REVISTA ENFERMAGEM ATUAL IN DERME

EFFECTIVENESS OF NURSING CARE IN PATIENTS HOSPITALIZED FOR COVID-19: SYSTEMATIC REVIEW PROTOCOL

EFETIVIDADE DOS CUIDADOS DE ENFERMAGEM EM PACIENTES INTERNADOS POR COVID-19: PROTOCOLO DE REVISÃO SISTEMÁTICA

EFECTIVIDAD DE LOS CUIDADOS DE ENFERMERÍA EN PATIENTES HOSPITALIZADOS POR COVID-19: PROTOCOLO DE REVISIÓN SISTEMÁTICA

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ABSTRACT

Objective: To assess the effectiveness of nursing care in the safety of patients hospitalized for COVID-19, considering the reduction in length of stay, morbidity, and mortality. **Method:** A systematic review protocol following the methodology of the Joanna Briggs Institute and Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols. Primary studies will be included, preferably randomized clinical trials, and others such as quasi-experimental clinical trials, prospective and retrospective cohort studies, and cross-sectional and case-control studies, published from 2019 to the time of the search, in Portuguese, English, or Spanish. The search will be conducted in the databases Cumulative Index of Nursing and Allied Health Literature (CINAHL-EBSCO), Publicly Medline (PubMed-Medline), Scopus-Elsevier, Excerpta Medica Database (EMBASE-Elsevier), Web of Science (Clarivate Analytic), Latin American and Caribbean Health Sciences Literature (LILACS-BDENF), Scientific Electronic Library Online (SciELO), Google Scholar, the Brazilian Digital Library of Theses and Dissertations and the CAPES Catalog of Theses and Dissertations. Identified studies will have duplicates excluded using EndNote, and the remaining study selection process will be conducted independently by two reviewers using the Rayyan application, with a third reviewer being consulted in case of discrepancies. The protocol was registered on the PROSPERO platform under the number CRD42023444167.
Keywords: Nursing Care; Treatment Outcome; Length of Stay; Patient Safety; COVID-19.

RESUMO

Objetivo: Avaliar a efetividade da utilização dos cuidados de enfermagem na segurança de pacientes internados por COVID-19 em hospitais considerando a redução do tempo de internação, morbidade e mortalidade. **Método:** Protocolo de revisão sistemática conforme a metodologia do *Joanna Briggs Institute* e o *Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols.* Serão incluídos estudos primários, preferencialmente ensaios clínicos randomizados, e outros como ensaios clínicos aleatórios e quase experimentais, estudos observacionais tipo coorte prospectiva e retrospectiva, transversais e caso controle, publicados de 2019 até o momento da busca, em português, inglês ou espanhol. Será realizada busca nas bases de dados *Cumulative Index of Nursing and Allied Health Literature* (CINAHL-EBSCO), *Publicly Medline (PubMed-Medline)*, *Scopus*-Elsevier, *Excerpta Medica DataBase* (*EMBASE-Elsevier*), *Web of Science (Clarivate Analytic)*, Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS-BDENF), *Scientific Eletronic Library Online* (SciELO), Google Acadêmico, Biblioteca Digital Brasileira de Teses e Dissertações e no Catálogo de Teses e Dissertações da CAPES. Os estudos identificados terão as duplicatas excluídas no *EndNote* e o restante do processo de seleção dos estudos será realizado por dois revisores de maneira independente, no aplicativo *Rayyan* e um terceiro revisor será acionado caso haja divergências. O protocolo foi registrado na plataforma PROSPERO, sob número CRD42023444167.
Palavras-chave: Cuidados de Enfermagem; Resultado do tratamento; Tempo de Internação; Segurança do Paciente; COVID-19.

