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MEDICATION RECONCILIATION AT THE PRE-TO-HOSPITAL INTERFACE: AN INTEGRATIVE REVIEW OF THE LITERATURE

RECONCILIAÇÃO DA MEDICAÇÃO NA INTERFACE DO PRÉ PARA O INTRA-HOSPITALAR: UMA REVISÃO INTEGRATIVA DA LITERATURA

CONCILIACIÓN DE LA MEDICACIÓN EN LA INTERFAZ PRE A INTRA-HOSPITALARIA: UNA REVISIÓN INTEGRATIVA DE LA LITERATURA

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ABSTRACT

Introduction: Pre-hospital medication reconciliation involves a complete review of the patient's medications, including prescriptions, over-the-counter medications, and even dietary supplements. The objective is to ensure that the patient is taking the right medications in the right dosage and that there are no drug interactions that could compromise the use of medications or that could cause complications to the patient's health status. In this context it's possible to begin obtaining information from the patient, their family members and caregivers, for subsequent continuity of care and respective reconciliation in an intra-hospital context.

Objective: As pre-hospital professionals, we intend to prepare an integrative review of the literature with the aim of analyzing the importance of medication reconciliation in healthcare provided in the pre-hospital setting and at the in-hospital interface.

Methods: The research was conducted using the combination of the following terms indexed in English, as consulted in the Health Sciences Descriptors (DeCS) and the Medical Subject Headings (MeSH): "medication reconciliation" AND "patient safety" AND "prehospital care". The electronic search was carried out in the Medline, CINAHL and Cochrane Database of Systematics Reviews databases, in the publication period between 2018 and 2023.

Results: The first search carried out did not obtain results, so it was necessary to replace the term "prehospital care" for "transitional care". After new research and carrying out the selection process, taking into account the previously defined inclusion criteria, four articles were subject to analysis. The literature suggests some barriers and suggestions for medication reconciliation at the pre-hospital to in-hospital interface, although not very conclusive and specific to the pre-hospital, however it allowed reflection and some parallelism with our clinical practice.

Conclusion: We identified the need to raise awareness and train professionals on this topic, as well as strengthening computer systems, their communication and sending information to in-hospital teams. We denote the need for more scientific research on this topic, especially in the pre-hospital area, to support clinical practice and the quality of care we provide, with a view to patient safety.

Keywords: Medication Reconciliation; Nursing; Patient Safety; Prehospital Care; Transitional Care.

RESUMO

Introdução: A reconciliação da medicação no pré-hospitalar envolve a revisão completa dos medicamentos do doente, incluindo prescrições, medicamentos de venda livre e até suplementos dietéticos. O objetivo é garantir que o doente esteja a tomar os medicamentos certos na dosagem certa e que não haja interações medicamentosas que possam comprometer o uso de medicamentos ou que possam trazer complicações ao estado de saúde do doente. É neste contexto que se consegue dar início à obtenção de informação, junto do doente, dos seus familiares e cuidadores, para posterior continuidade dos cuidados e respetiva reconciliação em contexto intra-hospitalar.

Objetivo: Enquanto profissionais do pré-hospitalar, pretendemos elaborar uma revisão integrativa da literatura com o objetivo de analisar a importância da reconciliação da medicação nos cuidados de saúde prestados no pré-hospitalar e na interface do pré para o intra-hospitalar.

Métodos: A pesquisa foi conduzida com a combinação dos seguintes termos indexados em inglês, conforme consulta nos Descritores de Ciências em Saúde (DeCS) e o Medical Subject Headings (MeSH): "medication reconciliation" AND "patient safety" AND "prehospital care". A pesquisa eletrónica foi realizada nas bases de dados Medline, CINAHL e Cochrane Database of Systematics Reviews, no período de publicação entre 2018 e 2023.

Resultados: A primeira pesquisa realizada não obteve resultados, pelo que foi necessário a substituição do termo "prehospital care" por "transicional care". Após nova pesquisa e a realização do processo de seleção, tendo em conta os critérios de inclusão previamente definidos, foram sujeitos à análise quatro artigos. A literatura sugere algumas barreiras e sugestões para a reconciliação da medicação na interface do pré para o intra-hospitalar, embora muito pouco conclusivos e específicos ao pré-hospitalar, no entanto permitiu a reflexão e algum paralelismo com a nossa prática clínica.

