Collaborative interprofessional communication for patient safety in intensive care: integrative review

Comunicação interprofissional colaborativa para segurança do paciente em terapia intensiva: revisão integrativa

Comunicación colaborativa interprofesional para la seguridad del paciente en cuidados intensivos: revisión integradora

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RESUMO

Objetivo: Identificar os fatores que interferem na comunicação interprofissional colaborativa na Unidade de Terapia Intensiva. **Método:** Revisão integrativa, realizada através das bases de dados: SCOPUS, Web of Science e MEDLINE/PubMed. A última data de acesso nas bases foi em 15 de setembro de 2023. Incluíram-se estudos disponíveis que respondessem à questão de pesquisa. Foram excluídos os editoriais, cartas ao editor, opinião de especialistas, correspondências, resumos, resenhas, capítulos de livros, teses e dissertações. **Resultados**: Com uma amostra de 20 artigos, foram identificados seis fatores que interferem de modo positivo as saber: treinamento da equipe interprofissional, capacidade de liderança de enfermeiros e modelos estruturados para troca de informações conjunta da tomada de decisão. E nove fatores que interferem negativamente como as relações interprofissionais pouco colaborativas na tomada de decisão, dificuldade de implementar treinamento interprofissional e dificuldade de gerenciar funções e responsabilidades. **Conclusão:** o estudo permite que a equipe interprofissional e a gestão da Unidade de Terapia Intensiva conheçam e possam identificar os fatores que impulsionam ou impedem a colaboração em equipes.

Descritores: Comunicação; Segurança do Paciente; Unidades de Terapia Intensiva; Educação Interprofissional; Revisão

ABSTRACT

Objective: To identify the factors that interfere with collaborative interprofessional communication in the Intensive Care Unit. **Method:** integrative review, carried out using the databases: SCOPUS, Web of Science and MEDLINE/PubMed. The last date of access to the databases was September 15, 2023. Available studies that answered the research question were included. Editorials, letters to the editor, expert opinions, correspondence, summaries, reviews, book chapters, theses and dissertations were excluded. **Results:** With a sample of 20 articles, six factors that interfere positively and nine factors that interfere negatively in collaborative interprofessional communication in the Intensive Care Unit were identified. **Conclusion:** The main factors that interfere positively were: training of the interprofessional team, leadership capacity of nurses and structured models for exchanging joint information for decision-making. The main factors that interfere negatively were: interprofessional relationships that are not very collaborative in decision-making, difficulty in implementing interprofessional training and difficulty in managing roles and responsibilities.

Descriptors: Communication; Patient Safety; Intensive Care Units; Interprofessional Education; Review

RESUMEN

Objetivo: Identificar los factores que interfieren en la comunicación colaborativa interprofesional en la Unidad de Cuidados Intensivos. **Metodo:** Revisión integradora, realizada utilizando las bases de datos: SCOPUS, Web of Science y MEDLINE/PubMed. La última fecha de acceso a las bases de datos fue el 15 de septiembre de 2023. Se incluyeron estudios disponibles que respondieron a la pregunta de investigación. Se excluyeron editoriales, cartas al editor, peritajes, correspondencia, resúmenes, reseñas, capítulos de libros, tesis y disertaciones. **Resultados:** Con una muestra de 20 artículos, se identificaron seis factores que interfieren positivamente, a saber: formación de equipos interprofesionales, capacidad de liderazgo de los enfermeros y modelos estructurados de intercambio de información conjunta para la toma de decisiones. Y nueve factores que interfieren negativamente, como relaciones interprofesionales poco colaborativas en la toma de decisiones, dificultad para implementar la formación interprofesional y dificultad para gestionar roles y responsabilidades. **Conclusión:** el estudio permite al equipo interprofesional y a la gestión de la Unidad de Cuidados Intensivos conocer e identificar los factores que promueven o impiden la colaboración en equipo.

Descriptores: Comunicación; Seguridad del Paciente; Unidades de Cuidados Intensivos; Educación Interprofesional; Revisión.

REVIEW

Introduction

In the context of healthcare, effective communication is critical to providing safe, high-quality care to deliver better patient outcomes, reduced adverse events, and shorter hospital stays.[1]

From this perspective, collaborative interprofessional communication is the ability to communicate with patients, families, communities, and professionals from other categories in an appropriate and responsible manner. Establishing dialogue in an interprofessional context makes it possible to value the work of each team member and their specific skills. This practice is essential to enable effective communication, which contributes to the formation of more humanized and stable care environments.[2]

Reinforcing the importance of communication, the World Health Organization (WHO) recommended in the Global Patient Safety Action Plan 2021-2030 the relevance of collaborative work and communication to reduce incidents.[3] It is essential to ensure that communication is clear, objective, and effective for health institutions to develop an organizational culture centered on patient safety.[4]

In complex healthcare environments, such as the Intensive Care Unit (ICU), being a sector with direct care for critical patients, it is essential that professionals adopt collaborative communication as a strategy to strengthen teamwork and ensure that emergencies are resolved effectively.[5]

Despite the relevance of collaborative interprofessional communication, there is still a need to deepen knowledge on this topic, especially in the ICU environment. Considering the above, the study in question aimed to identify the factors that interfere in collaborative interprofessional communication in the ICU.

