NURSES' PERFORMANCE IN HEALTHCARE-ASSOCIATED INFECTIONS (HAIs)

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ABSTRACT

Healthcare-associated infections (HAIs) continue to be a challenge for healthcare professionals. The objective of this study was to review the role of nurses in relation to HAIs. An integrative literature review was conducted in six stages according to Souza, Silva, and Carvalho (2010). The study included six scientific articles in observational, prospective cross-sectional, case-control, and experience report studies, which showed a broad role of nurses in the occurrence of HAIs, whether to establish signs of infection, manage protocols, evaluate costs, or develop new tools. It was concluded that nurses' perception of the integration of strategies is crucial to improving patient safety and reducing the impact of infections.

Keywords: Infections; Nursing; Performance; Health quality.

INTRODUCTION

Nurses manage services, evaluate care practices, and implement safety protocols, including regulating control actions, supervising cleaning, standardizing products, and ensuring the rational use of antimicrobials, in addition to promoting the continuing education of health professionals (Costa *et al.*, 2022). The objective of this study was to review the role of nursing in the occurrence of Healthcare-Associated Infections.

METHOD

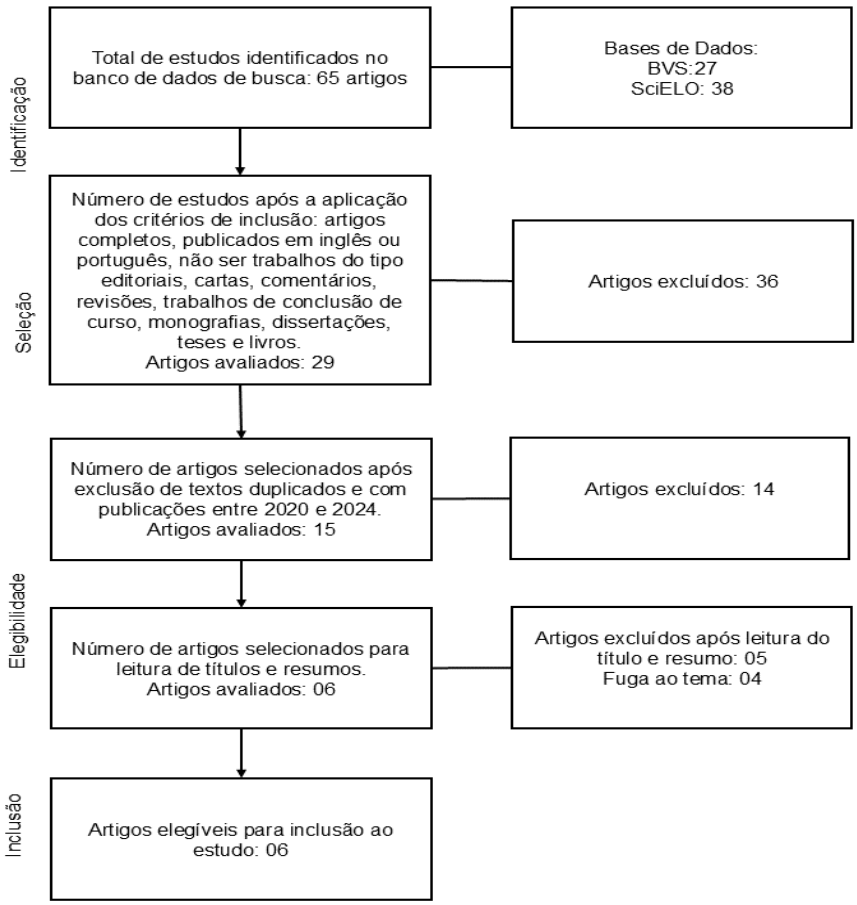
An Integrative Literature Review (ILR) was conducted using six steps: formulation of the guiding question, literature search or sampling, data collection, critical analysis of the included studies, discussion of the results, and presentation of the integrative review (Souza, Silva, Carvalho; 2010) .

The guiding question was obtained from the structuring of the problem, intervention, control, and *outcome* (Santos, Pimenta, Nobre; 2007) and was: *what*

has been the role of nurses in the prevention of Healthcare-Associated Infections (HAIs)? The data were collected by cross-referencing the descriptors (DesC/MeSH): *Healthcare-Associated Infections (*OR) IRAS (OR) HAI (AND) *nursing* in the Virtual Health Library (BVS) and SciELO.

Full-text publications in Portuguese or English published between 2019 and 2023 were included, while studies published more than five years ago with only abstracts available, those that did not address the evaluated topic, and duplicate texts were excluded. After data selection, a critical analysis was performed, extracting the following data: title, authors, year of publication, and results. The data search was presented in a PRISMA flowchart (MOHER *et al.,* 2009) (Flowchart 1) and the RIL in a comparative table followed by a discussion.

