Shift work and mental health of nurses: scoping review protocol

Trabalho por turnos e saúde mental dos enfermeiros: protocolo de revisão

Trabajo por turnos y salud mental del personal de enfermería: protocolo de revisión exhaustiva

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ABSTRACT

Objective: To assess the impact of shift work on the mental health of nurses in hospital settings. **Methodology**: Scoping review protocol based on the methodology proposed by the JBI. The databases searched were CINHAL® Complete and MEDLINE® via EBSCOhost. Studies will be selected that address the review question: "What are the impacts of shift work on the mental health of nurses in hospital settings?" The citations identified through the search will be compiled and exported to the Rayyan platform, a web application developed by the Qatar Computing Research Institute (Rayyan QCRI®) to support systematic review authors. Study selection will be conducted by two independent reviewers, with disagreements resolved through discussion or by a third reviewer. This scoping review is expected to contribute to a critical analysis of the risks that shift work poses to the mental health of nurses working in hospital environments.

DESCRIPTORS: Nurses; Shift Work; Mental Health; Mental Illness; Hospital.

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RESUMO

Objetivo: Avaliar os impactos do trabalho por turnos na saúde mental dos enfermeiros a nível hospitalar. **Metodologia:** Protocolo de *scoping review* baseado na metodologia proposta pelo JBI. As bases de dados consultadas foram a CINHAHL® Complete e MEDLINE® via EBSCOhost. Serão selecionados estudos que respondam à questão de partida "Quais os impactos do trabalho por turnos na saúde mental dos enfermeiros em meio hospitalar?". As citações identificadas na pesquisa serão compiladas e exportadas para a plataforma Rayyan, aplicativo da Web desenvolvido pelo *Qatar Computing Research Institute* (Rayyan QCRI®) para auxiliar os autores de revisão sistemática A seleção dos estudos será realizada por dois revisores independentes, com divergências resolvidas por discussão ou por um terceiro revisor. Espera-se que esta revisão de escopo contribua para a análise crítica dos riscos que o trabalho por turnos tem na saúde mental dos enfermeiros que laboram em meio hospitalar.

DESCRITORES: Enfermagem; Trabalho por Turnos; Saúde Mental, Doença Mental, Hospital.

RESUMEN

Objetivo: Evaluar las repercusiones del trabajo por turnos en la salud mental del personal de enfermería en un entorno hospitalario. **Metodología**: Este protocolo de revisión exploratoria se basa en la metodología propuesta por el JBI. Las bases de datos consultadas fueron CINHAHL® Complete y MEDLINE® vía EBSCOhost. Se seleccionarán los estudios que aborden la pregunta de investigación «¿Cuáles son las repercusiones del trabajo por turnos en la salud mental del personal de enfermería en un entorno hospitalario?». Las citas identificadas en la búsqueda se compilarán y exportarán a Rayyan, una aplicación web desarrollada por el Qatar Computing Research Institute (Rayyan QCRI®) para ayudar a los autores de revisiones sistemáticas. Dos revisores independientes realizarán la selección de los estudios, y los desacuerdos se resolverán mediante discusión o por un tercer revisor. Se espera que esta revisión de alcance contribuya a un análisis crítico de los riesgos que el trabajo por turnos supone para la salud mental de las enfermeras de hospital.

DESCRIPTORES: Enfermeras; Trabajo por Turnos; Salud Mental; Enfermedad Mental; Hospital.

INTRODUCTION

Mental health is one of the greatest public health concerns today and is considered an essential part of both individual and collective wellbeing[1]. Around 12% of all diseases worldwide are mental health-related, a figure that rises to 23% in developed countries[2]. Mental health is defined as "a state of wellbeing in which an individual realizes his or her own potential, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community," highlighting that it involves more than just the absence of illness[3].

Work is a significant factor influencing mental health. Around 15% of working-age population may experience a mental health condition at any given time. Health professionals are among those most likely to face adverse experiences in the workplace, primarily due to the nature of their duties (e.g., exposure to potentially traumatic events), but also because of work organization and logistics (e.g., workload and shift work). These challenges increase the risk of negative impacts on workers' mental health[1].

