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CUIDADOS DE ENFERMAGEM NA TRANSFERÊNCIA INTER-HOSPITALAR DE DOENTES CRÍTICOS: PROTOCOLO DE UMA REVISÃO DE SCOPING
NURSING CARE AT CRITICAL CARE PATIENT INTER-HOSPITAL TRANSFER: A SCOPING REVIEW PROTOCOL
CUIDADOS DE ENFERMERÍA EN EL TRASLADO INTERHOSPITALARIO DE ENFERMOS CRÍTICOS: UN PROTOCOLO DE SCOPING REVIEW

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RESUMO

Introdução: Durante o transporte inter-hospitalar de doentes críticos, os enfermeiros são responsáveis por manter a segurança e qualidade dos cuidados prestados pelo que devem ter acesso a informação clínica precisa e de forma rápida.

Objetivo: Mapear quais os itens que devem integrar uma *checklist* de acompanhamento do doente crítico no transporte inter-hospitalar.

Métodos: Será realizada uma revisão de acordo com as últimas diretrizes da metodologia do Instituto Joanna Briggs (J.B.I.). Vai ser efetuada uma pesquisa em bases de dados electrónicas relevantes e em literatura cinzenta utilizando termos, segundo os DeCS, tais como "doente crítico", "transporte inter-hospitalar", "transferência de pacientes", "*checklist*" e "diretrizes".

Resultados: Esta revisão considerará qualquer tipo de estudo quantitativo, qualitativo e de métodos mistos, concentrando-se em itens a incluir numa *checklist* para acompanhar/monitorizar o doente crítico durante o transporte inter-hospitalar.

Conclusão: O desenvolvimento e implementação de uma *checklist* do transporte inter-hospitalar permite a segurança durante a transferência dos doentes críticos. Os enfermeiros são profissionais de saúde que acompanham maioritariamente os doentes críticos nas transferências entre as diferentes unidades hospitalares. Este protocolo está registado no *Open Science Framework*.

Palavras-chave: doente crítico; transporte inter-hospitalar; transferências de pacientes; *checklist*; guidelines

ABSTRACT

Introduction: In inter-hospital transport of the critically ill patient, safety measures have to be addressed by the nurse who follows the patient's clinical situation with accurate clinical information.

Objective: Map the items in the inter-hospital transport checklist.

Methods: A scoping review will be conducted according to the latest Joanna Briggs Institute (J.B.I.) guidelines regarding methodology. A range of relevant electronic databases and grey literature will be searched using terms such as critically ill, inter-hospital transport, patient transfer, checklist, and guidelines.

Results: This scoping review will consider any type of quantitative, qualitative, and mixed methods study, focusing on items to include in a checklist for monitoring the critically ill patient in inter-hospital transport.

Conclusion: The development and implementation of an inter-hospital transport checklist enable safety during patient transfer. Nurses are the healthcare professionals that mostly accompany critically ill patients between different hospital levels of care. This protocol is registered in the *Open Science Framework*.

Keywords: critically ill; inter-hospital transport; patient transfer; checklist; guidelines

RESUMEN

Introducción: En el transporte interhospitalario del enfermo crítico, las medidas de seguridad deben ser abordadas por la enfermera que sigue la situación clínica del paciente, con información clínica precisa.

Objetivo: Mapear los ítems de la lista de verificación del transporte interhospitalario.

Métodos: Se realizará una revisión de alcance según las últimas directrices del Instituto Joanna Briggs (J.B.I.) en cuanto a metodología. Se buscará en una serie de bases de datos electrónicas relevantes y en la literatura gris utilizando términos como enfermos críticos, transporte interhospitalario, traslado de pacientes, lista de verificación, directrices.

Resultados: Esta revisión de alcance considerará cualquier tipo de estudio cuantitativo, cualitativo y de métodos mixtos, centrándose en los elementos a incluir en una lista de verificación para el seguimiento del paciente crítico en el transporte interhospitalario.

Conclusión: El desarrollo y la implementación de una lista de verificación para el transporte interhospitalario permiten la seguridad durante el traslado del paciente. El personal de enfermería es el profesional sanitario que mayoritariamente acompaña a los pacientes en estado crítico entre los diferentes niveles de atención hospitalaria. Este protocolo está registrado en el *Open Science Framework*.

Palabras Clave: enfermo crítico; transporte interhospitalario; traslado de pacientes; lista de verificación; directrices

INTRODUCTION

Patients seek care when there is a modification to their health condition. Emergency Departments (E.D.) are the facility suited for critical care and are organized according to levels of care. But not every E.D. has all medical and surgical specialities, which leads to the need to transfer critically ill patients for a higher level of care (I.C.S., 2019; National Health Service, 2021).