Method

It is an integrative literature review, which is characterized by a method that analyzes studies, condenses results and provides subsidies for the broad knowledge about a given phenomenon, with a view to promoting evidence-based practice.[6]

This review was organized through a research protocol and went through the following steps: elaboration of the research guiding question; electronic search in the literature, application of eligibility criteria; data collection, through a research tool; critical analysis of the studies; and presentation and synthesis of results.[6]

The guiding question of this study was structured using an adaptation of the Population, Intervention, Comparison and Outcome (PICO) technique, configuring the Population, Variables and Outcome (PVO) strategy, in which: P = health professionals who work in the ICU, V = collaborative communication and O = factors that interfere with communication. With this, the following research question was delimited: What are the factors that interfere in collaborative interprofessional communication in the ICU?

Data collection was carried out using the SCOPUS, Web of Science, and Medical Literature Analysis and Retrieval System Online (MEDLINE)/PubMed databases. The last date of access to the databases was September 15, 2023. An advanced search was conducted using the indexed descriptors (Medical Subject

Headings – MeSH), which included "Communication"; "Patient Safety"; "Intensive Care Units"; and "Interprofessional Education". Table 1 presents the search strategies used in the databases.

Table 1 - Search strategies used in the databases

Database	Search strategy
SCOPUS	Strategy 1: ALL (Communication) AND ALL (Patient Safety) AND ALL (Interprofessional Education)
	Strategy 2: ALL (Patient Safety) AND ALL (Interprofessional Education) AND ALL (Intensive Care Units)
Web of Science	Strategy 1: ((TS=(Communication)) AND TS=(Patient Safety)) AND TS=(Interprofessional Education)
	Strategy 2: ((TS=(Patient Safety)) AND TS=(Interprofessional Education)) AND TS=(Intensive Care Units)
MEDLINE/PubMed	Strategy 1: ((Communication) AND Patient Safety) AND Interprofessional Education
	Strategy 2: ((Patient Safety) AND Interprofessional Education) AND Intensive Care Units

Full articles were included that addressed the theme of interprofessional communication in the ICU. Editorials, letters to the editor, expert opinions, correspondence, abstracts, reviews, book chapters, theses, and dissertations were excluded. A time frame was not established in order to cover the largest possible number of available studies.

To reduce possible errors or measurement biases, the selection of studies was carried out in pairs, which made it possible to reach a consensus on the studies found. The first stage took place through the reading of titles and abstracts. Divergent studies among the evaluators were decided by a third evaluator, followed by the complete reading of the studies. Duplicates were considered only once, while those that did not meet the eligibility criteria were removed.

To perform the data extraction, a data collection tool was developed with the following variables: study title, indexed data source, authors, language, continent and year of publication, methodology used, type of approach, level of evidence, and factors that interfere with collaborative interprofessional communication in the ICU. The data was organized in a form on Google Forms. It is worth noting that the dataset of this study was stored in the public repository Mendeley Data.[7]

With regard to the level of evidence, the classification proposed by JBI Global was adopted: Level I. systematic reviews of randomized controlled clinical trials; Level II. randomized controlled clinical trials; Level III.1. well-designed but non-randomized clinical trials; Level III.2. well-designed cohort studies or case-control studies; Level III.3. multiple time series, with or without

intervention, and dramatic results in uncontrolled experiments; Level IV. Opinions of respected experts, based on clinical criteria and experience, descriptive studies or expert committee reports.[8]

The method of selecting studies followed the guidelines of the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) protocol, which is used to improve the quality of reviews. The following tables and tables present the summary of the results.[9]

Results

Database searches led to the identification of 24,882 studies, of which 24,808 were removed because they did not meet the inclusion criteria and five because they were duplicates. Thus, 20 studies made up the final sample (Figure 1).