Many studies suggest that certain work-related situations are associated with an increased risk of mental and physical health issues. Shift work is one such situation and has been linked to negative effects on health (e.g., sleep or digestive disorders, chronic fatigue, irritability) as well as on family and social life (e.g., family instability, intention to resign)[4].

As a legal concept, shift work is characterized by workers alternating in the same positions on a rotating, continuous, or discontinuous basis, and performing their duties at different times during specific days or weeks[5]. Another definition describes shift work as "a method of daily work schedule organization in which different teams work in succession in order to extend working hours, including coverage of up to 24 hours a day"[6].

Although there are various forms, shift work schedules can be grouped into two basic categories: fixed shifts and rotating shifts[7].

Shift work may involve night and weekend duties, requiring workers to perform their tasks at times that differ from standard schedules. This can lead to potential negative effects of night work, as tasks are performed in opposition to the body's natural circadian rhythm[8].

This type of work schedule has become increasingly common and is essential in various organizations, particularly in hospital settings. In terms of working conditions, approximately 21% of European health professionals perform shift work, with a notable increase since 2010 (17%). Of these, 40% are shift workers in the health care sector. According to health professionals' reports, this system is associated with poorer work-life balance and a higher risk of safety and health complications[4].

There are an estimated 28 million nursing professionals worldwide, accounting for more than half of all health professionals. Shift and night work are among the most defining characteristics of this profession[9].

Considering the issue, the available epidemiological data, and the existing body of knowledge — and recognizing that nurses are among the most exposed to rotating shift schedules — it is crucial to investigate, reflect on, and understand how each factor affects their mental health. This understanding can contribute to the development of increasingly effective prevention and promotion strategies aimed at reducing the incidence of mental health disorders among nurses associated with shift work.

A preliminary search was conducted in CINAHL to define the appropriate search descriptors and estimate the number of related studies. The search string was developed on the basis of this search; a total of 63 scientific records were identified.

A search for existing reviews on this topic was also conducted, and no review was found that addresses the guiding review question proposed here. However, primary studies from countries such as Denmark[10], Japan,[11] and China[12] were identified, which highlights the relevance and importance of the topic.

This scoping review aims to assess the impact of shift work on the mental health of nurses in hospital settings. The PCC mnemonic was applied to guide this investigation, leading to the following review question: What are the impacts of shift work on the mental health of nurses in hospital settings?

METHODOLOGY

This study is a scoping review guided by the methodology outlined by the JBI Manual for Evidence Synthesis. This approach will allow for the mapping of existing evidence regarding the impact of shift work on the mental health of nurses in hospital settings.

Guiding question

Based on the considerations presented in the introduction, the following guiding question was formulated: What are the impacts of shift work on the mental health of nurses in hospital settings?

Inclusion and exclusion criteria

According to the chosen methodology, the selection criteria are based on the PCC mnemonic. For the Population/Participants (P), all studies involving nurses working in hospital settings will be included. Regarding the Concept (C), studies that address or analyze mental health and its related variables — such as sleep, mood, well-being, quality of life, and stress — will be considered. As for the Context (C), shift work, studies involving rotating or fixed night shifts will be selected.

Additionally, only primary research studies — both quantitative and qualitative — will be included in this scoping review, with no time restriction and only if full-text access is available for free. Reviews, theses, dissertations, and reports will also be considered, while posters and opinion articles will be excluded. Studies written in English, Portuguese, or Spanish will be included, along with those in other languages if a full translation is available on the platform where the study is found.

Search strategy

The search was conducted in three stages. First, an initial search was conducted in two databases — CINAHL and MEDLINE (via EBSCOhost) — to identify the most commonly used terms and keywords in titles and abstracts. Following this step, DECS/MESH descriptors were identified, which were then used to build the Boolean search string. Next, a broader search was conducted in CINAHL, MEDLINE, Scopus, Web of Science, B-on, and PubMed. Grey literature will be explored through other sources, such as Google Scholar, the *Revista Portuguesa de Psiquiatria e Saúde Mental*, and the Scientific Open Access Repositories of Portugal (RCAAP), applying the inclusion and exclusion criteria to identify relevant terms in titles and abstracts. In the third stage, articles will be selected based on the guiding question and the previously defined inclusion and exclusion criteria.