Flowchart 1. Data selection steps for the development of the RIL on the role of nurses focused on IRAs.



Source: Prepared by the authors (2024).

RESULTS

The final sample of this RIL consisted of six articles based on the established inclusion criteria. Of these, one was found in the VHL and five in SciELO. Table 1 presents the specifications of each article.

Table 1. Articles selected in the LITERATURE REVIEW on the role of nurses in ARIs.

AUTHOR/ YEAR OF PUBLICATION	JOURNAL TITLE	TYPE OF STUDY	RESULTS
Gomes *et al* (2024)	*Perceptions of the nursing team during the* COVID-19 *pandemic: cross-sectional study*	Observational study	The results showed that 43.9% of nurses reported a very high impact of IRAs on the clinical evolution of patients, while only 26.7% of nursing assistants and technicians shared this perception.
Marques *et al.* (2021)	Nursing diagnosis of infection risk and healthcare-associated infections in patients with AIDS	Case-control study	Altered peristalsis, smoking, reduced hemoglobin levels, and leukopenia were significantly associated with the outcome studied.
Bitencourt *et al.* (2020)	*Nurse's protagonism in structuring and managing a specific unit for* COVID-19	Experience report	Meetings were held to make decisions and create protocols and workflows with the active participation of nurses. In matters related to direct care, adaptations were made to the nursing process carried out at the hospital, and new workflows and routines were organized. The physical space was structured, considering the high risk of disease transmission. Professionals were hired and their numbers adjusted according to the complexity of the service, forming a team of professionals with experience in critical care. Training was provided to develop knowledge and skills prior to the first cases, which was maintained systematically. In addition, nurses expressed concern about the mental health of professionals working in this unit, and support measures were therefore planned.
Santos, Padoveze, and Lacerda (2020)	Performance of infection prevention and control programs in small hospitals	Prospective, cross-sectional study	The average compliance values for each indicator were: Program structure 61.0%; Operational guidelines 84.5%; Epidemiological surveillance 57.9%; Prevention activities 74.5%. Greater compliance was observed in private hospitals and those with intensive care units (, 73.9%, and 90.3%, respectively). Hospitals had nurses assigned to the program (92.9%), but only 23.1% of private institutions had nurses working exclusively for six hours.
Leal and Freitas-Vilela (2021)	*Costs of healthcare-associated infections in an Intensive Care Unit*	Retrospective case-control study	Twenty-one patients diagnosed with healthcare-associated infection and 42 controls were evaluated. The cost of

			hospitalization for patients with infection was four times higher than for patients without infection (p-value <0.001). There was an association between infection and higher mortality (p-value <0.001), longer hospital stay (p-value = 0.021), and higher hospital costs (p-value = 0.007).
Melo *et al.* (2021)	*Development of a nursing website for critical care regarding healthcare-associated infections*	Experience Report	An instructional website was developed, which can be accessed via computers, tablets, and smartphones at the electronic address “irastis.com,” on Healthcare-Associated Infection.

Source: Prepared by the authors (2024).

This study showed that although the literature contains a wealth of data on HAIs, only a small portion of it focuses on the role of nurses, even though they perform a wide range of activities related to the management of hospital infections. In the observational study by Gomes *et al.* (2024), nurses had a better perception of the impact of HAIs on the clinical evolution of patients with COVID-19 during the pandemic period than nursing assistants and technicians. Corroborating these data, in the case-control study conducted by Marques *et al.* (2021), signs of altered peristalsis, smoking, reduced hemoglobin levels, and leukopenia were significantly associated with the outcome of HAI.

Bitencourt et al. (2020) promoted meetings for decision-making, protocol creation, and workflow with the active participation of nurses, adapting the nursing process carried out in the hospital and organizing new workflows and routines. This study demonstrated the importance of systemic training and the concern of nurses regarding the mental health of professionals working in this unit, and therefore support actions were planned.

Santos, Padoveze, and Lacerda (2020) also found that systematization of services contributed to a decrease in HAIs in private hospitals. This was despite the fact that no nurse was dedicated exclusively to the sector for six hours. Leal et al. (Freitas-Vilela, 2021) found that the hospitalization costs of patients with infection were four times higher than those of patients without infection. In addition, patients with HAIs had higher mortality and longer hospital stays.

Finally, in the study by Melo et al. (2021), an instructional website was developed, which can be accessed via computers, tablets, and smartphones, on Healthcare-Associated Infection, confirming that the practice of healthcare

professionals goes beyond checking for direct signs of infection and can also extend to the development of technologies that help store and understand data and facilitate data comparison for the adoption of more appropriate measures.

CONCLUSION

It was concluded that nursing professionals play an important role in controlling and preventing HAIs at different stages, and that continuing education is important in order to update knowledge, promote adherence to preventive measures, and reduce resistance to changes in profile.

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