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Patient safety in interhospital transport: an integrative review

Patient safety in interhospital transportation: an integrative review

Dhonleno Gomes dos Santos – Fametro University Center

Franklin Jaime Quiroz Damas – Fametro University Center

Samilly Malcher de Castro – Fametro University Center
Victor da Silva Almeida – Fametro University Center

Elliza Emily Perrone Barbosa - Fametro University Center

SUMMARY

Interhospital transport is essential to ensure comprehensive and continuous care in cases where the originating unit lacks the necessary resources. During the transfer of critically ill patients, risks increase significantly, with a greater chance of clinical instability, whether due to the characteristics of the transport or process failures. Therefore, this study aimed to analyze the evidence in the literature on patient safety in urgent and emergency situations during interhospital transport, with an emphasis on the implications for the nursing team. An integrative literature review was chosen due to the need to gather scientific evidence to support safe and effective practices and improve care during patient transport. The data sources reviewed were LILACS, BDENF, and MEDLINE, including publications from 2015 to 2025. The RIL comprised three articles that demonstrated that promoting critical patient safety during interhospital transport is conditioned by the synergy between structural, organizational, and clinical factors, and especially the level of qualification of the healthcare team. The main complications reported include communication failures, inadequate medical equipment, and failures in care procedures, especially those related to the nursing team's knowledge deficit. This review highlights the need for investment in continuing education and measures such as standardizing procedures through validated protocols for interhospital transport and strengthening an organizational culture focused on patient safety.

Keywords: Urgency. Emergency. Patient transport. Nursing.

ABSTRACT

Interhospital transport is essential to ensure comprehensive and continuous care in cases where the originating unit lacks the necessary resources. During the transfer of critically ill patients, risks increase significantly, with a greater chance of clinical instability, whether due to the characteristics of transport or process failures. Therefore, this study aimed to analyze the evidence in the literature on patient safety in urgent and emergency situations during interhospital transport, with an emphasis on the implications for the nursing team. An integrative literature review was chosen due to the need to gather scientific evidence to support safe and effective practices and improve care during patient transport. The data sources reviewed were LILACS, BDENF, and MEDLINE, including publications from 2015 to 2025.

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1. INTRODUCTION

The area of patient safety aims to minimize the occurrence of avoidable risks and harm, from minor injuries to fatal events during the care provided. In patients with critical clinical cases, attention must be redoubled, since their hemodynamic instability and dependence on ongoing support requires immediate interventions and constant vigilance on the part of of the multidisciplinary team. In these cases, it is essential that emergency procedures are adopted in a systematic manner, especially during transportation, with the aim of reducing the likelihood of complications during travel (Matias, Sá, 2022).

When transporting individuals in critical condition, it is essential to understand that this is patients with a significant risk of death who require monitoring continuous and complex care that ensures the maintenance of vital functions. According to Melo et al. (2019), these have a delicate clinical profile, with dysfunction in one or more organic systems. These characteristics make transport, both intra-hospital and inter-hospital, more complicated, where the occurrence of failures can lead to clinical outcomes negatives.

In this context, inter-hospital transport represents a moment of potential vulnerability, being indicated when the unit of origin does not have physical infrastructure, technological or qualified personnel to ensure the continuity of treatment or to perform certain diagnostic and therapeutic procedures. This transfer can occur with the purpose of complementing the diagnosis or enabling interventions that are not possible at the initial hospitalization site, and is therefore an essential step to ensure the comprehensiveness and resoluteness of assistance (Dos Santos *et al.,* 2024).

The nurse's skilled work is essential to ensure the patient's stability during the transfer. They are the professionals responsible for planning, monitoring, and organize the necessary equipment, as well as coordinate communication between units of origin and destination. In addition, it also has a strategic role in decision-making quick and effective decisions, ensuring that interventions are carried out based on established protocols and in the continuous assessment of the patient's condition (Silva *et al,* 2023).

Given the complexity involved in this type of transport, the present study had with the aim of analyzing the evidence in the literature on patient safety in situations of urgency and emergency during inter-hospital transport, with emphasis on the implications for the Nursing team. From this, the following research question is formulated: "What does the literature on critical patient safety during interhospital transport, emphasizing the implications for the Nursing team?".

Considering that this process involves significant risks to patient safety, understand the factors involved, from the organization of the service to the performance of the team nursing, is essential to improve the quality of care, standardize conduct and reduce complications. In this sense, the relevance of this study is justified by the construction of a solid theoretical framework that supports clinical practice, favoring decision-making evidence-based, in addition to enabling the identification of gaps in the literature and guiding future research and health policies.

