CIÊNCIAS DA VIDA E DA SAÚDE
LIFE AND HEALTH SCIENCES
CIENCIAS DE LA VIDA Y LA SALUD

millenium

Millenium, 2(22)

en

FATORES QUE INFLUENCIAM A ADESÃO ÀS PRECAUÇÕES BÁSICAS DE CONTROLO DE INFEÇÃO ENTRE ENFERMEIROS: PROTOCOLO SCOPING REVIEW

FACTORS THAT INFLUENCE ADHERENCE TO BASIC INFECTION CONTROL PRECAUTIONS AMONG NURSES: SCOPING REVIEW PROTOCOL

FACTORES QUE INFLUYEN EN LA ADHERENCIA A LAS PRECAUCIONES BÁSICAS DE CONTROL DE INFECCIONES ENTRE ENFERMERAS: PROTOCOLO DE SCOPING REVIEW

Margarida Ferreira[1] https://orcid.org/0000-0003-2232-7314
Mafalda Silva[1] https://orcid.org/0000-0002-2509-5566
Joana Teixeira[2] https://orcid.org/0000-0001-7430-1488
Andreia Lima[2] https://orcid.org/0000-0001-7535-9040
Teresa Moreira[2] https://orcid.org/ 0000-0002-2554-697X

[1] Escola Superior de Saúde Jean Piaget, Vila Nova de Gaia, Portugal
[2] Universidade Fernando Pessoa, Porto, Portugal

Margarida Ferreira - margarida.v.ferreira@ipiaget.pt | Mafalda Silva - mafaldassilva@hotmail.com | Joana Teixeira - jteixeira@ufp.edu.pt | Andreia Lima - amlima@ufp.edu.pt | Teresa Moreira - m.teresa.moreira@gmail.com

Corresponding Author
Margarida Ferreira
Alameda Jean Piaget 242
4405-678 – Vila Nova de Gaia– Portugal
margarida.v.ferreira@ipiaget.pt

RECEIVED: 11th August, 2022
REVIEWED: 07th March, 2023
ACCEPTED: 22th March, 2023
PUBLISHED: 17th April, 2023

Ferreira, M., Silva, M., Teixeira, J., Lima, A., & Moreira, T. (2023). Factors that influence adherence to basic infection control precautions among nurses: scoping review protocol. *Millenium - Journal of Education, Technologies, and Health*, *2*(22), 1-5, e27877.
DOI: https://doi.org/ 10.29352/mill0222.27877

RESUMO

Introdução: As infecções associadas aos cuidados de saúde apresentam custos elevados e aumento da taxa de mortalidade, reduzindo a qualidade de vida das pessoas.
Objetivo: Mapear os fatores que influenciam a adesão às precauções padrão entre/pelos enfermeiros.
Métodos: Recorrer-se-á à metodologia de Joanna Briggs Institute. A pesquisa considerou os critérios definidos e adaptados às bases de dados incluídas na identificação de estudos relevantes. As bases de dados consultadas CINAHL® Plus with Full Text e Nursing & Allied Health Collection via EBSCO, MEDLINE® via PubMed. Proceder-se-á à análise dos artigos pelo título e resumo eliminando os que não cumpram os critérios definidos. Os dados serão extraídos por dois revisores independentes. Os critérios de inclusão serão os estudos redigidos em português, inglês e espanhol publicados nos últimos cinco anos e extraídos para a plataforma Rayyan QCRI®. Dois revisores independentes irão proceder à análise de relevância dos artigos, extração e síntese dos dados, com elaboração do respetivo fluxograma.
Resultados: O mapeamento das evidências permitirá analisar e conhecer os fatores que influenciam a adesão às precauções padrão entre/pelos enfermeiros. Os resultados serão apresentados com recurso a uma tabela de evidências segundo os objetivos.
Conclusão: Prevê-se que esta revisão constitua um ponto de partida para a análise crítica dos estudos relativos aos fatores que influenciam o conhecimento na adesão às precauções padrão dos enfermeiros, contribuindo para otimizar a prática e promover a investigação e disseminação do conhecimento.

