than in those who did.^{28,30}

During the COVID-19 pandemic, it became evident that more experienced nurses showed a greater ability to adjust and adapt to changes in the work environment. The pandemic period, in which nurses dedicated themselves to the care of patients with COVID-19, contributed to the development of their resilience.^{2,14,27}

In fact, increasing age, greater work experience and schooling, their exposure to stress, as well as their technical and behavioral skills to deal with critical and stressful situations facilitate adaptation, giving nurses the possibility to act effectively and more resilient, whatever the situation.^{26,30}

Resilience is an essential element for nurses in the development of their work, especially in facing the pandemic. Without resilience or with low levels, professionals can become exhausted and even leave the profession. Other researchers demonstrated an interesting result: nurses were tested for COVID-19 and positives reported lower resilience than those who tested negative.¹⁸

Professional experience in a pandemic is inherent and relative, and may vary within countries and between institutions. Newly admitted nurses were less resilient when compared to more experienced ones, and, for these, factors that could harm mental health were not demonstrated. Another important point was the difference in resilience between variables; in this case, it was evidenced that women showed a lower resilience than men.

The difference in resilience scores was not significant between marital status and parental status groups. However, childless nurses had a higher level of resilience.^{27,29-30}

Nurses use their nursing knowledge and skills to prevent psychological burden and increase resilience. This awareness is evident in the findings on the difference in resilience scores between different levels of work experience, age, education and training for COVID-19 care, with an increase in each of the factors leading to a higher level of resilience. Moreover, the hiring regime, such as permanent and permanent nurses, and private hospitals had higher levels of resilience.^{14,29-30}

Positive affect, such as psychological support in the work environment, contributes to a high level of resilience, and this set protects frontline nurses, reducing the risk of burnout or burnout and fatigue. Other scholars in Turkey report that there is a positive and significant relationship between resilience and work performance, as the greater the enthusiasm for care, the higher the resilience score.^{16,31} In fact, lack of psychological and social support from family members, especially children, plays a negative role on nurses, reducing their levels of resilience during the COVID-19 pandemic.³⁰⁻³¹

Resilience helps reduce and overcome the negative emotions nurses went through during the COVID-19 pandemic.¹⁵ However, other work shows that the higher the level of anxiety, the lower the resilience score during the pandemic. In a result found in a study with nurses in Kenya who reported more moderate to severe symptoms of depression, distress and exhaustion and a poor sleep pattern and, consequently, a lower resilience, 56.3% of nurses had a moderate to high level of anxiety.^{10-11,15,26} It is noted that, even if burnout is high, it was not related to resilience, but in the "Emotional fatigue or emotional exhaustion" dimension, it was negatively related to the mean resilience score. Other studies also report that nurses from COVID-19 hospital units triggered an increase in stress and psychological exhaustion, but that was mitigated by the professional experience that translates into a higher level of resilience, both acting with a protective role during the pandemic period.^{1,12-14}

One of the moderators who demonstrated a significant increase in resilience and prevention of psychological exhaustion highlighted the importance that the organization provides to the professional through its institutional policies. The pandemic management, as well as training, intensifies the team's trust in the institution, and, consequently, this becomes a more resilient environment.¹⁸ On the other hand, the level of resilience was

negatively correlated with the degree of trust in public health authorities and the fact that hospital protocols change daily, in addition to the physical exhaustion of wearing Personal Protective Equipment all day.^{8,17-19}

Thus, workplaces with constantly changing demands and organizational policies that are not adequate to nurses' principles increase psychological exhaustion, decreasing resilience and can lead to unsafe care.¹⁹

Another moderator that impacts nurses' resilience, such as sleep disorder, was reported as one of the most punctuated symptoms among nurses with a higher degree of anxiety and a lower resilience score.¹⁹⁻²⁰

Fear of infection, followed by death and less adaptation to overcome the situation due to lack of preparation, was the moderator that negatively impacted nurses' resilience. When compared to previous pandemics, COVID-19 frontline nurses who participated in the Ebola or severe acute respiratory syndrome (SARS) outbreak had lower levels of anxiety and depression, and were more resilient. On the other hand, the spirit of adaptation and, consequently, greater resilience to the rapid changes and challenges they faced were the strengths that increased frontline nurses' resilience. Institutions that provide social and organizational support contribute to the development of their nurses' resilience, especially in the face of pandemics.¹⁹⁻²³

