RIASE
REVISTA IBERO-AMERICANA DE SAÚDE E ENVELHECIMENTO
REVISTA IBERO-AMERICANA DE SALUD Y ENVEJECIMIENTO

PREVALENCE OF ANXIETY IN NURSES CARING FOR THE PERSON WITH COVID-19

PREVALÊNCIA DE ANSIEDADE NOS ENFERMEIROS QUE CUIDAM DA PESSOA COM COVID-19

PREVALENCIA DE LA ANSIEDAD EN LAS ENFERMERAS QUE CUIDAN A LA PERSONA CON COVID-19

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Recebido/Received: 2022-03-25 Aceite/Accepted: 2022-08-02 Publicado/Published: 2022-08-29

DOI: http://dx.doi.org/10.24902/r.riase.2022.8(1).540.74-94

VOL. 8 NO. 1 APRIL 2022

ABSTRACT

Anxiety is a problem at national and global level in health professionals who deal with challenging circumstances, including wars, catastrophes, and pandemics like the one we live in today.

Objective: To identify the prevalence of anxiety in nurses who provide care to people with COVID-19 in a hospital context, by conducting a systematic literature review.

Method: As a first step, we proceeded with the elaboration of a research question through the CoCoPop mnemonic, where we define anxiety as a condition (Co), the hospital as a context (Co), nurses who provide care to the person with Covid-19 (Pop) considering scientific articles from cross-sectional studies in full text, with year of publication of 2020. The EBSCOhost database was used.

Results: We conducted a meta-analysis of the studies, where we obtained a prevalence of anxiety in nurses who provide care to the person with COVID-19 in a hospital context of 20.5% (95% IC = 8.1%; 43.2%). The anxiety-promoting factors identified were the fear of infection or infecting someone; have close relatives infected or who may die with COVID--19; the limitation of social activities and with people close to them, as well as the lack of family and social support; have chronic disease; scarcity of personal protective equipment and skin lesions caused by them; physical and mental fatigue and high stress levels.

Conclusions: The study shows high prevalence of anxiety in nurses who provide care to people with COVID-19 in a hospital context. Future investigations are suggested that explore the type of effective interventions to alleviate and support nurses in these situations.

Descriptors: Anxiety; COVID-19; Hospital; Nurse.

RESUMO

A ansiedade é um problema a nível nacional e mundial nos profissionais de saúde que lidam com circunstâncias desafiadoras, entre elas guerras, catástrofes e pandemias como a que vivemos atualmente.

Objetivo: Identificar a prevalência de ansiedade nos enfermeiros que cuidam da pessoa com COVID-19 em contexto hospitalar, através da realização de uma Revisão Sistemática da Literatura de Prevalência.

Método: Como primeira etapa, procedeu-se à elaboração de uma questão de investigação através da mnemónica CoCoPop, onde se definiu ansiedade como condição (Co), Hospitais onde se prestam cuidados à pessoa com COVID-19 como contexto (Co), enfermeiros que

prestam cuidados à pessoa portadora de COVID-19 como população (Pop), foram considerados artigos científicos de estudos transversais em texto integral, com ano de publicação de 2020. Utilizou-se a base de dados EBSCOhost.

Resultados: Procedemos a uma meta-análise dos estudos, onde obtivemos uma prevalência de ansiedade nos Enfermeiros que prestam cuidados à pessoa portadora de COVID-19 em contexto hospitalar de 20,5% (95% IC = 8,1%; 43,2%). Como fatores promotores da ansiedade identificaram-se o receio de infeção ou de infetar alguém; ter familiares próximos infetados ou que possam falecer com COVID-19; ainda a limitação das atividades sociais e com pessoas próximas, bem como a falta de apoio social e familiar; ser portador de doença crónica; escassez de equipamentos de proteção individual e lesões da pele provocadas pelos mesmos; fadiga física e mental e níveis de *stress* elevado.

Conclusões: Verificou-se uma elevada prevalência de ansiedade nos enfermeiros que cuidam da pessoa com COVID-19 em contexto hospitalar. Sugerem-se futuras investigações que explorem o tipo de intervenções efetivas para minorar e apoiar os enfermeiros nestas situações.

Descritores: Ansiedade; COVID-19; Enfermagem; Hospital.

RESUMEN

La ansiedad es un problema nacional y mundial en los profesionales de la salud que se enfrentan a circunstancias difíciles, como guerras, catástrofes y pandemias como la que estamos viviendo.