Palavras-chave: conhecimento; controle de infeções; enfermagem

ABSTRACT

Introduction: Health care-associated infections have high costs and increased mortality rates, reducing people's quality of life.
Objective: Mapping the factors that influence adherence to standard precautions among/by nurses.
Methods: The Joanna Briggs Institute methodology will be used. The research considered the criteria defined and adapted to the databases included in the identification of relevant studies. Databases consulted CINAHL® Plus with Full Text and Nursing & Allied Health Collection via EBSCO, MEDLINE® via PubMed. Articles will be analyzed by title and abstract, eliminating those that do not meet the defined criteria. Data will be extracted by two independent reviewers. The inclusion criteria will be studies written in Portuguese, English, and Spanish published in the last five years and extracted to the Rayyan QCRI® platform. Two independent reviewers will proceed with the analysis of the relevance of the articles, extraction, and synthesis of the data, with the elaboration of the respective flowchart.
Results: The mapping of evidence will allow analyzing and knowing the factors that influence adherence to standard precautions among/by nurses. The results will be presented using an evidence table according to the objectives.
Conclusion: This review is expected to constitute a starting point for the critical analysis of studies related to factors that influence knowledge in nurses' adherence to standard precautions, helping to optimize practice and promote research and dissemination of knowledge.

Keywords: knowledge; infection control; nursing

RESUMEN

Introducción: Las infecciones asociadas a la atención de la salud tienen altos costos y mayores tasas de mortalidad, lo que reduce la calidad de vida de las personas.
Objetivo: Mapeo de los factores que influyen en la adherencia a las precauciones estándar entre/por las enfermeras.
Métodos: Se utilizará la metodología del Instituto Joanna Briggs. La investigación consideró los criterios definidos y adaptados a las bases de datos incluidas en la identificación de estudios relevantes. Bases de datos consultadas CINAHL® Plus with Full Text y Nursing & Allied Health Collection via EBSCO, MEDLINE® via PubMed. Los artículos serán analizados por título y resumen, eliminando aquellos que no cumplan con los criterios definidos. Los datos serán extraídos por dos revisores independientes. Los criterios de inclusión serán estudios escritos en portugués, inglés y español publicados en los últimos cinco años y extraídos a la plataforma Rayyan QCRI®. Dos revisores independientes procederán al análisis de la relevancia de los artículos, extracción y síntesis de los datos, con la elaboración del respectivo diagrama de flujo.
Resultados: El mapeo de evidencias permitirá analizar y conocer los factores que influyen en la adherencia a las precauciones estándar entre/por los enfermeros. Los resultados se presentarán mediante una tabla de evidencias de acuerdo con los objetivos.
Conclusión: Se espera que esta revisión constituya un punto de partida para el análisis crítico de los estudios relacionados con los factores que influyen en el conocimiento en la adherencia de los enfermeros a las precauciones estándar, ayudando a optimizar la práctica y promover la investigación y la difusión del conocimiento.

Palabras clave: conocimiento; control de infección; enfermería

Ferreira, M., Silva, M., Teixeira, J., Lima, A., & Moreira, T. (2023). Factors that influence adherence to basic infection control precautions among nurses: scoping review protocol. *Millenium - Journal of Education, Technologies, and Health*, *2*(22), 1-5, e27877.
DOI: https://doi.org/ 10.29352/mill0222.27877

INTRODUCTION

Globally, Healthcare-Associated Infections (HAIs) are considered a serious public health problem (Bekele et al., 2020) and frequently occur in healthcare facilities (Dhedhi et al. 2021). Annually, according to the European Center for Disease Prevention and Control (ECDC), it is estimated that 3.1 million people contract HAIs. Between 2016 and 2017, Portugal had a prevalence of HAIs of 9.1%, the second highest in Europe (OECD, 2018).