Conclusão: Identificámos a necessidade de sensibilizar e formar os profissionais nesta temática, bem como fortalecer os sistemas informáticos, a sua comunicação e envio de informação para as equipas do intra-hospitalar. Denotamos a necessidade de mais investigação científica sobre a presente temática, sobretudo na área do pré-hospitalar, para sustentar a prática clínica e a qualidade dos cuidados que prestamos, tendo em vista a segurança do doente.

Palavras-chave: Assistência Pré-Hospitalar; Cuidado Transicional; Enfermagem; Reconciliação de Medicamentos; Segurança do Paciente.

RESUMEN

Introducción: La conciliación de medicación prehospitalaria implica una revisión completa de la medicación del paciente, incluyendo medicamentos recetados, medicamentos de venta libre e incluso suplementos dietéticos. El objetivo es asegurar que el paciente esté tomando los medicamentos correctos en la dosis correcta y que no existan interacciones medicamentosas que puedan comprometer el uso de los medicamentos o que puedan causar complicaciones en el estado de salud del paciente. Es en este contexto que es posible comenzar a obtener información del paciente, sus familiares y cuidadores, para la posterior continuidad de la atención y respectiva conciliación en un contexto intrahospitalario.

Objetivo: Como profesionales prehospitalarios pretendemos elaborar una revisión integradora de la literatura con el objetivo de analizar la importancia de la conciliación de la medicación en la asistencia sanitaria prestada en el ámbito prehospitalario y en la interfaz intrahospitalaria.

Métodos: La investigación se realizó utilizando la combinación de los siguientes términos indexados en inglés, consultados en los Health Sciences Descriptors (DeCS) y Medical Subject Headings (MeSH): "medication reconciliation" AND "patient safety" AND "prehospital care". La búsqueda electrónica se realizó en las bases de datos Medline, CINAHL y Cochrane Database of Systematics Reviews, en el periodo de publicación comprendido entre 2018 y 2023.

Resultados: La primera búsqueda realizada no obtuvo resultados, por lo que fue necesario sustituir el término "prehospital care" por "transicional care". Luego de nuevas investigaciones y realizado el proceso de selección, teniendo en cuenta los criterios de inclusión previamente definidos, fueron objeto de análisis cuatro artículos. La literatura sugiere algunas barreras y sugerencias para la conciliación de la medicación en la interfaz prehospitalaria e intrahospitalaria, aunque no muy concluyentes y específicas para el prehospitalario, sin embargo permitieron reflexión y cierto paralelismo con nuestra práctica clínica.

Conclusión: Identificamos la necesidad de sensibilizar y capacitar a los profesionales sobre este tema, así como fortalecer los sistemas informáticos, su comunicación y envío de información a los equipos hospitalarios. Denotamos la necesidad de más investigaciones científicas sobre este tema, especialmente en el área prehospitalaria, para apoyar la práctica clínica y la calidad de la atención que brindamos, con miras a la seguridad del paciente.

Descriptores: Atención Prehospitalaria; Conciliación de Medicamentos; Cuidado de Transición; Enfermería; Seguridad del Paciente.

INTRODUCTION

Medication reconciliation aims to promote patient safety and quality of life by reducing errors and adverse events that result from medication discrepancies in the transition of care. It involves a conscious, patient-centered multidisciplinary process that supports effective therapeutic management, allowing pharmacotherapeutic information to be transmitted effectively during the transition of care, developing and ensuring continuity strategies at different levels, promoting adherence to medication and reduction of risk and incidents related to therapy[1]. Discrepancies in medication reconciliation have a negative impact on the quality, patient safety and use of healthcare[2].

Pre-hospital medication reconciliation involves a complete review of the patient's medications, including prescriptions, over-the-counter medications, and even dietary supplements. The objective is to ensure that the patient is taking the right medications in the right dosage and that there are no drug interactions that could compromise the use of medications or interactions that could cause complications to the patient's health status. This review must be carried out by the pre-hospital professional and with the patient or their legal representative, to ensure that all information is accurate and updated, ensuring that all information is transmitted to the destination hospital.