Universally, nurses are a major force in the fight against COVID-19, and their resilience not only affects their mental health, but also the quality and safety of care they provide to patients with COVID-19; therefore, education and work experience were determined as factors that contribute to resilience. Resilience training programs and increased knowledge on how to work in a situation arising from unknown diseases increase the level of resilience, improving care practice.²⁹ A similar study reports that knowledge of infectious disease protocols, continuing education provided by the hospital, skills and self-regulation during the pandemic were facilitators for increasing resilience and care security among the sample studied.²³

Regardless of what was happening, the pride of being nurses stood out in the face of difficulties and psychological overload caused by the pandemic. Nurses were especially strengthened by teamwork and the involvement of everyone in the care. Therefore, when referring to being a nurse or the pride of being a nurse, all showed high resilience related to

the theme.⁸

Resilience was positively associated with quality of care and job satisfaction, being negatively associated with the intention to leave the institution, reducing the effects of fatigue on nurses' job satisfaction, organizational turnover, and quality of care.⁴ Similar findings in China found that resilience was significantly correlated with nurses' overall work engagement and its various dimensions. Moreover, strengthening the sense of organization, emotional identity and improving resilience are key factors in increasing engagement at work and improving care provided.⁹

An important factor observed was decreased hypochondria during the pandemic, given the increase in resilience in front-line nurses.²³ As the situation continues, managers should help nurses understand the challenges of burnout through an environment where they have positive affect, providing discussions about resilience. Negative affect in the work environment can lead to hidden exhaustion in nurses. Ideal resilience interventions should be tailored to multiple health care providers, utilizing mental health resources and multidimensional perspectives, ensuring a higher level of resilience.³⁰⁻³¹

Highly challenging situations can have a positive impact on individuals' resilience, working as a protective factor against psychological distress; however, psychological exhaustion occurs in the Intensive Care Unit regular staff, and the non-effective staff of the sector did not have difficulties to face the pandemic scenario and there was no change in resilience.³¹⁻³²

It cannot be disregarded that, as a result of the novelty of COVID-19 care, the positive results in younger nurses were strengthened, as the learning process influenced the psychological state. It is worth mentioning that, in the same work, continuous efforts to adapt and assist in care practices to face the first wave of the COVID-19 pandemic were essential and necessary for the result.³¹ Obviously, this crisis put unexpected pressure on nurses, who had to go through the pandemic and train the staff, which reinforced care, with the responsibility to improve the quality of care provided.³²⁻³³

Internal actions for the nursing staff increase resilience, a fact observed in a study that correlated resilience, anxiety, depression, support strategies, training and motivation among nurses in Wuhan. Resilience was positively correlated with motivating actions, as well as with staff training and support, and negatively correlated with depression and

anxiety. Other feelings, such as being prepared and confident for daily work activities, were not significantly associated with resilience.³²

Resilience is the ability to reduce the effects of a distressing event by anticipation and preparation, helping health care professionals better recover from trauma, in this case the COVID-19 pandemic. Providing training can increase resilience scores and help protect nurses' mental health. Furthermore, managers need to dedicate more time to nurses' preparation actions, benefiting the worker's confidence to perform their tasks.³²

Effectively, nursing institutions and managers must adopt practices that aim to reduce stress and amplify the level of resilience among nurses. They must also create a harmonious, healthy work environment, maintaining a good psychological condition, thus improving nurses' skills and habits of resilience in response to high demand, greater complexity of care and emotional overload, especially during pandemics.³²⁻³⁴

Controlling the work environment with preventive actions is increasingly listed. The risk of psychological disorders is 6 times higher in non-resilient nurses than in resilient nurses. Furthermore, the risk of psychological disorders was 2.42 times higher in nurses who were at a low point in their careers and dissatisfied with their lives than those who were professionally satisfied and very satisfied with their lives. In view of this, managers and nurses must create means, through actions that strengthen resilience and develop skills to deal with difficulties, adapt to new conditions, have realistic and positive expectations, protecting work and life.³⁴

Feelings of being adequately prepared and confident to complete tasks were associated with resilience. Having a high level of resilience results in greater autonomy, personal growth, optimism and better purpose in life. However, there is a need for a greater number of effective interventions and training with social support to ensure adequate mental health for nurses.^{32,34}

Study synthesis reveals that more time should be dedicated to nurses' preparation, both psychologically and in the family and professional support network, benefiting the confidence to complete their care with quality and safety. In other words, the review shows that nurses' resilience can be strongly influenced and maintained by support strategies and preventive planning.