Health professionals, particularly nurses, have an increased risk of acquiring infections, assuming a relevant role in formulating and implementing policies that contribute to the control, prevention, and minimization of infections. (SookKyoung et al., 2021).

The Standard Precautions (SP), proposed by the United States Centers for Disease Control and Prevention (CDC), are basic guidelines to reduce the risk of transmission of microorganisms and protect health professionals from infectious diseases, through recommendations for safe practices of infection control in health institutions (DGS, 2017; Dhedhi et al. 2021). These recommendations include hand washing, proper use of gloves, use of personal protective equipment (EPI), respiratory etiquette, safe injection practice, patient placement, workplace exposure hazards, safe handling of clothing, safe waste collection, treatment of clinical equipment, and environmental control.

According to the Annual Report on Infections and Antimicrobial Resistance (2018), the overall percentage of compliance with good hand hygiene practices situated at 73.6% in 2017, and compliance with the use/replacement of gloves is situated up to 82.3%. The same states that the health professional has an increased risk of 1.2 to 10% of acquiring VHC infections after being bitten. According to the study developed by SookKyoung and his collaborators (2021), it was found that 60.4% of nurses reported having suffered a needlestick injury. The same study reports that participants' knowledge of respiratory etiquette is 82%.

The PP was adopted in Portugal called Basic Infection Control Precautions (PBCI), complying with the standard published by the General Directorate of Health (DGS) constituting the basis of good care practices. They aim to prevent the transmission of HAIs and simplify the dissemination, understanding, and implementation of its different components. These measures must be used in all users, regardless of their infectious status, to guarantee the safety of the user, the professional, and the citizens who come into contact with the health services (DGS, 2017).

Some factors influence adherence to PBCI, namely the unavailability and inaccessibility, and resistance of professionals to the use of EPI, inadequate knowledge about PBCI, low perception of the effectiveness of prevention and risk perception, lack of support by management for safe work practices and lack of professional performance feedback (Bekele et al., 2020).

Knowledge, awareness, and compliance with PBCI are important conditions for reducing HAIs. In a study carried out by Dhedhi and his collaborators (2021), it was found that 12.2% of the participants had little knowledge about the proper use of SP. However, despite its importance in reducing the transmission of infectious agents in the workplace, there are low adherence rates among health professionals (Al-Faouri et al., 2021). Data from a study carried out by Brandão and his collaborators (2022) reveal that health professionals comply with SP by 66.8%. Another study developed by Wong and his collaborators (2021) alludes to low adherence when caring for the user (54%) and performing invasive procedures (46%).

To increase adherence to the PBCI and reduce/eliminate the factors that influence non-adherence, managers must promote the existence of facilitating resources, the implementation and access to norms, procedures, and guidelines, and guarantee the education and continuous training of professionals of health and the supervision of clinical practices. To this end, actions must be developed that involve a combination of education, awareness, and organizational, environmental, and management changes, which must go far beyond the individual focus. (Al-Faouri et al., 2021).

A previous search conducted in CINAHL® Plus with Full Text and Nursing & Allied Health Collection via EBSCO, and MEDLINE® via PubMed revealed the lack of published literature reviews in this specific area. In this way, it was decided to carry out the present scoping review that aims to map the factors that influence adherence to standard precautions among/by nurses. This review intends to answer the following research question: What are the factors that influence adherence to SP among nurses in clinical practice?

1. METHODS

It was decided to carry out a scoping review protocol based on the methodology proposed by the Joanna Briggs Institute (Peters et al., 2020). This type of study allows for more in-depth and up-to-date knowledge about the phenomenon under study and the identification of existing gaps. This protocol aims to map the factors that influence adherence to standard precautions among/by nurses (Aromataris & Munn, 2020). In the search for scientific evidence, the PCC strategy (population, concept, context) was used, as shown in Table 1 (Tricco et al., 2018).

Tabela 1 - PCC Acronym.