2. THEORETICAL FRAMEWORK

2.1. PATIENT SAFETY IN HEALTHCARE UNITS

Concerns surrounding patient safety have reached notoriety throughout the world. world in the late 1990s, with the publication of the report *"To Err"* as the initial milestone. *Is Human: Building a Safer Health System"* produced by *the Institute of Medicine* in 1999. This report presented estimates that changed the way in which the risk management in health units, bringing estimates that between 44,000 and 98,000 of the annual deaths in the United States were due to totally unrelated adverse events. preventable (Institute of Medicine, 2000)

In the following decades, other international documents and initiatives contributed to consolidate the movement globally. In 2004, the World Health Organization (WHO) launched the *World Alliance for Patient Safety,* establishing definitions and concepts on the topic and proposing priority actions for this purpose (Who, 2005).

In 2019, the 72nd World Health Assembly officially established "World Health Day" Patient Safety", celebrated on September 17, and approved the first resolution global on the theme "Global Action for Patient Safety", emphasizing it as essential component of the quality of health services (WHO, 2019). These milestones demonstrate the consolidation of this field as a political and technical priority in the scenario

international, driving the adoption of legislation, protocols and performance indicators of health services.

In Brazil, this theme gained institutional reinforcement with the creation of the National Program Patient Safety Plan (PNSP), established by Ordinance No. 529/2013, of the Ministry of Health. The program defines the concept as the reduction of preventable harm during healthcare to health, being guided by risk management guidelines and improvement of service quality (Brazil, 2013a).

In the same year, the National Health Surveillance Agency (ANVISA) regulated the operationalization of the program through RDC No. 36/2013, which established actions mandatory for health services, including the creation of Health Security Centers Patient (NSPs) in public and private institutions (Brazil, 2013b).

As set out in the reference document for the PNSP, with the intention of regulate and standardize actions aimed at promoting and maintaining patient safety within the scope of health establishments, a series of protocols must be drawn up considered fundamental, among which are: the safe surgery protocol; the protocol of safety in the prescription, use and administration of medications; and the safety protocol in transfer of patients between points of care (Brazil, 2014c)

According to Andrade *et al.* (2020), since the establishment of the PNSP, there has been an increase 416% of the number of NSPs across the country, although they are still present in less than half of healthcare institutions. Even so, reporting of adverse events, that is, those that result in harm to the patient, grew by more than 900%, demonstrating both the advancement in so-called “reporting culture” regarding the need to ensure quality in research of these events.

A safety culture, where all professionals are jointly responsible for their own safety safety and that of other subjects involved in care, is essential for the implementation of systems capable of identifying and preventing failures in care (Brazil, 2019a). At the national, although this culture has gained strength in recent years, it still faces challenges significant, such as the resistance of professionals to changing practices and the underreporting of adverse events.

The historical and normative analysis of patient safety highlights an evolution significant in this field, both internationally and nationally. However, even with several institutional advances and public policies developed, such as the PNSP, still exist

important challenges for its implementation in the day-to-day health services. In addition to regulation, the commitment of all subjects of care is necessary to obtain of a safer, higher-quality, patient-centered care environment.

2.2. INTER-HOSPITAL TRANSPORTATION OF PATIENTS

Patient transport is an essential activity in healthcare systems, involving the safe movement of individuals between different service points or sectors hospitals. According to the definition of Ordinance No. 2,048/2002, of the Ministry of Health, the interhospital transport, specifically, refers to the transfer of patients between different hospitals or between hospital sectors with administrative autonomy. This modality seeks to ensure patient access to care that is not available in the unit of origin, such as highly complex services, specialized exams or beds intensive care. The means used for this movement vary according to the urgency, clinical condition of the patient and the geographical characteristics of the region, which may include land, air and even river ambulances (Brazil, 2002d).

However, inter-hospital transport presents significant risks, particularly when it involves critically ill patients. Transfer may cause clinical instability due to movement, environmental changes and limited resources available during the route. Furthermore, complications are more likely when there are flaws in planning, communication between the teams involved or in the continuous monitoring of the patient. On the other hand, hand, the occurrence of adverse events tends to decrease when there are clear protocols, team training and adequate surveillance throughout the process (Carvalho *et al.,* 2024).

The decision to transport a patient must therefore carefully consider the risk-benefit ratio. It is essential that the indication is clinically justified, that there is efficient logistical planning and that transportation is carried out by professionals trained, with technical support compatible with the patient's clinical condition. The involvement of a multidisciplinary team is essential to guarantee the safety of the process, minimize risks and ensure the continuity and quality of care provided (Alves, 2021; Dos Santos *et al.,* 2024).

