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

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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 CINHAHL® 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...
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 (1).

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 (1). 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 (2).

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 (3). Note that work-related accidents and diseases cause approximately 234 million deaths annually (1), which can directly impact the quality of care provided, compromise the health of workers, and incur additional costs for the institution itself (4).

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 (4).

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 (3).

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 (5) 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®️(5). 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

<table>
<thead>
<tr>
<th>PCC components</th>
<th>Criterion description</th>
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<tr>
<td>Participants (P)</td>
<td>Nurses</td>
</tr>
<tr>
<td>Concept (C)</td>
<td>Exposure to occupational risks</td>
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<tr>
<td>Context (C)</td>
<td>Hospital environment</td>
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</table>

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 CINHAHL® Complete, MEDLINE® via EBSCO, and Scielo, utilizing the descriptors outlined in Table 2.

Table 2. Descriptors for the search.

<table>
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<tr>
<th>DeCS descriptors</th>
<th>English</th>
<th>Spanish</th>
<th>Portuguese</th>
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<tbody>
<tr>
<td>Occupational Risks</td>
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<td>Nurses</td>
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<tr>
<td>Nursing</td>
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<td>Hospitals</td>
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Source: the authors, 2024.

According to the guidelines recommended by the Joanna Briggs Institute (JBI)(5), 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

<table>
<thead>
<tr>
<th>Database</th>
<th>Controlled terms</th>
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<tr>
<td>Scielo</td>
<td>occupational risk AND hospital AND (nurse or nurses or nursing)</td>
</tr>
<tr>
<td>Medline</td>
<td>occupational risk AND hospital AND (nurse or nurses or nursing)</td>
</tr>
<tr>
<td>Cinahl</td>
<td>occupational risk AND hospital AND (nurse or nurses or nursing)</td>
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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(6).

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

<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)/Year of publication</th>
<th>Country of origin</th>
<th>Objective</th>
<th>Type of study</th>
<th>Methodology</th>
<th>Identified occupational risks</th>
<th>Main results</th>
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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.

REFERENCES