Objetivo: Identificar la prevalencia de la ansiedad en los enfermeros que atienden a personas con COVID-19 en el contexto hospitalario, a través de la realización de una revisión sistemática de la literatura de prevalencia.

Método: Como primera etapa, se procedió a la elaboración de una pregunta de investigación a través de la mnemónica CoCoPop, en la que se define la ansiedad como condición (Co), los hospitales en los que se prestan cuidados a personas con COVID-19 como contexto (Co), los enfermeros que prestan cuidados a personas portadoras de COVID-19 como población (Pop), se consideraron artículos científicos de estudios transversales en texto integral, con año de publicación de 2020. Se utilizó la base de datos EBSCOhost.

Resultados: Se realizó un meta-análisis de los estudios, donde se obtuvo una prevalencia de ansiedad en las Enfermeras que prestan cuidados a pacientes con COVID-19 en el ámbito hospitalario del 20,5% (IC 95% = 8,1%; 43,2%). Se identificaron los siguientes factores que promueven la ansiedad: el miedo a la infección o a infectar a alguien; tener familiares cercanos infectados o que puedan morir con COVID-19; la limitación en las actividades

sociales y con las personas cercanas, así como la falta de apoyo social y familiar; tener una enfermedad crónica; la falta de equipos de protección personal y las lesiones cutáneas causadas por ellos; la fatiga física y mental; y los altos niveles de estrés.

Conclusiones: Se encontró una alta prevalencia de ansiedad en las enfermeras que atienden a personas con COVID-19 en entornos hospitalarios. Los estudios futuros deberán explorar el tipo de intervenciones eficaces para reducir y apoyar a las enfermeras en estas situaciones.

Descriptores: Ansiedad; COVID-19; Enfermería; Hospital.

INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared the disease COVID-19 (Coronavirus Disease 2019) as a pandemic, based on the alarming levels of spread it took[1].

A pandemic corresponds to the spread of a new infectious disease, which spreads across different continents with sustained transmission from person to person, with no immunization for it[2].

The disease COVID-19 is caused by the SARS-CoV-2 virus, belongs to the Coronavirus family and it is an acute respiratory disease. It manifests with symptoms that can range from mild to severe and that often lead the person with or suspected of being a carrier to have to resort to health services for the purpose of differential diagnosis or treatment and symptom control[3].

The number of COVID-19 cases has been growing exponentially worldwide and, according to the WHO report of November 15, 2020, there are 53,507,282 confirmed cases of COVID-19 of which 1,305,164 people have died worldwide[4].

The scale and speed with which the COVID-19 disease spread took most nations off guard and no health service, whether public or private, was prepared for a pandemic with such a high rate of transmissibility, imposing on services an enormous effort to minimize the spread, reduce the speed of diffusion and achieve the mitigation of the impact on the health of populations[5,6].

Nurses are an essential part of this health service network that is subject to tremendous pressure and stress. The fight against COVID-19 tests not only the physical and professional capacities of nurses, as well as their psychological and emotional capacities[6-8], and

several studies report that they feel isolated and powerless in the face of the scale of the problem they face[6-8,9], even sacrificing their own needs to participate in the collective effort to recover from the situation[10]. It is urgent to study the mechanisms of adaptation of these professionals to this new reality[8].

The studies carried out after the occurrence of the Severe Acute Respiratory Syndrome epidemics; Middle East Respiratory Syndrome-Coronavirus; Ebola and influenza virus, revealed that nurses who were in direct contact with infected patients suffered from loneliness, anxiety, fear, fatigue, sleep disorders and other physical and mental changes[11-15]. However, positive feelings of personal growth and gratification also emerged for participating in the collective effort to solve the problem[6].

The circumstances described forced many health professionals to work in scenarios for which they were not properly trained. Working in a negative pressure chamber, with personal protective equipment is quite complex and requires resistance and resilience on the part of professionals. Nurses who were moved from their original services to collaborate in other services, where there was greater pressure during that period, also felt the need to mobilize internal resources to deal with the situation[6]. In addition to having to deal with patients, nurses also had to deal with these added factors.

Even before the COVID-19 pandemic, the WHO stated that mental health problems should be taken into account in health policies[16]. Mental health issues can have devastating effects on the lives of individuals, families and communities, with one in two people experiencing a mental health illness in their lifetime[17].