Population (P)	Nurses in care delivery
Concept (C)	Factors that influence adherence to PBCI by nurses
Context (C)	Clinical practice

A three-stage research strategy was adopted (Peters et al., 2020), the first of which began with an initial search in the CINAHL® Plus with Full Text and Nursing & Allied Health Collection databases via EBSCO, MEDLINE ® via PubMed, which allowed the identification of the most frequently used words in titles and abstracts, as well as the indexing terms used. In the second stage, a search was carried out in the databases through the combination of keywords and descriptors that make up the Boolean phrase, which is adapted to each database. The third step consisted of searching pertinent literature reference lists to find complementary studies.

Protocol and registration

This protocol was written per the guiding guidelines by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR®) (Tricco et al., 2018). The protocol was registered on the Open Science Framework (OSF) platform (DOI 10.17605/OSF.IO/68VZ7), which can be consulted through the link: https://osf.io/68vz7/.

Eligibility criteria

The inclusion criteria defined for this protocol were studies published between 2017-2022, available in free full text, in Portuguese, English, and Spanish.

This review will consider quantitative, qualitative, and mixed studies, as well as primary studies, systematic reviews, dissertations, opinion articles, and gray literature. As an exclusion criterion, it was defined that studies addressing other professional groups would not be considered. Subsequently, the lists of references in the literature will be checked to identify complementary studies.

Information sources

The research strategy and identification of studies were carried out in June 2022, in the electronic databases CINAHL® Plus with Full Text and Nursing & Allied Health Collection via EBSCO, MEDLINE® via PubMed using the following descriptors, as shown in Table 2. It should be noted that no evidence of the scoping review type was found on this topic. Keywords included in titles and abstracts of significant articles will be used to develop the full search strategy.

Tabela 2 - Search descriptors

Descritores DeCS		
Inglês	Espanhol	Português
Knowledge	Conocimiento	Conhecimento
Nursing	Enfermería	Enfermagem
Infection Control	Control de Infecciones	Controle de Infecções

The Boolean operators AND and OR will be used, with AND being used to identify studies between themes and OR for synonyms, according to the combinations between the descriptors, according to Table 3.

Tabela 3 - Descriptors and synonyms used in databases.

Base de dados	**Termos controlados**
Pubmed	("Knowledge"[MeSH Terms] OR "Knowledge"[Title/Abstract]) AND ("infection control"[Title/Abstract] OR "infection control"[MeSH Terms]) AND ("Nursing"[MeSH Terms] OR "Nursing"[Title/Abstract])"
Medline	TX Knowledge AND TX Infection Control AND TX Nursing
Cinahl	TX Knowledge AND TX Infection Control AND TX Nursing
Nursing & Allied Health Collection	TX Knowledge AND TX Infection Control AND TX Nursing

Ferreira, M., Silva, M., Teixeira, J., Lima, A., & Moreira, T. (2023). Factors that influence adherence to basic infection control precautions among nurses: scoping review protocol. *Millenium - Journal of Education, Technologies, and Health*, *2*(22), 1-5, e27877.
DOI: https://doi.org/ 10.29352/mill0222.27877

Selection of studies

After the research, the articles will be deposited in the Rayyan program and the duplicates will be removed. The studies that constitute the corpus of analysis of this review will be obtained through a strategy that contemplates the identification, selection, eligibility, and inclusion of the same conducted by the inclusion criteria and by the search limiters. Subsequently, the title and abstract will be read and then the selected studies will be read in full. Data will be extracted from the studies included in the scoping review by two independent reviewers, resorting to a third reviewer in case of disagreement, who will decide on the inclusion or exclusion of the article. The results will be written according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR®) (Page et al., 2020). The selection process will be documented through a PRISMA flow diagram, as shown in Figure 1 (Tricco et al., 2018).

