

## REVIEW PROTOCOL

### Nurses' exposure to occupational risks in a hospital context: scoping review protocol

### Exposição de enfermeiros aos riscos ocupacionais em contexto hospitalar: protocolo de revisão de escopo

### Exposición de las enfermeras a los riesgos laborales en el contexto hospitalario: protocolo de revisión del alcance

Maria Margarida Silva Vieira Ferreira<sup>1</sup>, Mafalda Sofia Gomes Oliveira Silva<sup>2</sup>, Paula Cristina Araújo Lopes<sup>3</sup>, Liliana Tavares<sup>3</sup>, Alexandre de Assis Bueno<sup>4</sup>, Renata Evangelista<sup>5</sup>

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#### ABSTRACT

**Objective:** To map the scientific evidence regarding nurses' exposure to occupational risks in a hospital setting. **Method:** A scoping review protocol was developed following the Joanna Briggs Institute methodology and registered with the Open Science Framework: <https://osf.io/yfqk9>. The databases consulted include CINAHL® Complete, MEDLINE® via EBSCO, and Scielo. Studies that address the research question "What occupational risks are nurses exposed to in a hospital context?" will be considered eligible. Two independent reviewers will conduct the selection of studies, with involvement from a third reviewer in case of disagreement. Studies will be archived, and duplicates removed using Qatar Computing Research Institute (Rayyan QCRI®) software. To synthesize and extract the collected information, the authors will utilize a previously prepared form. The scoping review aims to contribute significantly to the critical analysis of the occupational risks that nurses face in hospital settings.

**DESCRIPTORS:** Occupational risks; Nurses and Nurses; Nursing; Hospitals

#### RESUMO

**Objetivo:** Mapear a evidência científica sobre a exposição dos enfermeiros aos riscos ocupacionais em contexto hospitalar. **Método:** Protocolo de scoping review desenvolvido de acordo com a metodologia de Joanna Briggs Institute e registado na

<sup>1</sup> Coordinator Professor at the Jean Piaget School of Health in Vila Nova de Gaia. Alameda Jean Piaget 242, Vila Nova de Gaia. [margarida.v.ferreira@jpiaget.pt](mailto:margarida.v.ferreira@jpiaget.pt)

<sup>2</sup> Adjunct Professor at the Jean Piaget School of Health in Vila Nova de Gaia.

<sup>3</sup> Postgraduate Student in Occupational Nursing at the Jean Piaget School of Health in Vila Nova de Gaia.

<sup>4</sup> Doctoral Professor in the Professional Master's Program in Organizational Management, the Professional Master's in Family Health, and the Nursing Course at the Institute of Biotechnology, Federal University of Catalão.

<sup>5</sup> Doctoral Professor in the Professional Master's Program in Organizational Management, the Professional Master's in Family Health, and the Nursing Course at the Institute of Biotechnology, Federal University of Catalão.

Open Science Framework: <https://osf.io/yfqk9>. As bases de dados consultadas foram a *CINHAHL® Complete* e *MEDLINE®* via EBSCO e *Scielo*. Serão considerados elegíveis os estudos que respondem à questão de investigação “Quais os riscos ocupacionais a que estão expostos os enfermeiros em contexto hospitalar?”. A seleção dos estudos será realizada por dois revisores independentes e recorrer-se-á a um terceiro revisor em caso de discordância. Os estudos serão arquivados e eliminados os duplicados através do software *Qatar Computing Research Institute* (Rayyan QCRI®). Para a síntese e extração das informações recolhidas os autores irão utilizar o formulário previamente elaborado. Espera-se que a scoping review contribua para a análise crítica dos riscos ocupacionais a que estão expostos os enfermeiros em contexto hospitalar.

**DESCRITORES:** Riscos Ocupacionais; Enfermeiros e Enfermeiras; Enfermagem; Hospitais

#### RESUMEN

**Objetivo:** Mapear la evidencia científica sobre la exposición del enfermero a riesgos laborales en el contexto hospitalario. **Método:** Protocolo de revisión del alcance desarrollado según la metodología del Instituto Joanna Briggs y registrado en el Open Science Framework: <https://osf.io/yfqk9>. Las bases de datos consultadas fueron *CINHAHL® Complete* y *MEDLINE®* vía EBSCO y Scielo. Se considerarán elegibles los estudios que respondan a la pregunta de investigación “¿A qué riesgos laborales están expuestas las enfermeras en un contexto hospitalario?”. La selección de los estudios será realizada por dos revisores independientes y se utilizará un tercer revisor en caso de desacuerdo. Los estudios se archivarán y se eliminarán duplicados utilizando el software del *Qatar Computing Research Institute* (Rayyan QCRI®). Para resumir y extraer la información recopilada, los autores utilizarán el formulario previamente elaborado. Se espera que la revisión del alcance contribuya al análisis crítico de los riesgos laborales a los que están expuestas las enfermeras en el contexto hospitalario.