RESUMEN

Objetivo: Evaluar la efectividad de la utilización de los cuidados de enfermería en la seguridad de los pacientes internados por COVID-19 en hospitales, considerando la reducción del tiempo de internación, la morbilidad y la mortalidad. **Método:** Protocolo de revisión sistemática conforme a la metodología del Instituto Joanna Briggs y el Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols. Se incluirán estudios primarios, preferentemente ensayos clínicos aleatorizados, y otros como ensayos clínicos cuasi-experimentales, estudios observacionales de cohortes prospectiva y retrospectiva, estudios transversales y de casos controles, publicados desde 2019 hasta el momento de la búsqueda, en portugués, inglés o español. La búsqueda se realizará en las bases de datos Cumulative Index of Nursing and Allied Health Literature (CINAHL-EBSCO), Publicly Medline (PubMed-Medline), Scopus-Elsevier, Excerpta Medica Database (EMBASE-Elsevier), Web of Science (Clarivate Analytic), Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS-BDENF), Scientific Electronic Library Online (SciELO), Google Scholar, la Biblioteca Digital Brasileña de Tesis y Disertaciones, y el Catálogo de Tesis y Disertaciones de CAPES. Los estudios identificados tendrán las duplicaciones excluidas en EndNote y el resto del proceso de selección de estudios será realizado de manera independiente por dos revisores en la aplicación Rayyan y un tercer revisor será consultado en caso de alguna discrepancia. El protocolo fue registrado en la plataforma PROSPERO con el número CRD42023444167.
Palabras-clave: Atención de Enfermería; Resultado del Tratamiento; Tiempo de Internación; Seguridad del Paciente; COVID-19.

INTRODUCTION

With the emergence of the novel coronavirus disease responsible for the COVID-19 pandemic in December 2019, the world faced a severe public health crisis[1] that imposed an additional burden on the structures, equipment, factors of production, and human resources of health services, and significantly challenged the health systems of several countries [2-3]. As the number of confirmed cases increased, efforts were made to expand the number of hospital beds; however, the demand for care exceeded the supply, necessitating the reorganization of institutions[4]. Simultaneously, there was a high number of deaths due to the disease[5].

This crisis triggered a restructuring of hospital care processes due to the severity of patients and the high transmissibility of the virus, and consequently, the high mortality, overburdening nursing professionals[6], weakening the delivery of care in terms of quality and safety[7]. The impact of the pandemic tested the effectiveness of healthcare systems, both in terms of organizational and technically oriented patient care[8].

The severity of the pandemic scenario imposed unprecedented demands on healthcare systems, services, and professionals, and also impacted the perception of patient safety[9]. Safe and quality care is directly related to care management and occurs through planned and organized actions, along with continuous evaluation of patient care[10]. In this context, nursing professionals play a crucial role in patient safety and recovery.

To provide safe and quality care, nursing professionals need to employ clinical reasoning and critical thinking[11], as well as mobilize strategies and actions to support the healthcare team[12-13].

Nurses' knowledge and skills have proven essential in managing the pandemic and caring for infected patients, including in intensive care settings[14]. As they work continuously to maintain well-being and vital functions, they influence the success of hospitalization and the possibility of patient recovery[15].

The tackling of the COVID-19 pandemic has been a highly discussed topic in recent years, highlighting the need for understanding the effectiveness of nursing care in the experienced scenario of instability and healthcare service overload[11,16]. In this context, a preliminary search on the PROSPERO review registry website and the PubMed/Medline database revealed two ongoing reviews on nursing care in patients with COVID-19[17-18].

Thus, we present the objective of evaluating the effectiveness of nursing care utilization in the safety of COVID-19 hospitalized patients in hospitals, considering the reduction of length of stay, morbidity, and mortality.

METHODS

Type of study

This is a systematic review protocol developed according to the methodology of the Joanna Briggs Institute (JBI) and the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P)[19-20]. The protocol was registered on the PROSPERO platform, under registration code CRD42023444167. In case any changes to this protocol are necessary, they will be recorded in PROSPERO.

Research question

The research question was developed using the PICO mnemonic (Population/Patient, Intervention, Comparator, and Outcome), as presented below:

P - Adult patients hospitalized for COVID-19;

I - Utilization of nursing care in patient safety;

C - Non-utilization of nursing care in patient safety;

O - Reduction in morbidity, reduction in mortality, reduction in length of stay.

What is the effectiveness of the utilization of nursing care in the safety of adult patients hospitalized for COVID-19 in hospitals, in relation to the reduction of length of stay and the decrease in morbidity and mortality?