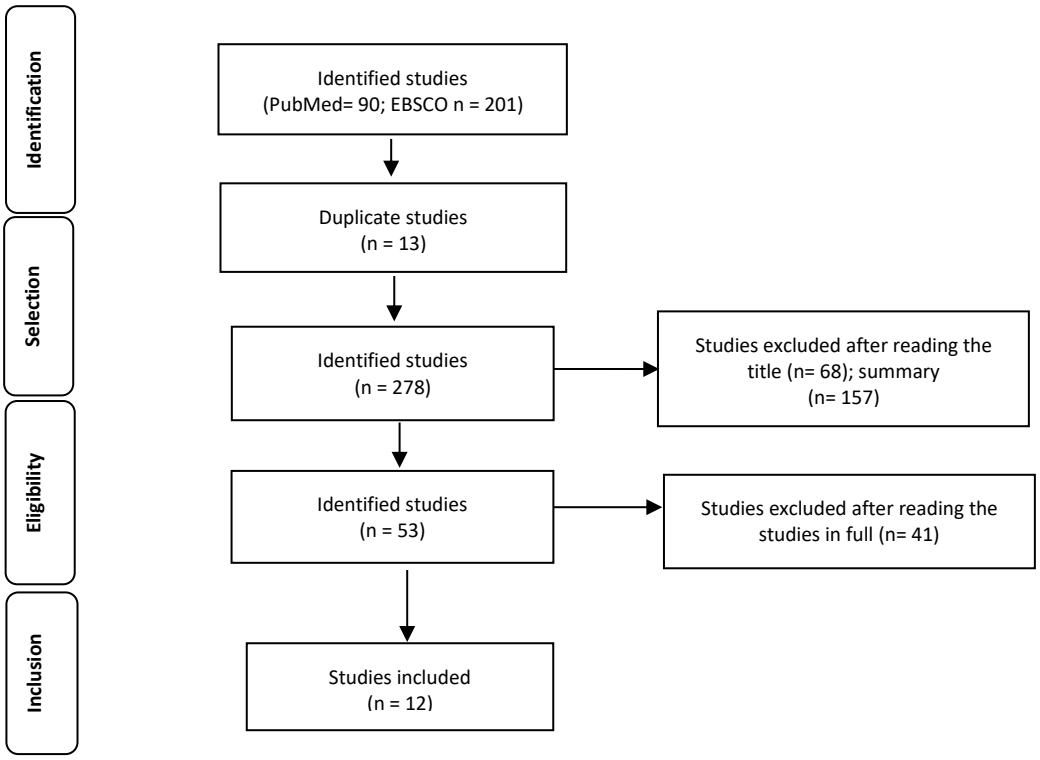

Figure 1 - Flowchart of the study selection process, adapted from the PRISMA Flow Diagram.

2. DATA PRESENTATION

Were identified 12 articles that will be synthesized and presented descriptively and narratively using an evidence table constructed by the researchers, which contains the following items: the study code and author(s), country and year, type of study, objective(s) and the main results according to table 4. The identification, characterization, and synthesis of knowledge in this area will seek to be aligned with the objectives and the proposed review question. The results will later be reported in full in the final scoping review and presented according to the Preferred Reporting Items for Systematic Review and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) for preparation of the final article.

Tabela 4 - Summary and presentation of results.

Study code/Authors	Country / Year	Type of Study	Objectives	Main results

CONCLUSION

It is expected that this review will constitute a starting point for mapping the available scientific evidence regarding the factors that influence adherence to basic infection control precautions among nurses. It will contribute to defining interventions and/or programs that maximize compliance with basic precautions, minimize repercussions on clinical practice and improve healthcare quality.