**DESCRIPTORES:** Riesgos Laborales; Enfermeros y Enfermeras; Enfermería; Hospitales

## INTRODUCTION

Worker health encompasses a public health domain that includes the interaction between work and health/disease processes, aiming to develop regulated epidemiological and sanitary surveillance interventions that promote and protect workers' health, fostering their recovery, rehabilitation, and reintegration. Implementing these interventions is necessitated by the existence of numerous health risks to workers arising from their working conditions <sup>(1)</sup>.

Work is a crucial factor at the foundation of personal identity construction, serving as a stage for self-affirmation and social interaction development, but it can also be a stress factor <sup>(1)</sup>. Indeed, the work activity of nurses exposes them daily to various occupational risks caused by chemical, organic, mechanical, physical, biological, ergonomic, and psychosocial factors, increasing the likelihood of occupational diseases and accidents <sup>(2)</sup>.

Occupational risks in the workplace may remain hidden because of a lack of knowledge or information from professionals, manifesting only in stressful situations. It is important to note that these risks, often known and real, may have a reduced probability of control when the costs they represent for the institution are considered. Thus, given the challenges in controlling and preventing occupational risks

in hospital environments, coupled with a lack of biosafety conditions, there is a pressing need to create favorable conditions for a healthy professional environment <sup>(3)</sup>. Note that work-related accidents and diseases cause approximately 234 million deaths annually <sup>(1)</sup>, which can directly impact the quality of care provided, compromise the health of workers, and incur additional costs for the institution itself <sup>(4)</sup>.

Preventive interventions or measures should consider not only the worker but also all factors that affect individual behaviors, including external influences such as political, economic, and cultural factors, as well as the management of health institutions, which can support and guide workers toward greater or lesser self-protection <sup>(4)</sup>.

The increasing number of workers affected by work-related diseases highlights the urgency to not only identify the causes but also implement preventive measures to preserve and enhance professionals' health. Nursing teams are particularly vulnerable because of the nature of their work and exposure to various risk factors such as long hours, rotating shifts, often-inadequate nutrition, lack of physical conditions, and psychological pressure <sup>(3)</sup>.

Therefore, the development of this review is crucial for a deeper understanding of occupational risks and their impact on professionals' quality of life, as well as for identifying potential preventive measures. This review may also serve as a research resource for further studies in this field.

Following a preliminary search on the Open Science Framework (OSF), no published or ongoing review protocols were identified in this specific thematic area. Consequently, a scoping review was chosen to be conducted based on the methodology proposed by the Joanna Briggs Institute for Scoping Reviews <sup>(5)</sup> to map the scientific evidence regarding nurses' exposure to occupational risks in a hospital context. More specifically, this review aims to address the following research question: What occupational risks are nurses exposed to in a hospital context?

## **METHODOLOGY**

### **Study design**

This scoping review protocol follows the Joanna Briggs Institute guidelines and adheres to the guiding principles of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR<sup>®</sup>)<sup>(5)</sup>. The protocol is registered on the Open Science Framework (OSF) platform and is accessible via the link: <https://osf.io/yfqk9>.

### **Inclusion criteria**

The acronym PCC (Participants, Concept, and Context) was employed to define the research's eligibility criteria to formulate the research question. Studies involving the target population of nurses exposed to occupational risks in a hospital context will be included. The review will cover studies investigating nurses' exposure to occupational risks and include studies addressing occupational risk exposure in the context of clinical practice in a hospital environment, excluding studies conducted in other

healthcare settings. The guiding question formulated was: What occupational risks are nurses exposed to in a hospital context? Table 1 describes the PCC strategy.

**Table 1.** Eligibility criteria for the scoping review protocol

<b>PCC components</b>	<b>Criterion description</b>
Participants (P)	Nurses
Concept (C)	Exposure to occupational risks
Context (C)	Hospital environment

Source: the authors, 2024.