The removal of patients and their movement between different hospital units or otherwise, although necessary, still represents a vulnerable point in health care. It is clear that the risks involved in this process go beyond the patient's clinical conditions, with

determining the way the process is conducted. The literature shows that common failures, such as communication noise and lack of preparation of the health team, can make inter-transportation hospital in a scenario of many insecurities. This aspect reinforces the idea that the transportation is a stage of care, which requires integrated actions and rigorous planning in order to to guarantee the safety and quality of care.

2.3. COMPLICATIONS IN PATIENT TRANSPORTATION

The concept of damage is related to changes that negatively affect integrity structural or functional condition of the patient, which causes, for example, physical or emotional suffering, disabilities and even death. An adverse event is understood as an unexpected occurrence during health care that results in direct harm to the patient's condition (Brazil, 2014c).

During inter- or intra-hospital transport of critically ill patients, the occurrence of adverse events is a frequent and worrying reality. These events can have several causes and present themselves in multiple forms, from physiological changes to technical failures. A systematic review and meta-analysis conducted by Murata *et al.* (2022) demonstrated that a significant proportion of intra-hospital transports of critically ill patients is associated with adverse events, particularly respiratory complications, cardiovascular and medical device failures, especially on long journeys and without trained staff.

Similarly, Borges *et al.* (2023), when investigating incidents in transportation inter-hospital of people in critical condition, highlighted the presence of changes hemodynamics, episodes of hypoxemia and technical difficulties as the main complications observed. These events often result from the absence of clear protocols, the lack of of adequate equipment and inefficiency in communication between the originating services and destination.

Among the most recurrent dangers highlighted in specialized literature are traumas physical and hemodynamic and respiratory decompensations. These complications, in general, are linked to the failure or malfunction of life support equipment, which can seriously jeopardize the clinical stability of the patient during the course (Garavazzo *et al.,* 2020).

The lack of coordination between the teams involved, mentioned by several authors, is identified as a decisive factor in the occurrence of adverse events. The lack of standardization in the exchange of information, coupled with ineffective communication, can lead to delays in interventions essential, failures in continuity of care and, consequently, harm to the recovery of the patient. Furthermore, these errors contribute to prolonged hospital stays. and generate waste of assistance resources (Fernandes *et al.,* 2022).

Faced with this scenario, the need for institutional actions that promote the training of teams, the adoption of specific protocols for the transportation of critical patients and strengthening a safety culture, with a focus on communication effective and in the management of healthcare risks.

3. MATERIAL AND METHODS

This study is an integrative literature review (ILR) that follows the 6-protocol methodological steps, as proposed by Moreira (2014): 1) Identify the theme, define the clinical problem and question in picot or picod format; 2) seek the best evidence; 3) critically evaluate the evidence from pre-selected studies; 4) integrate the evidence; 5) discussion of evidence-based results; and, 6) presentation of the synthesis of the knowledge produced.

The choice to carry out an integrative review is based on the need to gather and synthesize scientific evidence to support safe and effective practices during transportation of patients, especially in emergency and urgent care settings. It is known that RIL is a method that “provides broad information on a subject/problem, thus constituting a comprehensive body of knowledge, with methodological rigor” (Souza *et al.,* 2017, p.25), being, therefore, appropriate for the construction of a solid theoretical framework that underpins practice clinical, favor evidence-based decision-making and enable the identification of gaps in the literature.

The guiding question of the RIL was defined through the PIO strategy, a variation of acronym PICOD, where: “P” refers to the population; “I” represents the interventions and “O”, the outcomes. Thus, the question developed for this RIL was: “What does the literature say about the safety of critically ill patients during interhospital transport, emphasizing the implications for the Nursing team?”.

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Searches for the best evidence were carried out in the data sources: Literature Latin American and Caribbean Health Sciences (LILACS) and Database in Nursing (BDENF) accessed through the Virtual Health Library (BVS) and in the database MEDLINE data, available on the CAPES Periodicals Platform. The search strategies were structured based on the combination of controlled descriptors (DeCS/MeSH) and Boolean operators *"AND"* and *"OR",* in addition to the inclusion of the uncontrolled descriptor "event" adverse", aiming to increase the sensitivity of the search.