The global prevalence of anxiety disorders in 2017 was estimated at around 3.6%, affecting the female population (4.6%) more than the male population (2.6%)[16,18]. No statistically significant differences were found between the urban and rural population[18] as well as between age groups, although a smaller trend has been identified in older age groups[16].

Anxiety comprises feelings of threat, danger or anguish[19], and it is also defined as an occasional symptom of worry or fear, which causes restlessness, easy fatigue, difficulty concentrating, irritability, muscle tension, difficulty controlling feelings of concern, changes of sleep and that may worsen over time[20].

The most frequent risk factors are: personality traits developed by inhibitory behaviors in childhood; exposure to stress and negative living conditions from childhood or adolescence; family history of anxiety or other mental disorders; some health conditions such as metabolic changes related to thyroid functioning; cardiac alterations and ingestion of caffeine or other substances that can worsen anxiety symptoms[20,21].

Anxiety-related disorders have an impact on people's quality of life, with the social dimension being one of the most affected functions[22].

Systematic reviews of the prevalence literature are a fundamental basis of information to design strategies in the health area[23].

In view of the above, it was decided to carry out a systematic review of the literature on the prevalence of anxiety in nurses who care for people with COVID-19, in the first half of 2020.

The structure of this article is consistent with the Joanna Briggs Institute (JBI)[23] guidelines and evidence synthesis requirements for systematic reviews of prevalence and incidence.

METHODS

Objectives

This Systematic Literature Review has the general objective of identifying the prevalence of anxiety in nurses who care for the person with COVID-19 in a hospital context, in the first half of 2020, and as specific objectives to know the relationship between sociodemographic and the prevalence of anxiety, in addition to identifying which are the protective factors of anxiety.

In order to respond to the objectives, the question was elaborated: "What is the prevalence of anxiety in nurses who care for people with COVID-19 in a hospital context?".

Inclusion Criteria

As inclusion criteria in this Systematic Literature Review, articles where the population studied are nurses who care for people with COVID-19, studies in a hospital context where the prevalence of anxiety is evaluated, in English, Portuguese or Spanish using the mnemonic CoCoPop (Table 1↗).

Research Strategy

We started by verifying and validating the descriptors: COVID-19, Nurse, Anxiety and Hospital in the Medical Subject Headings (MeSH).

In this research, the *EBSCOhost* database was used to search for articles that answered our question, using the Academic Search Complete sources; Business Source Complete; CINAHL Plus with full text; Eric; Library, Information Science & Technology Abstracts; MedicLatin; MEDLINE with Full Text, Psychology and Behavioral Sciences Collection; Regional Business News and SPORTDiscus with Full Text.

The search was carried out in October 2020, the Boolean used among the descriptors was AND, and the filters applied in the search were Full Text and year of publication 2020. As a result of the search, 151 articles were obtained, of which 39 were automatically eliminated by the database because they were duplicates, making a total of 112 articles available for analysis of Title and Abstract.

From the articles found, descriptive, observational, cross-sectional and quantitative studies were selected, which met the remaining inclusion criteria.

After analyzing the titles and abstracts, 99 articles were eliminated, 28 of which did not correspond to the topic addressed, 10 were not quantitative studies, 51 were not only studying nurses who cared for the person with COVID-19 in a hospital context, 2 were duplicates and 8 were in a language other than English, Portuguese or Spanish.

In this phase, 13 articles were included for full text reading and data analysis. After full reading and data collection and applying the inclusion criteria again, 7 articles were excluded and 6 articles were included, as outlined in Figure 1↗.

Assessment of the Methodological Quality of the Studies

The selected studies follow the observational, descriptive and cross-sectional methodology, which corresponds to the level of evidence 4.b in the JBI classification[26]. The methodological quality of the studies was evaluated according to the JBI's critical assessment instrument for cross-sectional studies[23]. This instrument was selected instead of the instrument of critical assessment of prevalence studies, because all studies belong to this category (Chart 1↗).

Data Extraction

Data extraction was performed according to the indications of the JBI Evidence Synthesis Manual[23].

Data Synthesis

The following table presents the narrative summary of the data extracted from the selected articles (Chart 2↗).