Medication reconciliation is expected to begin with the preparation of an initial list, entitled Best Possible Medication History (BPMH), which provides healthcare professionals with the patient's overall therapeutic view, reducing the risks that important information may not be effectively available for transmitting to the next service or to the patient[3].

In the pre-hospital environment, access to the patient's usual medication, or ideally the BPMH, entails a series of challenges: patients with altered state of consciousness, dementia or mental confusion, place of occurrence far from home without access to the list of medication, low health literacy, medication belonging to several family members stored in the same location, medication that they report not complying with but which remains on the lists or alongside their usual medication, critical clinical situation that prevents the patient from providing a history, among others. Other challenges relate to the complex names of medicines and their compliance regime and the polypharmacy that accompanies aging[4].

In turn, it is in this context that it is possible to begin obtaining information about compliance or non-compliance, for subsequent continuity of care and respective reconciliation in a hospital context.

Despite the strengthening of patient safety practices, interventions developed and implemented in the transition of care with a view to medication reconciliation require effective communication of information, as well as the involvement of aspects from the clinical, behavioral and organizational spectrum[3].

As pre-hospital professionals, we intend to prepare an integrative review of the literature with the objective of analyzing the importance of medication reconciliation in healthcare provided in the pre-hospital setting and at the pre-hospital interface.

METHODOLOGY

This study consists of an integrative review of the literature, guided by the question "How important is medication reconciliation for patient safety in the pre-hospital and pre-hospital interface?".

The research was conducted with a combination of the following terms indexed in English, as consulted in the Health Sciences Descriptors (DeCS) and the Medical Subject Headings (MeSH): "medication reconciliation" AND "patient safety" AND "prehospital care". The electronic search was carried out in the Medline, CINAHL and Cochrane Database of Systematics Reviews databases. No results were obtained from this research. Therefore, it was decided to replace the term "prehospital care" with "transitional care", in the publication period between 2018 and 2023, which resulted in 17 full-access articles without duplications.

Full access articles were included, which address the importance of medication reconciliation for the transition of care, in clinical trials, case studies and literature reviews that have been written in English or Portuguese in the last 5 years. As exclusion criteria we consider incomplete, repeated articles, whose central theme is not in line with the objective of this review and editorials, letters, comments or dissertations that have been written in other languages.

In the first phase, the titles and abstracts were read, selecting seven articles for full reading, which met the inclusion criteria and/or required further clarification. After reading all seven in full, four articles were selected for the present review. Figure 1↗ presents the flowchart, according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology, describing each of the phases until the final number of included articles is reached.

RESULTS

Four articles were selected for this IRL, which met the inclusion criteria. A descriptive summary of the main aspects of each of the studies is presented in Chart 1↗:

DISCUSSION OF THE RESULTS

The lack of guidelines and studies carried out in the pre-hospital environment on this topic may be due to the specificity of the context of clinical practice, in accordance with the conditions listed above, which may affect a correct and more complete collection of information.

In fact, according to data obtained in a study[5], completing the complete BPMH requires between 20 and 92 minutes. However, if information extracted from the pre-hospital environment is transmitted during the transition of care, we believe that this will help to facilitate the optimization of time, without compromising the quality of care.

Some medication errors, regarding frequency of intake, dosages that are not updated with the last prescription, omission or duplication of the same medication with presentations from different laboratories, occur with varying frequency according to the literature[4-6], aspects that can be identified in the pre-hospital context and flagged when passing information to the hospital team or marking the therapeutic non-compliance field in the notifications for primary health care, present on the INEM clinical registration platform (National Institute of Medical Emergency)/iTeams.

The literature suggests some strategies that bring added value to the reconciliation of medication in hospital context, which can be initiated by pre-hospital teams, of which we highlight the awareness of professionals for a more exhaustive collection and the standardized completion of medication records of patient's usual medication, including the name of the active substance, dosage and frequency of intake, including supplements, medicinal teas and homeopathic products[4]. We identified the need for standardization of records, which should be part of the initial training of professionals who carry out their pre-hospital duties, whether in computerized records or on paper. On the other hand, sensitize professionals to follow the path of teaching patients and family/caregivers from the first contact, focusing on the need to keep information about medication in outpatient clinics gathered and updated, not only for scheduled medical consultations, as well as unexpected situations that prevail in a pre-hospital context.