The strategies were adapted according to the data source consulted. In the VHL, if: ("inter-hospital transport" *OR* "Patient transport" *OR* "Inter-hospital transfer" (" Patient Safety" OR "Adverse Events") *AND* ("Patient Safety" *OR* "Adverse Events") *AND* ("nursing" *OR* "nursing care").

For the MEDLINE database, the following combination was used: *((interhospital transfer OR Transportation of Patients) AND (Patient Safety OR Adverse Events)) AND (Nursing Care OR Nursing).*

The following criteria were considered for the inclusion of articles in the RIL: articles originals, made available in full and free of charge, published between 2015 and 2025, in the languages Portuguese, English and Spanish, which addressed patient safety during transport inter-hospital survey carried out by health professionals. The selection aimed to identify evidence that contributes to the training of professionals, improving the quality of assistance and reduction of risks associated with inadequate patient transport.

Studies on the national and international reality were considered eligible. qualitative, quantitative or mixed methods approach, as long as they presented a relationship with the proposed theme. Works with low methodological quality were excluded, abstracts without access to the full text, publications in environments other than the research focus, duplicate articles and gray literature.

The selection of articles was carried out in two stages. Initially, the articles were read of titles and abstracts for preliminary screening, based on eligibility criteria established. Then, potentially relevant articles were read in full, with the objective of extracting key information, such as: title, year, authors, objectives, methodology and main results, in order to compose the summary table of the review.

It should be noted that this review was conducted in accordance with the *check-list* PRISMA *(Statement for Reporting Systematic Reviews and Meta-Analyses of Studies);*

RCMOS – Multidisciplinary Scientific Journal of Knowledge.
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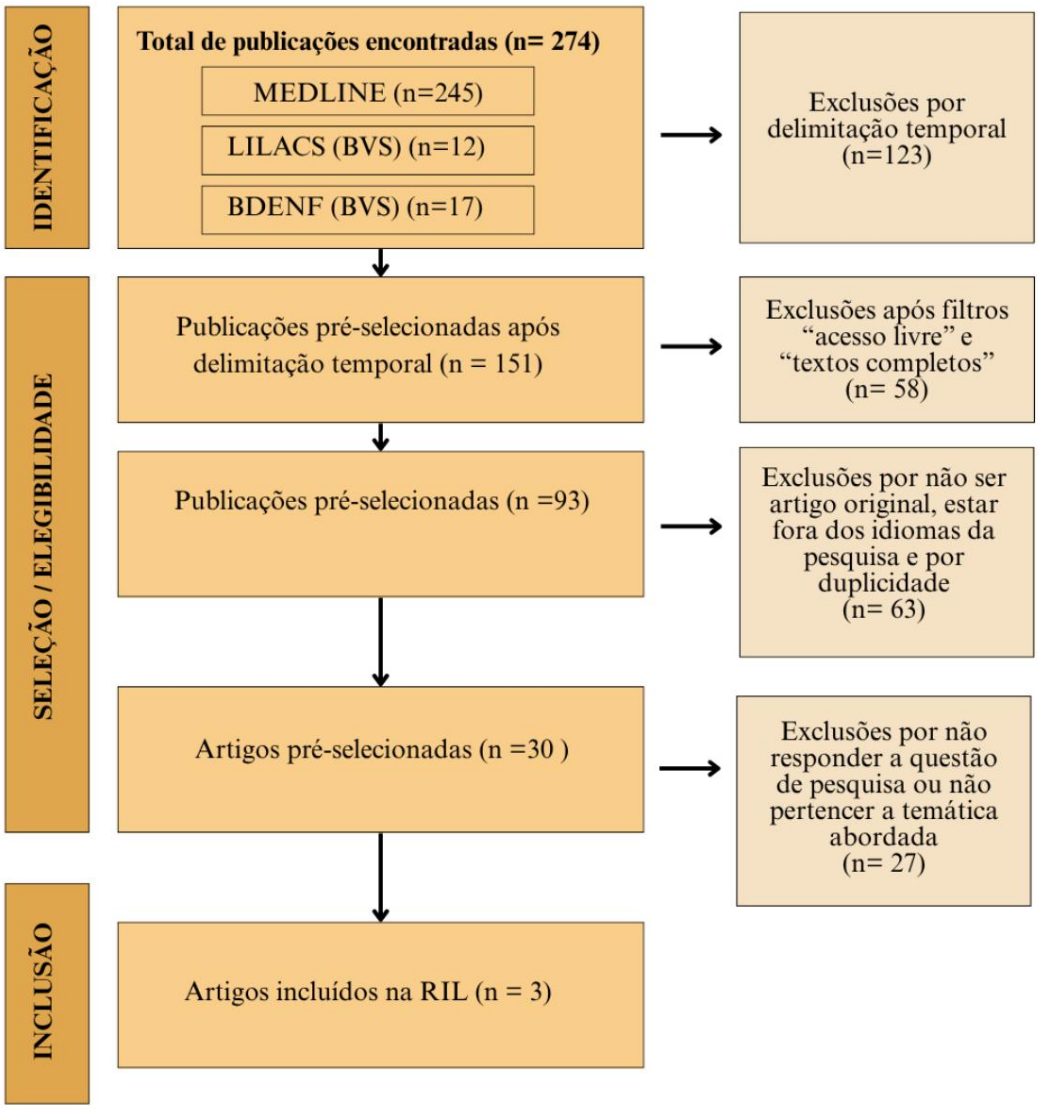
Version 1 as reported by Galvão et al. (2015), in order to ensure transparency, and methodological quality. The analysis of the included studies was carried out based on critical reading of the methods and evidence presented by each research.