Nursing managers perform numerous vital functions in health institutions such as:

assisting patients; directing a group of collaborators; influencing through effective communication and interpersonal skills; implementing evidence-based practices; directing staff members, among other activities. They possess unique attributes that allow them to perform effectively in their positions, including critical thinking skills, the ability to envision a positive future, and lead hard times, as well as supporting their staff who are often experiencing high levels of anxiety and stress, part of which involves strengthening organizational and workforce resilience.^{16,35}

Thus, it is essential to reflect on the role of leaders during the pandemic, and, in the near future, managers must focus on local and constant actions to increase resilience. From this perspective, it is important to rethink their preparation to incorporate the theme into the internal processes of hospital institutions and, thus, positively influence health care improvement.

Although this study provides important evidence for nursing managers to assist nurses regarding resilience during the pandemic, some limitations were identified. In the context in question, studies were not analyzed according to the occurrence of the first, second or third wave, with no chronological separation, requiring further revisions, in order to understand if there were differences in resilience management in each wave. Also, the absence of Brazilian productions on the subject is highlighted, which made it impossible to compare the evidence with the international context.

It is suggested the need to develop new studies that can assess other variables that affect resilience, the different strategies and actions to increase resilience regarding the impacts on direct patient care, on nurses' quality of life, on satisfaction, on meaning of nurses' work and the impact on costs with the turnover of less resilient professionals.

Conclusion

It was identified, in this present research, that resilience is a psychological protector, and, as it increases, stress decreases, and factors such as age, experience, area of activity, knowledge in administration and hospital preparation for COVID-19 were significant for increasing nurses' resilience, impacting the provision of safe care. Due to the pandemic, sociodemographic variables may or may not affect resilience as well as the organizational support provided to nurses acts directly on the state of resilience.

In practice, it is essential that nurses are aware of the variables that affect resilience and, consequently, the quality of care provided, subsidizing themselves with resources to manage work in pandemic contexts. It is also essential that managers demonstrate the importance of assertive actions to improve mental health, in this case, resilience.

The findings provided evidence of which factors were related to resilience, its importance as well as the need for focused coping strategies as psychological protection factors for nurses. The implementation of educational interventions to increase resilience in developing new skills and successfully adapting to challenges of life and work should be considered not only in pandemic situations, but in everyday life, for patient care.

References

1. Rivas N, López M, Castro M-J, Luis-Vian S, Fernández-Castro M, Cao M-J, et al. Analysis of burnout syndrome and resilience in nurses throughout the COVID-19 Pandemic: a cross-sectional study. *Int J Environ Res Public Health*. 2021;18(19):10470. doi: 10.3390/ijerph181910470
2. Labrague LJ, De Los Santos JAA. Resilience as a mediator between compassion fatigue, nurses' work outcomes, and quality of care during the COVID-19 pandemic. *Appl Nurs Res*. 2021;61:151476. doi: 10.1016/j.apnr.2021.151476
3. Conselho Federal de Enfermagem (COFEN). Observatório de Enfermagem. Profissionais infectados com COVID-19 informado pelos enfermeiros responsáveis técnicos/coordenadores [Internet]. 2020 [cited 2022 Jun 02]. Available from: <http://observatoriodaenfermagem.cofen.gov.br/>
4. Cai W, Lian B, Song X, Hou T, Deng G, Li H. A cross-sectional study on mental health among health care workers during the outbreak of Corona Virus Disease 2019. *Asian J PsyChiatr*. 2020;51:102111. doi: 10.1016/j.ajp.2020.102111
5. National Nurses United. Sins of omission: how government failures to track Covid-19 data have led to more than 1,700 health care worker deaths and jeopardize public health [Internet]. 2020 [cited 2022 Jun 02]. Available from: https://www.nationalnursesunited.org/sites/default/files/nnu/documents/0920_Covid19_SinsOfOmission_Data_Report.pdf
6. Zhang X, Jiang X, Ni P, Li H, Li C, Zhou Q, et al. Association between resilience and burnout of front-line nurses at the peak of the COVID-19 pandemic: Positive and negative affect as mediators in Wuhan. *Int J Ment Health Nurs*. 2021;30(4):939-54. doi: doi.org/10.1111/inm.12847
7. LoGiudice JA, Bartos S. Experiences of nurses during the COVID-19 pandemic: a mixed-methods study. *AACN Adv Crit Care*. 2021;32(1):14-26. doi: 10.4037/aacnacc2021816
8. Lyu H, Yao M, Zhang D, Liu X. The relationship among organizational identity, psychological resilience and work engagement of the first-line nurses in the prevention and control of COVID-19 based on structural equation model. *Risk Manag Healthc Policy*. 2020;2(13):2379-86. doi: 10.2147/rmhp.s254928
9. Ganong LH. Integrative reviews of nursing research. *Res Nurs Health*. 1987;10(1):1-11. doi: 10.1002/nur.4770100103
10. Setiawati Y, Wahyuhadi J, Joestandari F, Maramis MM, Atika A. Anxiety and resilience of healthcare