Critical patient transport is defined as the transfer of patients between different hospital settings with varying levels of care, for example, between district Hospitals and University Hospitals (O.M. & SPCI, 2008).

Determining the level of risk of transport must take into account several factors such as the patient's condition of the patient, risks related to the movement/transfer of the patient, the likelihood of deterioration of situation during transport, the potential need for interventions during the transport, and the duration and mode of transfer (I.C.S., 2019).

A transport decision is the E.D. physician's responsibility, and a set of phases starts to prepare for transport. First, the team responsible for its execution must observe the patient to detect and prevent changes during the transfer. In addition, the clinical history and complementary diagnostic tests performed by the patient have also to be reviewed. Thus, when any hemodynamic change occurs during transport, nurses have prior knowledge to make immediate decisions (O.M. & SPCI, 2008).

There is a higher rate of complications associated with the transport of critically ill patients. Critical care associations suggest that healthcare facilities must develop and implement documents to ensure the patient's quality and safety and the accompanying team (Sociedade Portuguesa de Cuidados Intensivos, Australasian College for Emergency Medicine, Australian and New Zealand College of Anaesthetists, College of Intensive Care Medicine of Australia and New Zealand and the Intensive Care Society) (O.M. & SPMI, 2008; Australasian College for Emergency Medicine & Australian and New Zealand College of Anaesthetists & College of Intensive Care Medicine of Australia and New Zealand, 2015; I.C.S., 2019).

To assure patient and team safety during transfer, the *Intensive Care Society*, in 2002, suggested using checklists to reduce the risks of transport and check the diverse factors that may interfere with the outcome. Comeau et al. (2015) and Kulshrestha & Singh (2016) report that adverse events related to patients or equipment can occur during inter-hospital transport. These events can include hemodynamic changes, intracranial pressure, agitation, deep vein thrombosis, pulmonary and airway complications (such as oxygen desaturation, pneumothorax, ventilator-associated pneumonia, atelectasis, and infections), and blood-related complications glucose levels. And the adverse equipment-related events that occur are equipment failures, disconnected or tangled tubes and wires, and oxygen supply depletion.

According to Hales, Terblanche, Fowler & Sibbald (2007) and Comeau et al. (2015), checklists are instruments that should contain a synthesis of peer-reviewed guidelines based on scientific evidence, reflecting existing policies and procedures of the healthcare facilities. It should be present logically and functionally to allow for a clinical practice sequence and routines. The importance of its application converges to a gathering of large amounts of information, reducing the frequency of errors (e.g., medication overdose or contraindicated medication), creating reliable assessments to improve care, mitigate lack of memory and staff confidence.

Keeping and standardizing records is extremely important to obtain objective data to recognize and evaluate any change to act quickly. Most of the critical care societies note that records should be clear and maintained at all stages of transport, briefly summarize the patient's clinical status before, during, and after transport, including environmental changes and therapy administered, to allow later audits (Australasian College for Emergency Medicine, Australian and New Zealand College of Anaesthetists, College of Intensive Care Medicine of Australia and New Zealand and the Intensive Care Society) (O.M. & SPMI, 2008; Australasian College for Emergency Medicine & Australian and New Zealand College of Anaesthetists & College of Intensive Care Medicine of Australia and New Zealand, 2015; I.C.S., 2019). O.M. & SPCI (2008) and the Intensive Care Society (2019) also state that records should be performed throughout the transport, at intervals, to customize the patient's clinical status. The last vital parameters must be recorded before arrival at the destination hospital.

A preliminary search of MEDLINE, the Cochrane Database of Systematic Reviews, and J.B.I. Evidence Synthesis was conducted, and no current or underway systematic reviews or coping reviews on the topic were identified.

This scoping review seeks to answer the following question:

- Which clinical data should be in the inter-hospital transport checklist?

1. METHODS

The protocol for this scoping review will be guided following the J.B.I.'s latest guidance regarding methodology. This review protocol is registered in the Open Science Framework.

1.1. Inclusion Criteria

Based on the J.B.I. recommendations on the mnemonic "P.C.C." for scope reviews, inclusion criteria will include: participants - this review will consider studies that have critically ill patients; concept - this review will consider studies on inter-hospital transport; context - this review will consider studies conducted checklist, guidelines and tools on inter-hospital transport, regardless of the

country of study; and types of sources - this scoping review will consider any quantitative, qualitative, and mixed methods study designs, and inclusion guidelines. In addition, all types of systematic reviews will be considered for inclusion in the proposed scoping review.