Inclusion criteria

Primary studies will be included, preferably randomized controlled trials or non-randomized trials, followed by other types of studies, such as quasi-experimental trials, observational studies including prospective and retrospective cohorts, cross-sectional studies, and case-control studies, published from 2019 onwards in Portuguese, English, or Spanish. Furthermore, the delimitation of the period is justified, since COVID-19 was identified in the year 2019[21].

Studies that do not specifically evaluate nursing care practices, or that do not address the effectiveness of their utilization in reducing length of stay and ensuring the safety of COVID-19 hospitalized patients in hospitals, will be excluded. We will also exclude conference abstracts, short notes, editorials, scoping reviews, integrative reviews, narrative reviews, systematic reviews, and study protocols.

Sources of information to be searched

The databases to be searched include: Cumulative Index of Nursing and Allied Health Literature (CINAHL-EBSCO), PubMed-Medline, Scopus-Elsevier, Excerpta Medica Database (EMBASE-Elsevier), Web of Science (Clarivate Analytics), Latin American and Caribbean Health Sciences Literature (LILACS-BDENF), Scientific Electronic Library Online (SciELO).

Grey literature to be searched will include Google Scholar, Brazilian Digital Library of Theses and Dissertations (BDTD), and CAPES Thesis and Dissertation Catalog. Additionally, a search for additional studies will be conducted in the reference lists of publications included in the review. If further

information is required, the reviewers will contact the authors of the included studies.

Search strategies

The search strategy aims to find published studies including pre-defined indexing terms from a quick search in PubMed/Medline conducted in July 2023 (Table 1).

At a later stage, assistance will be requested from a librarian provided by the reviewers' home university to develop customized search strategies and to conduct systematic searches across all included databases. Access will be conducted remotely to

scientific content on the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) portal of journals, through the Federal Academic Community (CAFe)/UFSC community.

Additionally, input will be sought from experts in the field, and the reference lists of studies included in the review will be consulted. A search strategy will be defined for each database using Medical Subject Headings (MeSH Terms), along with keywords, entry terms, combined with the boolean operators "AND" and "OR" as necessary.

Table 1 – Preliminary search strategy in the PubMed/Medline database.

Database	Strategy	Number of Records
PubMed/ Medline	("Hospitals"[Mesh] OR "Hospitals" OR Hospital*) **AND** ("Coronavirus Infections"[Mesh] OR "Coronavirus Infections" OR "COVID-19"[Mesh] OR "Covid-19" OR "SARS-CoV-2"[Mesh] OR "SARS-CoV-2" OR "SARS Virus"[Mesh] OR "SARS Virus" OR "SARSCoV2" OR "COVID19" OR "COVID-2019" OR "SARS COV 2" OR "2019-nCoV" OR "2019ncov" OR "coronavírus" OR "nCoV 2019") **AND** ("Mortality"[Mesh] OR "Mortality" OR "Mortalities" OR "Case Fatality Rate" OR "Case Fatality Rates" OR "Lethality Rate" OR "Death"[Mesh] OR "Death" OR "End Of Life" OR "End-Of-Life" OR "Morbidity"[Mesh] OR "Morbidity" OR "Morbidities" OR "Length of Stay"[Mesh] OR "Length of Stay" OR "Stay Length" OR "Stay Lengths" OR "Hospital Stay" OR "Hospital Stays") **AND** ("Nursing Care"[Mesh] OR "Nursing Care" OR "Nursing"[Mesh] OR "Nursing" OR "Nursings" OR "Patient Safety"[Mesh] OR "Patient Safety" OR "Patients Safety" OR "Safe Patient" OR "Safe Patients" OR "patient protection" OR "Safety Management"[Mesh] OR "Safety Management"	2202

OR "Security Measures"[Mesh] OR "Security Measures" OR "Security Measure")

Source: prepared by the authors (2024)

Study selection

Following the development of search strategies, these will be searched in the databases included in the study by the main reviewer. All studies found will be transferred to the EndNote software and duplicate studies will be removed. The remaining studies will be transferred to the Rayyan application where they will be independently assessed by two nursing doctoral reviewers (Reviewer 1 (R1) and Reviewer 2 (R2)). Initially, titles and abstracts will be read, and inclusion and exclusion criteria will be applied. Subsequently, eligible texts will be analyzed in full. In both stages, if there is any disagreement between (R1 and R2), a third reviewer (R3) will be consulted and will decide on study selection.