Search descriptors

Descriptors were found using the Health Sciences Descriptors (DeCS) online platform. The following keywords were identified: *Nurs*; Nurse Practitioner; Nursing Staff; Shift Work Schedule; Rotation Shift Work; Mental Health; Mental Illness; Mental Disorder*; and *Hospital*.

Boolean operators AND and OR were used to combine the descriptors. The final Boolean phrase used for the search is presented in Chart 1.

Chart 1. Boolean phrase

Database	Population	Concept	Context
CINAHL	Nurses working in hospital settings	Mental health and its related variables	Shift work
Boolean phrase	*(nurs* OR nurse practitioner OR nursing staff) AND (Hospital) AND (Shift Work OR Shift work Schedule OR rotating Shift work) AND (mental health OR mental illness OR mental disorder)*		

Study selection

The citations identified during the search will be compiled and exported to the Rayyan platform, a web application developed by the Qatar Computing Research Institute (Rayyan QCRI®) to support systematic review authors[13]. The screening process — based on titles and abstracts — will be independently conducted by two review authors on a subset of citations. After that, all citations will be evaluated according to predefined eligibility criteria. The full texts of potentially relevant citations will be reviewed by two independent review authors, with disagreements resolved through discussion or by a third review author. The reasons for excluding publications will be documented.

These processes and results will be presented using a PRISMA extension flowchart for scoping reviews (PRISMA-ScR)[14]. The PRISMA-ScR checklist will be used to ensure adherence to best practice methods for conducting a scoping review.

Data extraction

For the data extraction process, a chart will be organized using MS Excel. Standard recommended chart elements and key questions relevant to this review will guide the mapping process[15]. The chart will include additional rows to capture how the articles address the central concept of this review — namely, the role of the arts in the context of data interpretation. These additional rows will serve as a foundation for the next stage of the review process, which involves data analysis, reporting of results, and interpretation of the findings[7].

The data extraction form will be independently tested by two authors using the first ten included

studies. They will meet to ensure that the extraction table is accurately aligned with the main objective of the review and to discuss and agree on any necessary adjustments [7].

Chart 2 outlines the preliminary elements of the study and the questions that will guide the data extraction process.

Chart 2. Tool for synthesizing general data

Title and subtitle of article					
General study characteristics					
Year of publication	Authors	Geographic location	Type of study	Study objective	Data collection instrument

Data synthesis

Data synthesis will begin with a narrative description of the findings from the identified evidence, guided by the review question. Then, the results will be presented in Chart 3, making it easier to directly identify the mapped evidence in this synthesis.

Chart 3: Data synthesis for answering the guiding review question

Data extraction									
Authors	Sample size	**Shift work characteristics**		**Affected variables**					
		Rotating	Fixed night	Mood	Sleep	Wellbeing	Quality of life	Stress	Others

Presentation and interpretation of results

The collection of evidence on the impact of shift work on the mental health of hospital-based nurses will help determine whether this type of work schedule has negative consequences on their mental health and identify those effects in order to develop strategies to mitigate them. This is particularly relevant for the nursing profession to ensure mental wellbeing, which in turn supports good performance and professional satisfaction — especially in hospital settings, where shift work is mandatory to provide continuous care 24 hours a day.

The findings of this study will be shared through scientific publications, events, and the practical application of knowledge in Occupational Health, with the aim of implementing measures to minimize the effects of shift work.

EXPECTED RESULTS

This scoping review aims to present the impact of shift work on the quality of life of nursing professionals, particularly in relation to key aspects of their wellbeing and health, such as sleep, mood, stress, and other variables that may emerge through evidence analysis.

Mapping the relationship between shift work and quality of work life is essential, as this quality directly affects the physical, mental, and emotional wellbeing of the professional, which in turn has a proportional impact on the quality of care delivered.

This study aims to provide a descriptive framework that can guide the development of shift work proposals in nursing, aiming to preserve optimal conditions of wellbeing and job satisfaction, safeguard the physical, emotional, and cognitive health of workers, and ultimately support the delivery of high-quality patient care.

PARTIAL CONSIDERATIONS

This protocol proposes a scoping review on the impacts of shift work on the mental health of nurses in hospital settings. Although shift work is the most common scheduling model in nursing, evidence suggests that it may negatively affect workers' health and consequently their personal and professional quality of life.

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