1.2. Search Strategy

The search strategy will locate both published and unpublished primary studies and reviews. A limited preliminary search was undertaken on MEDLINE (via PubMed) and CINAHL Complete (EBSCOhost) to find articles on the topic. Thus, the text words in the titles and abstracts of pertinent articles and the index terms used to describe the articles were used to create a full search strategy for MEDLINE (via PubMed), as seen in Table 1. The search was conducted on 3 May 2022. The search strategy will be adapted to the specificities of each information source. Lastly, the reference lists of the articles included in the review will be screened for supplementary papers.

Table 1 - Search strategy for MEDLINE (via Pubmed).

Search	Query	Record Retrieved
#1	("Critical Illness"[Mesh] OR (critical*[Title/Abstract] AND (ill[Title/Abstract] OR illness[Title/Abstract])))	309,291
#2	((inter hospital[Title/Abstract] OR Inter-hospital[Title/Abstract] OR interhospital[Title/Abstract]) AND (transf*[Title/Abstract] OR transport*[Title/Abstract] OR "Patient Transfer"[Mesh]))	595,390
#3	(checklist*[Title/Abstract] OR guid*[Title/Abstract] OR tool*[Title/Abstract])	1,752,877
#4	("Critical Illness"[Mesh] OR (critical*[Title/Abstract] AND (ill[Title/Abstract] OR illness[Title/Abstract]))) AND ((inter hospital[Title/Abstract] OR Inter-hospital[Title/Abstract] OR interhospital[Title/Abstract]) AND (transf*[Title/Abstract] OR transport*[Title/Abstract] OR "Patient Transfer"[Mesh])) AND (checklist*[Title/Abstract] OR guid*[Title/Abstract] OR tool*[Title/Abstract])	60

The languages of study will be limited to those mastered by the author - English, Spanish and Portuguese - to ensure a good quality selection and data extraction process.

The databases to be searched will include MEDLINE (via PubMed), CINAHL complete (EBSCOhost), LILACS, and Scopus.

1.3. Study Selection

All records identified during the database search will be retrieved and stored in Mendeley® V1.19.4 (Mendeley Ltd., Elsevier, Amsterdam, The Netherlands), and duplicates removed.

A pilot test will be conducted to verify that the inclusion criteria are met. Secondly, the selected articles will be screened initially by title, abstract, and finally by reading the entire article.

The search results will be detailed in the final scoping review and presented in a Preferred Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) flow chart.

1.4. Data Extraction

Extracted data from included articles will be charted according to the J.B.I. and aligned with the goals and research questions.

The draft data extraction tool will be modified and revised as needed while extracting data from each included evidence source. Modifications will be detailed in the scoping review. If necessary, article authors will be contacted to request missing or additional data.

Table 2 - Data extraction tool.

Scoping Review Details	
Scoping review title	Nursing Care at Critical Care Patient Inter-Hospital Transfer: A Scoping Review Protocol
Review objective(s)	This review aims to develop and implement an inter-hospital transport checklist that enables safety during the transfer of critically ill patients.
Review question(s)	- Which clinical data to include in the inter-hospital transport checklist? - Which parameters to monitor to include in the inter-hospital transport checklist?
Inclusion/ Exclusion Criteria	This review will consider studies that include adult/elderly patients. Excluded studies include pediatric patients.
Population	This review will consider studies that include critically ill patients.
Context	This review will consider studies, conducted studies on checklist, guidelines and tools on inter-hospital transport.

Scoping Review Details	
Concept	This review will consider studies conducted on inter-hospital transport.
Types of evidence source	
Evidence Source Details and Characteristics	
Author(s)	
Year of publication	
Aims/ Purpose	
Population and sample size	
Details/ Results extracted from the source of evidence	

1.5. Data Analysis and Presentation

The data collected will be shown in tabular form (Table 3), depending on which is more appropriate to this review's objective. A descriptive summary will be provided regarding the charted result aligned with this scoping review's purpose, and qualitative coding might emerge from the data analysis.

Table 3 - Data collection in tabular form.

Study identification; Title and date.	Type the study	Study objective	Items to include in the checklist

2. DISCUSSION

This scoping review will only consider English, Portuguese, and Spanish studies, which may be a potential study limitation. To overcome this limitation, abstracts of articles published in other languages, which could also be essential to include in this review, will be translated through Google Translator and DeepL to prevent restricting ourselves to programs specific to certain cultures.

CONCLUSION

This review will allow us to identify the items that a checklist for monitoring the critically ill patient in inter-hospital transport should contain, which will be implemented in a hospital in the central zone of Portugal for patient and nurse safety in the care.

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