The process of identification, screening, eligibility and inclusion of studies is demonstrated in the PRISMA Flowchart, presented in Figure 1.

Fig. 1 - PRISMA Flowchart of process of screening of articles



Source: Prepared by authors.

4. RESULTS AND DISCUSSION

Searches of data sources resulted in 274 articles in the initial stage. After the temporal delimitation, this number was reduced to 125 articles. Then, culminating in the

RCMOS – Multidisciplinary Scientific Journal of Knowledge.
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final inclusion of only 03 articles for the integrative review. The key information, extracted through reading in full, are presented in the RIL summary table (Table 1).

Table 1 - Summary table of articles included in the integrative review

Year / Author / Title	**Objective**	**Methodology**	**Main findings**
Inter-hospital transport of high-risk newborns: a challenge for nursing Pepper, Alves (2016)	To understand the conditions under which inter-hospital transport of high-risk newborns takes place between the municipality of origin and the maternal and child care hospital in Belo Horizonte. Horizonte, Minas Gerais	Exploratory and descriptive research carried out with 35 professionals from Nursing staff involved in neonatal transport between November 1, 2014 and July 30, 2015.	It highlighted challenges related to the lack of training among nursing professionals, long distances traveled, and a lack of adequate equipment for managing complications. The main and complications reported were hypothermia, clinical instability, and venous access failures (absence, extravasation, or poor positioning).
Intra- and extra-hospital transport of of children: implications for the nursing team Bomfati *et* (2019) *al.*	Identify how intra/extrahospital transport of children/adolescents is carried out in a unit hospital admission and emergency care pediatrician in Curitiba	Descriptive observational study of quantitative approach, applied *checklist* in 100 transports between sectors or within the institution and external.	Most of the transports evaluated were classified as unsafe (82%). Nurses were primarily responsible for planning, patient classification, and the selection of the node transport team. in the Although 99% of the medical equipment was in adequate technical condition, the high frequency of safety failures highlights significant weaknesses in the process.
Two-man of interprofessional team approach to inter-hospital patient transport with ARDS under extracorporeal put membrane oxygenation: a retrospective observational cohort study of 10 years	To describe the safety and effectiveness of a reduced-team approach to performing primary transports of ECMO patients over a ten-year period.	A 10-year, single-institution, retrospective cohort study of all data collected between January 2007 and December 2016 from medical records at the University Hospital Bonn, Germany.	Inter-hospital transport of patients on ECMO was carried out by a reduced team consisting of an anesthesiologist and a specialist nurse, with 26 incidents recorded, mostly related to the patient's clinical condition or the procedure. to the ECMO implantation. The most common complications were puncture failures (numerous attempts) and poor cannula positioning, unrelated to transport or the size of the

Ehrentraut *et al.* (2019)			team.

Source: Prepared by authors.

The studies included in the review present different contexts and approaches, but converge in highlighting weaknesses related to patient safety during transport inter-hospital, especially in critical situations. The nursing team's performance was highlighted in all articles, either through direct participation in the planning and execution of the transportation, or due to gaps identified in the training of human resources.

Although the study by Bomfati *et al.* (2019) does not exclusively report on inter-hospital, including data on intra-hospital transport, revealed important weaknesses in patient safety, highlighting the active role of nursing in planning and organizing these movements. Considering the lack of research aimed at inter-hospital transport from a nursing perspective, their inclusion was maintained by its contextual relevance. It is noteworthy that this gap in the literature may be related to the logistical complexity and ethical challenges involved in investigating this type of transport, which often occurs under conditions where there is imminent risk to life, limiting the direct observation. Added to this is the lack of standardized protocols and recording systems, that compromise access to consistent data and limit scientific production in the area.