The prevalence of moderate and severe anxiety was estimated in 6 studies (A[27], B[28], C[29], D[30], E[31], F[32]) and ranged between 4.7% and 50%. The weighted average of the prevalence of anxiety was 20.5% (95% Confidence Interval = 12.4%; 13.3%; I2 = 99.8%) as shown in Graph 1↗.

RESULTS

The different scales and limits (cut-off points) adopted by each study showed some heterogeneity in the comparison between them. That is, it was observed in studies A[27], D[30] and E[31] that used the GAD (scale of 7 items that assess different symptoms, assessing their presence and frequency over the last two weeks, reliable and valid to apply in different populations[27,30,31]); study C[29] which used the HAMA (used to assess the presence of anxiety in depression treatment studies and which consists of verifying the existence or not of 14 symptoms[29]); and studies B[28] and F[32] that used the SAS (assess emotional and physical symptoms of anxiety, with extensive validation in the Chinese population and that the higher the score, the higher the level of anxiety[28,32]). Studies A[27], B[28], C[29] and E[31] considered mild anxiety symptoms and studies D[30] and F[32] only considered moderate and severe effects for accounting in the calculation of the prevalence.

Given this heterogeneity, for the purposes of discussion, the prevalence of anxiety in this study was calculated with the cut-off point from moderate and severe levels, grouping nurses without anxiety and with mild anxiety levels in the group without anxiety. and with mild anxiety.

The sum of the samples from all studies was 31,189 nurses who care for people with COVID-19, in a hospital context, with a weighted average prevalence of anxiety of 20.5%. This result is higher than the prevalence of anxiety found in the world population in 2017, which amounted to 3.6% (16,18) and the prevalence of anxiety in India in a study carried out between 1990 and 2017, in which 3.3% of the population presented anxiety disorders[34].

In studies A[27], D[30] and E[31] the GAD was used, and in study A[27] the prevalence of anxiety was 8.1% for a sample of 4,692 nurses, in D[30] of 38.7% for a sample of 441 and in E[31] of 39.8% for a sample of 2,667, resulting in a weighted average of 25.7% (95%CI = 24.6% - 26.9%).

In studies B[28] and F[32] the SAS was used, and in study B[28] the prevalence of anxiety was 4.7% in a sample of 21,199 nurses and, in study F[32], the prevalence of anxiety was 14.3% for a 2014 sample, resulting in a weighted average of 6% (95%CI = 5.7% - 6.3%).

In study C[29] the HAMA was used and found a prevalence of anxiety of 50% in a sample of 176 nurses, which was higher when compared to studies that used the SAS and the GAD.

It was possible to identify the relationship between sociodemographic variables and their prevalence, being able to verify that in Chinese studies the prevalence of anxiety is higher in female nurses (A[27], B[28], D[30], F[32]), a fact already identified in pre-pandemic prevalence studies[16,18]; married[35] and with dependent relatives (A[27], B[28], C[29]). In turn, study D[30] carried out in Iran, found that single nurses have higher anxiety values and nurses with one or more children have lower anxiety values, contrary to the studies mentioned above. In this study, it was also found that nurses living in rural areas have less anxiety than nurses living in urban areas, which is not in line with the study carried out by Guo et al[18] which states that there is no difference in prevalence of anxiety between the rural and urban population.

In the analysis of professional characteristics, there was a higher prevalence of anxiety in nurses with less academic training, when compared with nurses with more academic training (A[27], C[29], D[30]), a relationship also found in other studies[18,35].

Higher levels of anxiety were also found in nurses with less specific training on COVID-19 and without prior training in providing care to patients with this pathology (A[27], B[28], C[29]). Study C[29] is also noteworthy, in which a lower prevalence of anxiety was observed in nurses with longer professional experience. Working in areas and hospitals where the pandemic had a higher incidence was correlated with higher levels of anxiety (A[27], B[28]).

Study F[32] identifies self-efficacy and resilience as a protective factor for anxiety, as being beneficial for the preparation of a catastrophe such as the COVID-19 pandemic situation.

As anxiety-promoting factors, the fear of becoming infected or of infecting someone, the limitation of social activities and the impossibility of contacting friends and family (B[28]), having a chronic disease, having family and friends were identified. infected or who died with COVID-19 (A[27], D[30]), the scarcity of personal protective equipment as well as the lack of training for its use (D[30]), skin lesions caused by personal protective equipment (F[32]), lack of family and social support (F[32]), physical and mental fatigue (B[28], C[29]) and high level of stress (C[29]). A study developed by Gao *et al*[35] reinforces the idea that being married, having more academic training, having a chronic illness and having little social support are factors that promote anxiety.