The integration of computer systems for better communication with services that receive patients proves to be an effective solution, with a significant reduction in incomplete or repeated prescriptions, contributing to medication reconciliation and patient safety[6,7]. It will be of little use to have complete records in a pre-hospital context if they cannot be accessed by clinical teams in-hospital. Although the direction has been taken so that all pre-hospital teams can make records on computer platforms, allowing effective access by the health units that receive the respective patients, we still find some constraints in the process to be solved.

CONCLUSION

Pre-hospital professionals can be part of the process for medication reconciliation in the initial phase through contact with the patient and family at the place of occurrence, through access to medication at home, through the relationship established with more than one family member or caregiver at the point of care, contributing to the collection of information, eventually reducing the time in hospital context.

We identified the need to raise awareness and to train professionals on this topic, as well as strengthening computer systems and their communication and sending information to hospital teams.

We denote the need for more scientific research, especially in the pre-hospital area, to sustain the practice and quality of care we provide, with patient safety in mind.

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Authors' contributions/Contributos dos autores
SP: Study coordination, study design, data collection, storage, and analysis, review and discussion of results.
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SN: Study design, data analysis, review, and discussion of results.
JG: Study design, data analysis, review, and discussion of results.
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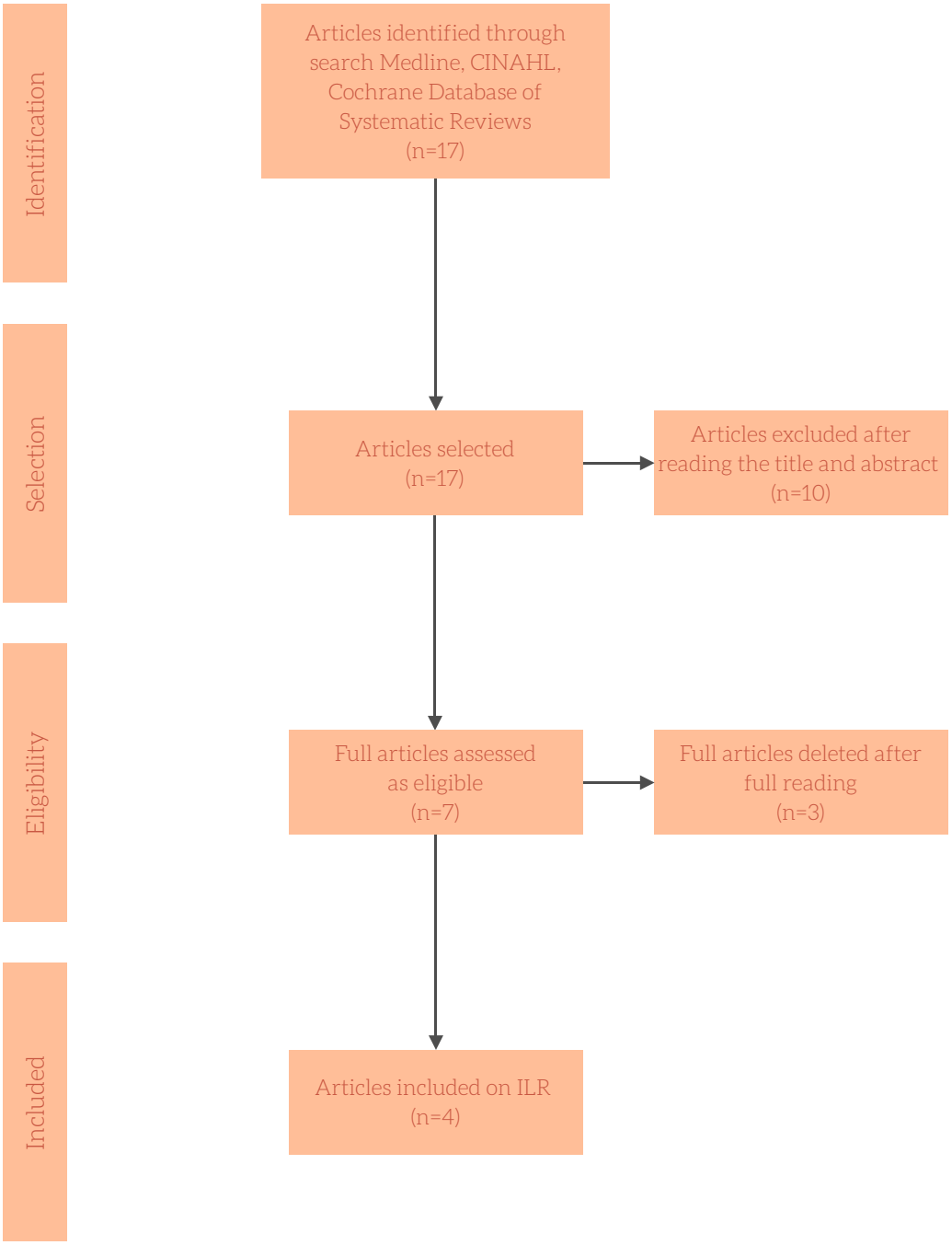