The selected studies provide evidence that critical patient safety during inter-hospital transport is a multifactorial challenge, influenced by structural, clinical and human resources-related aspects. Pimenta and Alves (2016), in a study conducted only with Nursing professionals, highlighted the absence of specific technical preparation for inter-hospital transport of critically ill newborns such as determining factor for insecurity during travel, favoring incidents such as neonatal hypothermia.

This finding reinforces the urgency of investing in specific training and continuous development of the team working in this context. Working in Emergency services, for For example, it requires the Nursing team to have in-depth clinical knowledge and agility in responding to adverse situations. Professional qualification, in this sense, is essential for safe and efficient conduct, as well as strengthening the capacity for critical analysis, improve decision-making and reduce care failures (Oliveira, 2025).

Performing nursing interventions without the appropriate technical competence and support theoretical is to assume the risk of compromising the patient's health. On this subject, Carboni, Reppetto and Nogueira (2018) warns that errors made in healthcare practice, even when not whether intentional or not noticed by the professional, can cause damage to physical integrity and emotional state of the patient and, in more serious cases, lead to death.

This reality directly confronts the principles of the category's Code of Ethics, which imposes on the professional the duty to ensure care that does not expose the client to risks arising from damages due to negligence. Furthermore, the same document recognizes the right and responsibility to seek to improve their knowledge, making the qualification professional an indispensable ethical commitment (Cofen, 2017).

Furthermore, recent evidence reinforces that the success of patient transport in critical state is related to the efficient coordination of organizational aspects, assistance and logistics. The qualification of teams, the standardization of conduct and the adequacy of the infrastructure are thus configured as essential pillars to guarantee the security of the patient. Carvalho *et al.* (2024), for example, developed a specific *checklist* for the inter-hospital transport, demonstrating that the use of systematized instruments promotes clarity in the stages of care, improves communication between the health team and supports safer clinical decisions.

This approach is especially relevant when analyzing data from Bomfati *et al.* (2019) who revealed high rates of transport considered unsafe, indicating that the mere presence of resources is not enough without effective management of them processes, standardization of conduct and continuous team training.

In contrast, Ehrentraut *et al.* (2019) showed positive results for the patient safety when there is integration between these elements. When analyzing the transport of patients using extracorporeal membrane oxygenation, the authors found that the performance of specialized teams, combined with adequate planning and correct use of resources, resulted in high efficiency and safety of the transfer, even with reduced teams. Although complications may occur, given the clinical severity of the patients, most of them was not related to team failures.

Regarding the identification of complications during inter-hospital transport, studies included in this review indicate that the main complications are related to failures of communication, both between team members and between the originating and destination services,

in addition to technical problems with medical equipment such as infusion pumps and ventilators. Errors in procedures were also observed, especially in puncture and maintenance of venous access, central or peripheral.

These results are in line with the literature that identifies events as The most frequent adverse events are trauma and hemodynamic and respiratory decompensations, generally associated with failures in supporting devices and ineffective communication between them sectors involved (Borges *et al.,* 2019; Fernandes *et* al., 2022). These factors represent significant risks to the patient's clinical stability during transfer.

Pimenta and Alves (2016) also highlighted the inadequate supervision of the clinical condition, highlighting that low professional qualifications were a determining factor for not early identification of deterioration in patients' health status. Similar results was observed in a study carried out in a hospital in the Central-West region of Brazil, which investigated the Nursing team's knowledge about patient safety and occurrence of adverse events. In this study, knowledge deficiency was identified as a significant barrier to achieving established safety goals (Lopes *et al.* 2023).

5. FINAL CONSIDERATIONS

The reviewed literature showed that inter-hospital transport of patients in urgent and emergency situation is a complex process, which requires coordination between adequate infrastructure, well-defined protocols and properly trained health teams. The studies analyzed reveal recurring weaknesses that compromise the safety of patient, especially those that can be avoided through continued education of professionals. Furthermore, they highlight the role of Nursing, whose presence proved to be central in the planning and execution of transport.

In two of the three included studies, problems were identified directly related to the technical unpreparedness of the nursing team, such as failures in the execution of procedures or in the clinical supervision of the patient. Furthermore, the evidence that 82% of transport is assessed as unsafe, despite the technical adequacy of 99% of equipment used, indicates that patient safety is strongly related to quality of processes and team performance, and not just the availability of resources materials.