Analyzing the timeline of the studies included in this review, it was found that there is an increase in the prevalence of anxiety in the studies when carried out in March/April 2020 (D[30], F[32]), compared to those carried out in February 2020 (A[27], B[28], F[32]), which may reflect an effect of the perceived increase in the pandemic.

The analyzed studies showed positive correlations between anxiety and several mental health problems such as depression, exhaustion and stress, similar results to the study developed by Pereira *et al*[36].

Nurses are an indispensable component of the workforce in health systems[35] and, therefore, physical and psychological effort is required, even if unintentionally, from this same team, leading to feelings of exhaustion, tiredness and frustration, when despite all this effort, the results are not as expected[37].

In this sense, the mental health of nurses needs attention from managers in order to minimize the impact on the mental health of professionals, in order to improve their quality of life, as well as the quality of care provided to hospitalized patients[37]. Studies have shown that the prevalence of anxiety in nurses is higher than in the general population[35,38].

CONCLUSION

This systematic review and meta-analysis calculated an aggregate prevalence of the 6 studies identified, at 20.5% of anxiety in nurses caring for the person with COVID-19, in a hospital context, in the first half of 2020.

A higher prevalence of anxiety was identified in female nurses, married, with family members, with less academic training, with less professional experience, with less professional training and specific previous training in COVID-19 and working in areas and hospitals where the pandemic had a greater incidence. As anxiety-promoting factors, it was recognized the fear of becoming infected or of infecting someone, having family members and friends infected or who have died with COVID-19, the limitation of social activities and the impossibility of contacting close people, being a carrier of chronic illness, lack of personal protective equipment and skin injuries caused by them, lack of family and social support, physical and mental fatigue and high level of stress.

Self-efficacy and resilience proved to be protective factors against anxiety.

Most studies were conducted in China (83.3%), so generalization may be limited by cultural issues; another limitation was that convenience sampling was used, so sampling bias may exist; another possibility of bias is the use of different instruments for assessing anxiety, as well as the study population integrating nurses with different levels of training (technical, licentiate, master's and doctoral). The studies are cross-sectional, so long-term implications cannot be inferred.

The evidence found in this study provides a useful insight into the implications that the provision of care to people with COVID-19 has on nurses' mental health, namely anxiety, and that require attention by institutional and political decision-makers, redesigning policies and targeted interventions. for solving this problem.

Future work should carry out studies with geographically distinct populations, use standardized anxiety scales, address the impact on the quality of nursing care, as well as find effective interventions to alleviate anxiety and support nurses.

At the end of this phase of the systematic literature review, it is pertinent to reflect, concluding that Nursing is a profession that, due to the nature and complexity of the care it provides, justifies the existence of high levels of anxiety. If to all this complexity, we add initial ignorance of a pandemic situation such as the COVID-19 disease, it is expected that these levels will increase. With the demonstration of these data, we believe that the need to implement professional and personal programs to reduce anxiety is justified, for a better quality of life for these nurses and, consequently, an improvement in the quality of care provided to individuals and families.

Authors' contributions

PL, MCM, AR, AC, JT, LM, SP, VS: Study design and coordination, data collection, storage and analysis, review and discussion of results.

PL, MCM, AR, AC, JT, LM, SP, VS: Study design, review and discussion of results.

PL, MCM, AR, AC, JT, LM, SP, VS: Study design and coordination, data analysis, review and discussion of results.

All authors read and agreed with the published version of the manuscript.

Ethical Disclosures

Conflicts of Interest: The authors have no conflicts of interest to declare.

Financing Support: This work has not received any contribution, grant or scholarship.

Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Protection of Human and Animal Subjects: The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the 2013 Helsinki Declaration of the World Medical Association.

Provenance and Peer Review: Not commissioned; externally peer reviewed.

Responsabilidades Éticas

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.

Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Proteção de Pessoas e Animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia de 2013 da Associação Médica Mundial.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

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Table 1 – Definition of inclusion criteria for studies.