Figure 1 – PRISMA article selection flowchart.[↖]

Chart 1 – Descriptive summary of included studies.

Title	Authors, year of publication, place	Aim	Methodology	Results
Effect of electronic medication reconciliation at the time of hospital discharge on inappropriate medication use in the community: an interrupted time-series analysis	Welk B, Killin L, Reid J, Anderson K, Shariff S, *et al.* 2021 London	We assessed trends in the use of potentially inappropriate medications after hospital discharge before and after adopting an electronic medication reconciliation system.	Analysis of interrupted time series between 2011 and 2019 using data taken from the computer system.	Implementation of a computerized medication reconciliation system reduced inappropriate medication use and associated adverse events. Developing IT systems for this purpose can improve patient safety.
Medication reconciliation: time to save? A cross-sectional study from one acute hospital	Walsh E, Kirby A, Kearney P, Bradley C, Fleming A, *et al.* 2019 Ireland	To examine the existing medication reconciliation process in terms of time spent, identify factors associated with additional time, and determine whether additional time is associated with the detection of clinically important errors.	Cross-sectional study.	Spending more time on medication reconciliation is associated with an economic increase and may not bring benefits in terms of identifying clinically significant errors. There is a need to improve the communication of medicines information between primary and secondary healthcare.
Barriers and facilitators of medicines reconciliation at transitions of care in Ireland – a qualitative study	Redmond P, Munir K, Alabi O, Grimes T, Clyne B, *et al.* 2020 Ireland	To obtain information from healthcare professionals about barriers and facilitators to the medication reconciliation implementation process.	Qualitative study with interviews.	Medication reconciliation is advocated as a solution to the well-known problem of medication errors in transitions of care. The barriers identified included the resistance of the professionals' culture, team interest and training, poor communication and information, and minimal communications in technological support. Suggested solutions (enablers) included support for effective multidisciplinary teams, greater involvement of pharmacists in medication reconciliation, technology support solutions (linked prescription databases, support systems) and increased...

Chart 1 – Descriptive summary of included studies.

Title	Authors, year of publication, place	Aim	Methodology	Results
Barriers and facilitators of medicines reconciliation at transitions of care in Ireland – a qualitative study	Redmond P, Munir K, Alabi O, Grimes T, Clyne B, *et al.* 2020 Ireland	To obtain information from healthcare professionals about barriers and facilitators to the medication reconciliation implementation process.	Qualitative study with interviews.	...funding to provide additional services (e.g. , admission and discharge reconciliation) or more advanced services (e.g., medication use review administered by community pharmacists).
Medications and patient safety in the trauma setting: a systematic review	De Antonio J, Nguyen T, Chenault G, Aboutanos M, Anand R *et al.* 2019 USA	To determine the challenges and effectiveness of medication reconciliation in trauma patients.	Systematic literature review.	Medication reconciliation in trauma is important due to the potential for adverse outcomes due to the emergent nature of the illness. The few articles published to date on medication reconciliation in trauma suggest poor accuracy. Numerous strategies have been implemented in general medicine to improve its accuracy, but they have not been studied in trauma yet. More research will be needed in this context.