These findings reinforce the importance of continuous qualification of professionals, standardization of conduct through protocols and checklists, and the creation of policies institutional measures aimed at strengthening the safety culture. Furthermore, the lack of studies focused on the role of Nursing in this context highlight the need for more investigations that explore the interventions carried out, the role of the team, the strategies adopted to ensure patient safety and the results of these actions. This data is essential to strengthen evidence-based practices and promote safer care and resolutive.

REFERENCES

ALVES, F. **J. Difficulties perceived by nurses during the transport of critically ill patients. Internship report** (Bachelor's Degree in Nursing) – School of Health, Instituto Disponível Bragança, <https://bibliotecadigital.ipb.pt/handle/10198/24819>. Accessed on: July 10, 2025. Polytechnic of 2021. in:

ANDRADE, A. *M. et al.* Evolution of the National Patient Safety Program: an analysis of public data made available by the National Health Surveillance Agency. **Health Surveillance in Debate: Society, Science & Technology,** v. 8, n. 4, p. 37-46, 2020. Available at: <https://www.redalyc.org/articulo.oa?id=570567431005>. Accessed on: July 10, 2025.

BOMFATI, *M. et al.* Intra- and extra-hospital transport of children: implications for the nursing team. **Space for Health - Paraná Public Health Journal,** v. 20, n. 1, p. 40–47, 2019.

BORGES, B.; CORREIA, T.; MARTINS, M. Intercurrences in inter-hospital transport of people in critical condition. **Servir,** *[S. l.],* v. 2, n. 04, 2023. Available at: <https://revistas.rcaap.pt/servir/article/view/28388> . Accessed on: July 17, 2025.

Federal Council of Nursing (COFEN). **Resolution No. 564/2017.** Approves the Code of Ethics for Nursing Professionals. Brasília: COFEN, 2017. Available at: https://www.cofen.gov.br/resolucao-cofen-5642017_59145.html. Accessed on: July 16, 2025.

BRAZIL. Ministry of Health. **Resolution RDC No. 36,** of July 25, 2013. Institutes actions for patient safety in health services and contains other provisions. Official Gazette of the Union: section 1, Brasília, 2013.

BRAZIL. Ministry of Health. Reference document for the National Patient Safety Program / Ministry of Health; Oswaldo Cruz Foundation; National Health Surveillance Agency. Brasília: Ministry of Health, 2014.

BRAZIL. Ministry of Health. **Ordinance No. 2,048** of November 5, 2002. Approves the technical regulations for state emergency and urgency systems. Official Gazette of the Union: Brasília, 2002.

BRAZIL. Ministry of Health. **Ordinance No. 529,** of April 1, 2013. Institutes the National Patient Safety Program (PNSP). Official Gazette of the Union: Brasília, 2013.

CARBONI, RM; REPPETTO, MA; NOGUEIRA, VO Errors in nursing practice that characterize incompetence, imprudence and negligence: a bibliographic review. **Paulista Nursing Journal,** São Paulo, v. 29, n. 1-2-3, p. 100-107, 2018.

CARVALHO, C.; COSTEIRA, CRB; PEREIRA SOUSA, J. Nursing Care at Critical Care Patient Inter-Hospital Transfer: The Construction of a Checklist through a Scoping Review. **Emergency Care and Medicine,** vol. 1, no. 3, p. 221–229, 2024.

CARVALHO, MC da; BASTO, JB; COSTA, JN da *et al.* Interhospital transfer of critically ill patients: attention from the Advanced Life Support Unit (ASU) team **FT Magazine,** v. 2024. terrestrial. ed 38, Available <https://revistaft.com.br/ in: transferencia-inter-hospitalar-de-pacientes-criticos-atencao-da-equipe-de-unidade-de-suporte-avancado-usa-de-vida-terrestre/>. Accessed on: July 11, 2025.

DOS SANTOS, M.; CAMILOTTI, YJ; ZAREMBSKI, FC.; TRENTIN GUARDA, CV ; ANTONELLO, . J. Inter-hospital transport of critically ill patients: A narrative review. **Santé - Health Sciences Notebooks,** [S. l.], v. 3, n. 1, p. 48–66, 2024. Available at: <https://periodicos.unidep.edu.br/sante/article/view/286>. Accessed on: July 11, 2025.

EHRENTRAUT, S. *et al.* Interprofessional two-man team approach for interhospital transport of ARDS-patients under extracorporeal membrane oxygenation: a 10 years retrospective observational cohort study. **BMC Anesthesiology,** vol. 19, no. 1, 2019.