Co	Condition	Anxiety
Co	Context	Hospitals where people with COVID-19 are cared for
Pop	Population	Nurses

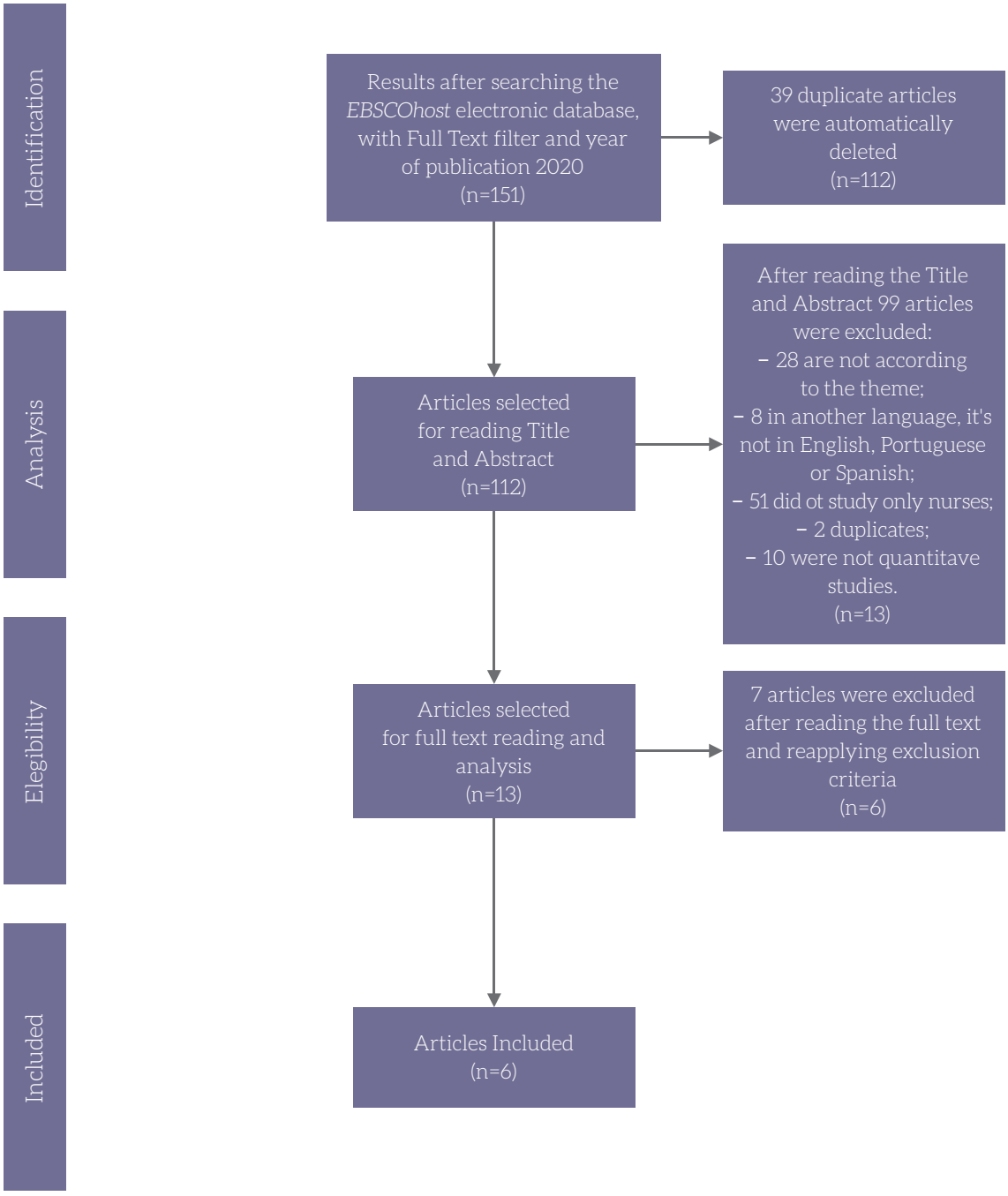
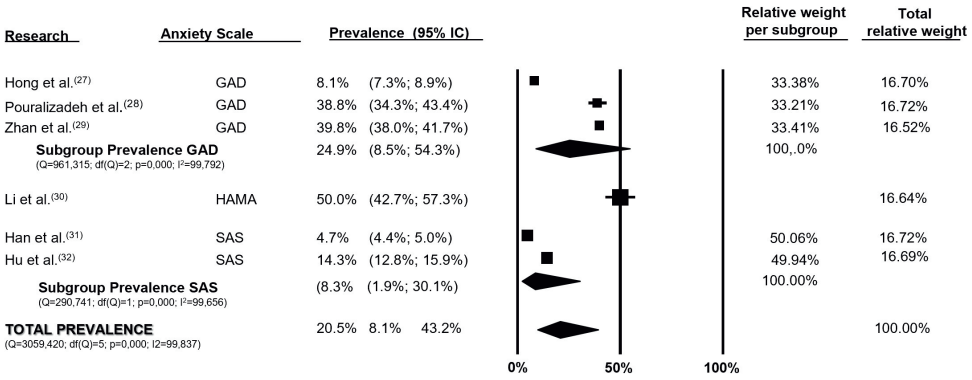