- workers during COVID-19 pandemic in Indonesia. *J Multidiscip Healthc.* 2021;14:1-8. doi: 10.2147/jmdh.s276655
11. Labrague LJ, De Los Santos JAA. COVID-19 anxiety among front-line nurses: predictive role of organisational support, personal resilience and social support. *J Nurs Manag.* 2020;28(7):1653-61. doi: 10.1111/jonm.13121
 12. Villa M, Balice-Bourgeois C, Tolotti A, Falcó-Pegueroles A, Barelló S, Luca EC, et al. Ethical conflict and its psychological correlates among hospital nurses in the pandemic: a cross-sectional study within swiss COVID-19 and non-COVID-19 wards. *Int J Environ Res Public Health.* 2021;18(22):12012. doi: 10.3390/ijerph182212012
 13. Balay-Odao EM, Alquwez N, Inocian EP, Alotaibi RS. Hospital preparedness, resilience, and psychological burden among clinical nurses in addressing the COVID-19 crisis in Riyadh, Saudi Arabia. *Front Public Health.* 2021;8(1):573932. doi: 10.3389/fpubh.2020.573932
 14. Doo EY, Kim M, Lee S, Lee SY, Lee KY. Influence of anxiety and resilience on depression among hospital nurses: a comparison of nurses working with confirmed and suspected patients in the COVID-19 and non-COVID-19 units. *J Clin Nurs.* 2021;30(13-14):1990-2000. doi: 10.1111/jocn.15752
 15. Hoşgör H, Yaman M. Investigation of the relationship between psychological resilience and job performance in Turkish nurses during the Covid-19 pandemic in terms of descriptive characteristics. *J Nurs Manag.* 2022;30(1):44-52. doi: 10.1111/jonm.13477
 16. Catania G, Zanini M, Hayter M, Timmins F, Dasso N, Ottonello G, et al. Lessons from Italian front-line nurses' experiences during the COVID-19 pandemic: a qualitative descriptive study. *J Nurs Manag.* 2021;29(3):404-11. doi:10.1111/jonm.13194
 17. Jo S, Kurt S, Bennett JA, Mayer K, Pituch KA, Simpson V, et al. Nurses' resilience in the face of coronavirus (COVID-19): an international view. *Nurs Health Sci.* 2021;23(3):646-57. doi: 10.1111/nhs.12863
 18. Lorente L, Vera M, Peiró T. Nurses' stressors and psychological distress during the COVID-19 pandemic: the mediating role of coping and resilience. *J Adv Nurs.* 2021;77(3):1335-44. doi: 10.1111/jan.14695
 19. Pang Y, Fang H, Li L, Chen M, Chen Y, Chen M. Predictive factors of anxiety and depression among nurses fighting coronavirus disease 2019 in China. *Int J Ment Health Nurs.* 2021;30(2):524-32. doi: 10.1111/inm.12817
 20. Nourollahi-Darabad M, Afshari D, Chinisaz N. Psychosocial factors associated with resilience among Iranian nurses during COVID-19 outbreak. *Front Public Health.* 2021;9:714971. doi: 10.3389/fpubh.2021.714971
 21. Kiliç T, Çelik AS. Relationship between the social support and psychological resilience levels perceived by nurses during the COVID-19 pandemic: a study from Turkey. *Perspect Psychiatr Care.* 2021;57(3):1000-8. doi: 10.1111/ppc.12648
 22. Yusefi AR, Daneshi S, Davarani ER, Nikmanesh P, Mehralian G, Bastani P. Resilience level and its relationship with hypochondriasis in nurses working in COVID-19 reference hospitals. *BMC Nurs.* 2021;20(1):219. doi:10.1186/s12912-021-00730-z
 23. Huang F, Lin M, Sun W, Zhang L, Lu H, Chen WT. Resilience of frontline nurses during the COVID pandemic in China: a qualitative study. *Nurs Health Sci.* 2021;23(3):639-45. doi: 10.1111/nhs.12859
 24. Peñacoba C, Catala P, Velasco L, Carmona-Monge FJ, Garcia-Hedrerera FJ, Gil-Almagro F. Stress and quality of life of intensive care nurses during the COVID -19 pandemic: self-efficacy and resilience as resources. *Nurs Crit Care.* 2021;26:493-500. doi: 10.1111/nicc.12690
 25. Lara-Cabrera ML, Betancort M, Muñoz-Rubilar CA, Rodríguez Novo N, De Las Cuevas C. The

mediating role of resilience in the relationship between perceived stress and mental health. *Int J Environ Res Public Health*. 2021;18(18):9762. doi: 10.3390/ijerph18189762