AUTHOR CONTRIBUTIONS

Conceptualization, M.F. and M.S.; data curation, M.F. and M.S.; formal analysis, M.F., M.S., J.T., A.L. and T.M.; investigation, M.F., M.S., J.T., A.L. and T.M.; methodology, M.F. and M.S.; project administration, M.F. and M.S.; resources, M.F., M.S., J.T., A.L. and T.M.; validation, M.F., M.S., J.T., A.L. and T.M.; visualization M.F., M.S., J.T., A.L. and T.M.; writing-original draft, M.F. and M.S.; writing-review and editing, M.F. and M.S.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

Al-Faouri, I., Okour, S. H., Alakour, N. A., & Alrabadi, N. (2021). Knowledge and compliance with standard precautions among registered nurses: A cross-sectional study. *Annals of Medicine and Surgery*, *62*, 419–424. https://doi.org/10.1016/j.amsu.2021.01.058

Aromataris, E. & Munn, Z. (2020). Chapter 1: JBI Systematic Reviews. In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis* [Internet]. Adelaide: JBI; [Cited 2022 apr 15]. https://doi.org/10.46658/JBIMES-20-02

Bekele, T., Ashenaf, T., Ermias, A., & Sadore, A. A. (2020). Compliance with standard safety precautions and associated factors among health care workers in Hawassa University comprehensive, specialized hospital, Southern Ethiopia. *PLOS ONE*, *15*(10), e239744. https://doi.org/10.1371/journal.pone.0239744

Brandão, P., Luna, T. D. da C. de, Bazilio, T. R., Lam, S. C., Góes, F. G. B., & Ávila, F. M. V. P. (2022). Cumprimento das medidas de precauções-padrão por profissionais de saúde: Comparação entre dois hospitais. Enfermería Global, 21(1), Artigo 1. https://doi.org/10.6018/eglobal.484091

Dhedhi, N.A., Ashraf, H., Jiwani, A. (2021). Knowledge of standard precautions among healthcare professionals at a Teaching Hospital in Karachi, Pakistan. *Journal of Family Medicine and Primary Care*, 10(1), 249-253. https://doi.org/10.4103/jfmpc.jfmpc_1622_20

Direção Geral da Saúde. (2017). *Programa de Prevenção e Controlo de infeções e de resistência aos Antimicrobianos*. Direção Geral da Saúde. https://www.sns.gov.pt/wp-content/uploads/2017/12/DGS_PCIRA_V8.pdf

OECD/European Union (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris/European Union, Brussels, https://doi.org/10.1787/health_glance_eur-2018-en.

Page, M. J., McKenzie, J., Bossuyt, P., Boutron, I., Hoffmann, T., Mulrow, C., Shamseer, L., Tetzlaff, J., Akl, E., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J., Hróbjartsson, A., Lalu, M., Li, T., Loder, E., Mayo-Wilson, E., McDonald, S., … Moher, D. (2020). *The PRISMA 2020 statement: an updated guideline for reporting systematic reviews*. https://doi.org/10.31222/osf.io/v7gm2

Peters, M.D.J., Godfrey, C., McInerney, P., Munn, Z., Tricco, A.C. & Khalil, H. (2020). Chapter 11: Scoping Reviews. In: Aromataris E, Munn Z (Editors). *JBI Manual for Evidence Synthesis*. JBI. https://doi.org/10.46658/JBIMES-20-12

SookKyoung, P., YaKi, Y. & EunJu, S. (2021). Factors that influence knowledge, awareness and adherence to standard precautions among nurses. *Archives of Psychiatric Nursing*, *35*(6), 625–630. https://doi.org/10.1016/j.apnu.2021.09.002

Tricco, A.C., Lillie, E., Zarin, W., O'Brien, K.K., Colquhoun, H., Levac, D. et al. (2018). PRISMA Extension for Scoping Reviews (PRISMAScR): Checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473. https://doi.org/10.7326/M18-0850

Wong, E. L., Ho, K. F., Dong, D., Cheung, A. W., Yau, P. S., Chan, E. Y., Yeoh, E. K., Chien, W. T., Chen, F. Y., Poon, S., Zhang, Q., & Wong, S. Y. (2021). Compliance with Standard Precautions and Its Relationship with Views on Infection Control and Prevention Policy among Healthcare Workers during COVID-19 Pandemic. *International journal of environmental research and public health*, *18*(7), 3420. https://doi.org/10.3390/ijerph18073420