Figure 1 – Selection diagram for PRISMA type articles.↖
Source: adapted from Moher *et al*[25].

Chart 1 – Critical assessment of included studies according to the JBI critical assessment instrument[23].

Articles	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Results
Article A	✓	✓	✓	✓	✓	✗	✓	✓	87.5%
Article B	✓	✓	✓	✓	✓	✓	✓	✓	100%
Article C	✓	✓	✓	✓	✓	✗	✓	✓	87.5%
Article D	✓	✓	✓	✓	✓	✗	✓	✓	87.5%
Article E	✓	✓	✓	✓	✓	✓	✓	✓	100%
Article F	✓	✓	✓	✓	✓	✓	✓	✓	100%

Weighted Prevalence



Subtitle: IC – Confidence Interval; GAD – Generalized Anxiety Disorder 7-item Scale; HAMA – the Hamilton rating scale for anxiety; SAS – Self-Rating Anxiety Scale 20-item Scale.

Graph 1 – Meta-analysis of the studies considered.

Source: Forest plot adapted from Output by Comprehensive Meta Analysis V.3.3.070.

Chart 2 – Identification, characterization and results of included studies.

Study	Author	Aim	Total Participants and Nationality	Results	Period
A – *Immediate psychological impact on nurses working at 42 government-designated hospitals during COVID-19 outbreak in China: A cross-sectional study.*	Hong *et al*[27]	To assess the impact of providing care to COVID-19 patients on the mental health of nurses, where anxiety, depression, suicidal ideation and somatization are assessed, through online surveys and application of assessment scales.	4,692 Nurses caring for patients with COVID-19 in a hospital context. Country: China.	The Generalized Anxiety Disorder (7-item Scale) (GAD) was used and found a prevalence of moderate to severe anxiety of 8.1%. The sample of this study is essentially female, representing 96.9% of the elements. It has a representation of 56.5% of nurses aged between 19 and 30 years. The most represented marital status is married with 64.2%. The bachelor's and higher education level represent 65.9% of the sample. They identify as anxiety-promoting factors: • lower level of academic training; • lack of education and training in providing care to COVID-19 patients; • having an infected family member.	February 2020.
B – *Anxiety and Depression of Nurses in a North West Province in China During the Period of Novel Coronavirus Pneumonia Outbreak.*	Han *et al*[28]	To investigate levels of anxiety and depression in frontline nurses working in 14 hospitals in Gansu province, China, during a given period, through a survey and application of anxiety and depression rating scales.	21,199 nurses who provide care to the person with COVID-19 in a hospital context. Country: China.	The Self-Rating Anxiety Scale (20-item Scale) (SAS) was used, and a prevalence of moderate to severe anxiety of 4.7% was found. Age as well as academic background did not influence reported anxiety levels. Married nurses who had relatives in their care had higher levels of anxiety, 43.1% and 43.2% respectively. The knowledge that nurses have about the disease positively impacts the level of anxiety felt, 42.4% of the most knowledgeable nurses report anxiety compared to nurses who reported having little knowledge (44.4%). The fear of becoming infected or infecting someone, the limitation of social activities and the impossibility of contacting friends and family were identified as factors that promote anxiety.	February 7th to 10th, 2020.

Chart 2 – Identification, characterization and results of included studies.