### Search strategy

Studies included were quantitative, qualitative, and mixed methods, as well as primary studies, systematic reviews, dissertations, opinion articles, and grey literature published and available in full text for free in Portuguese, English, and Spanish, with no time restrictions. Studies that did not address occupational risks in a hospital context or other professional groups were excluded. The search and identification strategy was conducted in October 2023 using the electronic databases CINAHL® Complete, MEDLINE® via EBSCO, and Scielo, utilizing the descriptors outlined in Table 2.

**Table 2.** Descriptors for the search.

<b>DeCS descriptors</b>		
English	Spanish	Portuguese
Occupational Risks	Riesgos Laborales	Riscos ocupacionais
Nurses	Enfermeras y Enfermeros	Enfermeiros e Enfermeiras
Nursing	Enfermería	Enfermagem
Hospitals	Hospitales	Hospitais

Source: the authors, 2024.

According to the guidelines recommended by the Joanna Briggs Institute (JBI)<sup>(5)</sup>, the search strategy was conducted in three stages. The first stage involved identifying keywords and terms. In the second stage, the identified terms will be used to structure a more comprehensive search strategy, which will then be adapted for each database and information source. Boolean operators "AND" and "OR" were used; "AND" was utilized to identify studies among the themes, and "OR" for synonyms, in line with the combinations of descriptors as detailed in Table 3. In the third stage, the references from all included studies were analyzed to identify additional studies that contribute to this review.

**Table 3.** Descriptors and synonyms used in the databases

Database	Controlled terms
Scielo	occupational risk AND hospital AND (nurse or nurses or nursing)
Medline	occupational risk AND hospital AND (nurse or nurses or nursing)
Cinahl	occupational risk AND hospital AND (nurse or nurses or nursing)

Source: the authors, 2024.

### Selection of studies

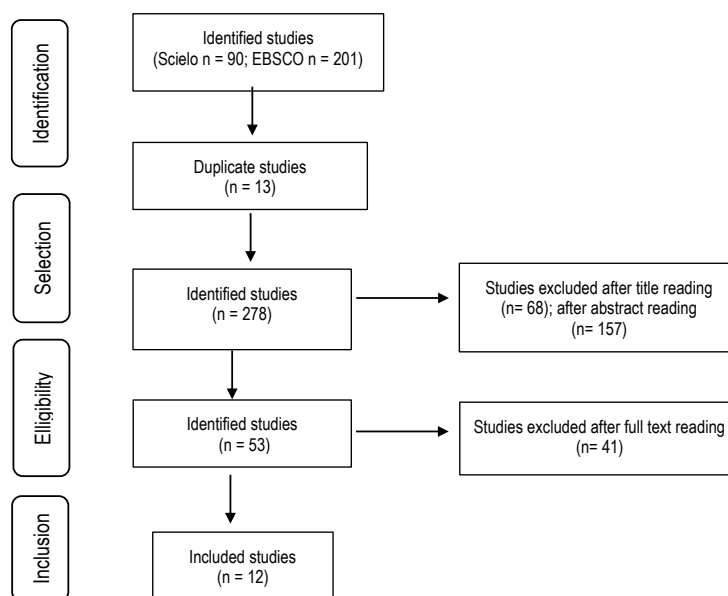
The studies resulting from the search across various databases were deposited into Rayyan, and duplicates were removed. The corpus of analysis for this review encompasses the identification, selection, eligibility, and inclusion based on the inclusion criteria and search limiters. Two independent reviewers, following the pre-established eligibility criteria, starting with the title and abstract and later analyzing the full text, will extract the data from the studies considered for the review. In cases of disagreement, a third reviewer with expertise in the area will be consulted.

The results obtained from the screening process are presented following the PRISMA-ScR recommendations, as illustrated in Figure 1<sup>(6)</sup>.

### Data extraction

To support the data extraction of the included studies, a table of evidence was prepared, including the following items: title, author(s)/year of publication, country of origin, objective, study type, methodology, and main results as per Table 4.

**Figure 1 -** Flowchart of the study selection process, developed based on the PRISMA-ScR recommendations.



Source: the authors, 2024.

**Table 4.** Synthesis and presentation of results

Title	Author(s)/Year of publication	Country of origin	Objective	Type of study	Methodology	Identified occupational risks	Main results

Source: the authors, 2024.

## FINAL CONSIDERATIONS

This review will facilitate the analysis and systematization of knowledge about the exposure of nurses to occupational risks in a hospital context. It may provide guidance that enables developing and implementing prevention programs that contribute to improving nurses' health.

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