FERNANDES, E.; INFANTE, J.; MOTA, M.; RIBEIRO, O. Nursing care during inter-hospital transport of the critically ill patient: scoping review. **Millenium – Journal of Education, Technologies, and Health,** v. 2, n. 10, p. 151–167, 2022. Available at: <https://www.researchgate.net/publication/362367061_Assistencia_de_enfermagem_durante_inter-hospital transport of critically ill patients; review and scoping>. Accessed on: July 11, 2025.

GALVÃO, TF; PANSANI, T. DE SA; HARRAD, D.. Key reporting items in systematic reviews and meta-analyses: The PRISMA recommendation. **Epidemiology and Health Services,** v. 24, n. 2, p. 335–342, 2015.

GARAVAZZO, Tabata Luna; MATSUNO, Alessandra Kimie; CARMONA, Fabio; CARLOTTI, Ana Panzeri; MIRANDA, Carlos Henrique. Prognostic impact of complications occurring during the transport of critically ill children. Scientia Medica, [S. l.], v. 30, n. 1, p. e34725, 2020. https://revistaseletronicas.pucrs.br/scientiamedica/article/view/34725. Accessed on: July 19, 2025. Available in:

GRAÇA, ACG da *et al.* Inter-hospital transport of critically ill patients: the reality of a hospital in northeastern Portugal. **Nursing Reference Journal,** v. 4, n. 15, 2017.
Available at: <https://www.redalyc.org/articulo.oa?id=388255693017> . Accessed on: July 11, 2025.

INSTITUTE OF MEDICINE. Committee on Quality of Health Care in America. To err is human: building a safer health system. KOHN, L.T.; CORRIGAN, JM; DONALDSON, M.
S. (Ed.). Washington, DC: National Academies Press, 2000.

LOPES, B. DE *A. et al.* PATIENT SAFETY CULTURE FROM THE PERSPECTIVE OF THE NURSING TEAM. Cogitare Enfermagem, v. 28, 2023.

MELO, SC *et al.* Intra- and inter-hospital patient transport. Belo Horizonte: Minas State Hospital Foundation 2019. <https://www.fhemig.mg.gov.br/files/1394/Protocolos-Clinicos/1448_Guia-de-Transportes-de-pacientes-intra-e-inter-hospitalar-(2019).pdf>. Accessed on: July 9, 2025. Available in:

MOREIRA, LR (org.). Manual of integrative systematic bibliographic review: evidence-based research. Belo Horizonte: Ânima Educação, 2014. Available at: <https://biblioteca.cofen.gov.br/wp-content/uploads/2019/06/manual_revisao_bibliografica-sistematica-integrativa.pdf>. Accessed on: July 11, 2025.

MURATA, M.; NAKAGAWA, N.; KAWASAKI, T.; *et al.* Adverse events during intrahospital transport of critically ill patients: a systematic review and meta-analysis. American Journal of Medicine, Available: Emergency 2022. v. 52, p. 13–19, <https://doi.org/10.1016/j.ajem.2021.11.021> . Accessed on: 15 Jul. 2025.

OLIVEIRA, MV DE. Continuing education - an essential component for excellence in nursing care in emergency rooms: A narrative review. Research, Society and Development, v. 14, n. 4, p. e0914448503, April 4, 2025.

WORLD HEALTH ORGANIZATION. Global action for patient safety. 72nd World Health Assembly, Resolution WHA72.6, Geneva, 2019. Available at: <https://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_R6-en.pdf>. Accessed: July 11, 2025.

PIMENTA, PC DE O.; ALVES, VH INTER-HOSPITAL TRANSPORTATION OF HIGH-RISK NEWBORN INFANTS: A CHALLENGE FOR NURSING. **Cogitare Enfermagem,** [S. l.], v. 21, n. 5, 2016. Available at: <https://revistas.ufpr.br/cogitare/article/view/45047>. Accessed on: July 15, 2025.

SILVA, E. *B. et al.* Nurses' performance in the safe intra-hospital transport of critically ill patients. Contributions to Social Sciences, São José dos Pinhais, v. 16, n. 12, p. 31331-31345, 2023.

SOUSA, LMM; MARQUESÿVIEIRA, CMA; SEVERINO, SSP; ANTUNES, AV Integrative literature review methodology in Nursing. Nursing Research Journal, Series II, n. 21, p. 17–26, 2017.

WORLD HEALTH ORGANIZATION. World Alliance for Patient Safety: forward programme. Geneva: WHO, 2005.