Study	Author	Aim	Total Participants and Nationality	Results	Period
C – *Anxiety and related factors in frontline clinical nurses fighting COVID-19 in Wuhan.*	Li *et al*[29]	To investigate the anxiety status of frontline clinical nurses in hospitals designated for the treatment of people with COVID-19 in Wuhan, through a survey and application of the anxiety rating scale.	176 nurses who care for patients with COVID-19 in a hospital context. Country: China.	The Hamilton rating scale for anxiety (HAMA) was used and a prevalence of moderate to severe anxiety of 50% was found. Of these 77.3%, 27.3% had mild anxiety; 25% had moderate anxiety and 25% had severe anxiety. Nurses over 35 years of age had higher levels of anxiety. Married nurses showed higher levels of anxiety than single nurses, 18.6% and 12.4% respectively; however, divorced nurses (25%) had the highest levels. Nurses from technical courses had a score on the anxiety scale 2.2 times higher than nurses with bachelor's and master's degrees. The number of weeks of work in service with COVID-19 patients influenced the level of anxiety, with more anxiety in nurses with more time of care. The greater the professional experience as a nurse, the lower the anxiety levels.	January and February 2020.

Chart 2 – Identification, characterization and results of included studies.↔↖

Study	Author	Aim	Total Participants and Nationality	Results	Period
D – *Anxiety and depression and the related factors in nurses of Guilan University of Medical Sciences hospitals during COVID-19: A web-based cross-sectional study.*	Pouralizadeh *et al*[30]	To study the levels of anxiety and depression of nurses working in hospitals in the Iranian province of Guilan, greatly affected by the COVID-19 pandemic, applying the assessment scales.	441 nurses caring for COVID-19 patients in hospitals in Guilan province. Country: Iran.	GAD was used and a prevalence of anxiety of 38.7% was found. The mean score on the anxiety scale was 8.64 ± 5.60, corresponding to mild anxiety. The sample is predominantly female with a representation of 95%. Elements working in designated COVID-19 hospitals were 69% of the sample. Nurses who were suspected of being infected had higher levels of anxiety. About 38% of nurses had limited access to personal protective equipment, of these 95% had higher levels of anxiety. The prevalence of anxiety is higher in single nurses (43.4%) compared to married nurses (37.3%); The prevalence of anxiety is higher in nurses living in urban areas (39.3%) compared to nurses living in rural areas (30.8%); Nurses with one child or more had lower anxiety levels (35.6%) compared to nurses without children (43.5%). Nurses with a bachelor's degree and lower levels of education had a higher prevalence of anxiety (39.3%) than nurses with a master's and doctoral degree (34.1%). The main anxiety-promoting factors are: • have a chronic illness; • having infected family members and friends; • a family member or friend has died from COVID-19; • suspected of being infected; • personal protective equipment is insufficient.	Abril 7-12, 2020.

Chart 2 – Identification, characterization and results of included studies.

Study	Author	Aim	Total Participants and Nationality	Results	Period
E – *Prevalence and Influencing Factors on Fatigue of First-line Nurses Combating with COVID-19 in China: A Descriptive Cross-Sectional Study.*	Zhan *et al*[31]	To assess the prevalence of fatigue and anxiety among frontline nurses fighting COVID-19 in Wuhan (China) and analyze associated factors.	2,667 Registered Nurses caring for COVID-19 patients in 7 hospitals in Wuhan, China. Response rate of 96.35%. Country: China.	GAD was used and a prevalence of anxiety of 39.8% was found. They demonstrated that anxiety is positively associated with nurses' physical and mental fatigue.	March 3 to 10, 2020.
F – *Frontline nurses, burnout, anxiety, depression, and fear status and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study.*	Hu *et al*[32]	To assess the impact that providing care for patients with COVID-19 has on burnout levels. anxiety, depression and fear of frontline nurses in Wuhan province through an online survey.	2014 Frontline nurses caring for COVID-19 patients at two hospitals in Wuhan province. Country: China.	SAS was used and a prevalence of anxiety of 14.3% was found Participants had mild (27.1%), moderate (11.0%) and severe (3.3%) anxiety levels. Most nurses (82.1%) had previous training, but 1229 (61.0%) of the participants had no training or experience in providing care to patients with infectious diseases. Anxiety was positively correlated with skin injury and negatively correlated with self-efficacy, resilience, intra-family social support, and extra-family social support. This study showed that 40% to 45% of frontline nurses experienced anxiety or depression, with 11% to 14% having moderate levels of anxiety or severe depression, these results being similar to those seen in the SARS outbreak in 2003. Frontline nurses are at increased risk of anxiety and depression when compared to a previous study of 5062 healthcare workers (3240 from non-isolated wards, 1607 from isolation wards, 215 out of work or self-isolating).	February 13th to 24th, 2020.