26. Karabulak H, Kaya F. The relationship between psychological resilience and stress perception in nurses in turkey during the COVID-19 pandemic. *J Nurs Res*. 2021;29(6):e175. doi: 10.1097/jnr.0000000000000454

27. Yörük S, Güler D. The relationship between psychological resilience, burnout, stress, and sociodemographic factors with depression in nurses and midwives during the COVID-19 pandemic: a cross-sectional study in Turkey. *Perspect Psychiatr Care*. 2021;57(1):390-8. doi: 10.1111/ppc.12659

28. Liu X, Ju X, Liu X. The relationship between resilience and intent to stay among Chinese nurses to support Wuhan in managing COVID-19: The serial mediation effect of post-traumatic growth and perceived professional benefits. *Nurs Open*. 2021;8(5):2866-76. doi: 10.1002/nop2.874

29. Afshari D, Nourollahi-Darabad M, Chinisaz N. Demographic predictors of resilience among nurses during the COVID-19 pandemic. *Work*. 2021;68:297-303. doi: 10.3233/WOR-203376

30. Altmayer V, Weiss N, Cao A, Marois C, Demeret S, Rouhat B, et al. Coronavirus disease 2019 crisis in Paris: a differential psychological impact between regular intensive care unit staff members and reinforcement workers. *Aust Crit Care*. 2021;34(2):142-5. doi: 10.1016/j.aucc.2020.11.005

31. Lin J, Ren YH, Gan HJ, Chen Y, Huang YF, You XM. Factors associated with resilience among non-local medical workers sent to Wuhan, China during the COVID-19 outbreak. *BMC Psychiatry*. 2020;20(417):1-7. doi: 10.1186/s12888-020-02821-8

32. Ou X, Chen Y, Liang Z, Wen S, Li S, Chen Y. Resilience of nurses in isolation wards during the COVID-19 pandemic: a cross-sectional study. *Psychol Health Med*. 2021;26(1):98-106. doi: 10.1080/13548506.2020.1861312

33. Zakeri MA, Rafsanjanipour SMH, Zakeri M, Dehghan M. The relationship between frontline nurses' psychosocial status, satisfaction with life and resilience during the prevalence of COVID-19 disease. *Nurs Open*. 2021;8(4):1829-39. doi: 10.1002/nop2.832

34. Jose S, Dhandapani M, Cyriac MC. Burnout and Resilience among Frontline Nurses during COVID-19 Pandemic: A Cross-sectional Study in the Emergency Department of a Tertiary Care Center, North India. *Indian J Crit Care Med*. 2020;24(11):1081-8. doi: 10.5005/ijcp-journals-10071-23667

35. Shields LBE, Young MW, Thornsberry JN, Nichols LA, Flanders K. Leadership immersion and aspiring leader programs designed to improve nurses' well-being and competence: integral features during the COVID-19 pandemic. *Nurse Lead* [Internet]. 2022 [cited 2022 Jun 02] doi: 10.1016/j.mnl.2022.04.004

Author's Contributions

1 – Thiago Portela Carocchini

Corresponding author

Nurse, Graduate degree - Email: thiagocarocchini@gmail.com

Research conception and/or development and/or article writing.

2 – Alexandre Pazetto Balsanelli

Nurse, PhD - Email: alexandre.balsanelli@unifesp.br

Review and approval of the final version.

3 – Vanessa Neves

Nurse, PhD - Email: vanessa.neves@unifesp.br

Review and approval of the final version.

Editor-in-Chief: Cristiane Cardoso de Paula

Associate Publisher: Daiana Foggiato de Siqueira

How to cite this article

Carocchini TP, Balsanelli AP, Neves V. Nurses' resilience in the COVID-19 pandemic: an integrative review Rev. Enferm. UFSM. 2022 [Access at: Year Month Day]; vol.12, e60: 1-20. DOI: <https://doi.org/10.5902/2179769270622>