Data extraction

Data extraction will be carried out by two reviewers (R1 and R2), independently, through a form in Microsoft Excel software, containing descriptive data such as: study identification (authors, title, journal, year of publication, and language), objectives, methodology (study type, sample, population, intervention, study duration, data collection methods, instruments used for data collection, and methods of result analysis), main results (intervention group size, follow-up losses, positive and negative effects of care on patient safety), limitations, and conclusions.

All studies excluded during the full-text reading phase will have the reasons for exclusion reported. In case of disagreement between (R1 and R2), the third reviewer (R3) will be consulted for the final decision. The research findings will be presented in a PRISMA flowchart and reported in full as a scientific article.

Assessment of methodological quality

The assessment of the methodological quality of eligible studies will be critically performed by two independent reviewers, using the Joanna Briggs Institute's critical appraisal tool, according to each type of study included in the review[19]. All studies, regardless of methodological quality, will have their data extracted and synthesized. Included studies will be stratified by methodological quality. Thus, for the classification of the level of methodological quality of the studies, the stratification of an economic evaluation study will be used. A study will be considered to have reasonable quality when less than 40% of the necessary items are presented, moderate quality when between 41 and 80% of the items are presented, and good quality when more than 80% of the items are presented[22]. A table accompanied by a narrative will report the results of the critical assessment of methodological.

Data synthesis

If sufficient quantitative data are available, a meta-analysis will be conducted; then, data synthesis will be performed based on the effect of care (on patient safety, reduction in length of stay, and reduction in morbimortality of COVID-19 hospitalized patients).

Effect sizes will be expressed as odds ratios (for dichotomous data) and weighted mean differences (for continuous data), and their 95% confidence intervals will be calculated for analysis and adjustment as appropriate. Heterogeneity will be statistically assessed using the χ^2 and I^2 tests.

Statistical analyses will be conducted using the random-effects model or fixed-effects model, depending on the number of studies in the meta-analysis; if there are fewer than five studies, the fixed-effects model will be used when appropriate. Sensitivity analyses will be conducted to test decisions regarding the addition of text, as appropriate. A funnel plot will be generated to assess publication bias if there are 10 or more studies included. Statistical tests for funnel plot asymmetry (Egger's test, Begg's test, Harbord's test) will be performed when appropriate.

Furthermore, analyses will be conducted by one team member with expertise in statistics, and subsequently, all tests and assessments performed will be rigorously reviewed by another team member with expertise in statistical analysis and systematic review methodology for certification and validation of the findings. All analyses and statistical tests will be conducted using R software. When statistical analysis (meta-analysis) is not feasible due to significant data variation, results will be presented in a narrative format. A summary of the main findings will be provided, organized in text, tables, and figures (PRISMA flowchart) to assist in data presentation, as deemed most appropriate.

The results of this review have the potential to identify the effectiveness of nursing care in the pandemic scenario, serving as a basis for healthcare professionals and managers in the search for the implementation of care strategies that are effective, scientifically grounded, and safe for the patient. Additionally, the findings of this study could strengthen nursing practice and bring visibility to nursing care recognized in the face of extreme global situations, such as the COVID-19 pandemic[23]. Finally, this review may identify gaps in the scientific literature that can guide new studies and contribute to the advancement of knowledge production in the field, including aspects related to patient safety during hospitalization.

The present protocol has not been submitted to the Research Ethics Committee involving Human Subjects, since publicly available data will be used for its development.

Funding

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Authorship criteria (author contributions)
I declare that all authors have substantially contributed to the conception and/ or design of the study; to the acquisition, analysis, and/or interpretation of data; as well as to the drafting and/or critical revision and final approval of the published version.

Declaration of conflict of interest: Nothing to declare

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