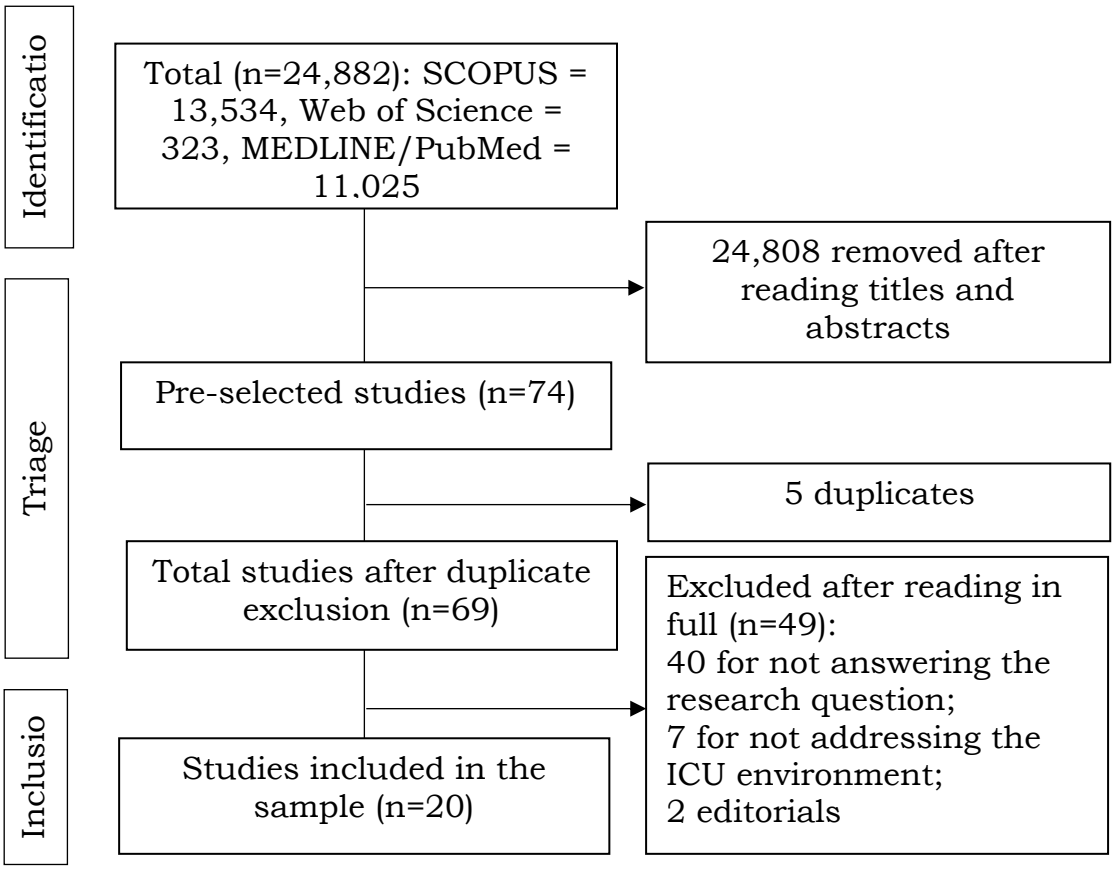

Figure 1. Identification, selection and inclusion diagram of studies

Table 2 describes the characterization of the studies with absolute and relative frequencies according to the following variables: year of publication, continent, language, method, and type of approach.

Table 2 - Characterization of studies according to year of publication, continent, language, method and approach

Variables	n (%)
Yea of Publication	
2023	3 (15,00)
2022	4 (20,00)
2021	1 (5,00)
2020	2 (10,00)
2019	3 (15,00)
2017	2 (10,00)
2016	2 (10,00)
2014	1 (5,00)
2013	1 (5,00)
2011	1 (5,00)
Continent	
North America	9 (45,00)
Europe	6 (30,00)
Asia	2 (10,00)
Oceania	2 (10,00)
Africa	1 (5,00)
Language	
English	20 (100,00)
Method	
Randomized controlled trial	6 (30,00)
Review study	4 (20,00)
Cross-sectional study	3 (15,00)
Cohort study	1 (5,00)
Experimental study	1 (5,00)
Not defined	5 (25,00)
Approach	
Quantitative	15 (75,00)
Qualitative	5 (25,00)

Most studies date back to 2022 with 20.00% (4) of the sample. North America was the continent with the highest number of publications with 45.00% (9) and the language that prevailed was English in 100.00% (20). Regarding the method used, randomized clinical trials had a higher prevalence with 30.00% (6) and with a quantitative approach with 75.00% (15) of the sample. The summary of the studies is shown in Table 1.

Chart 1 - Synthesis of studies according to authors/year, level of evidence and main findin.

Authors (year)	Level of evidence	Main Findings
Arrogante O, et al. (2023)[10]	Level IV	The TeamSTEPPS® program that utilizes team strategies and resources to improve patient performance and safety has been shown to improve interprofessional work among healthcare professionals by improving teamwork.
Digby R, et al. (2023)[11]	Not applicable *	Effective organizational communication ensured that ICU staff were informed of the frequent policy and protocol changes and the implications for patient care. Regular video conferencing meetings hosted by the ICU director and nurse manager could be

		accessed by all ICU staff and keep everyone informed.
Häggström M, et al. (2023)[12]	Not applicable *	Effective communication, interdisciplinary teamwork, and a fair and supportive work environment were identified as categories for cross-team collaboration.
Matusov Y, et al. (2022)[13]	Level II	ICU nurses indicated that they felt an adverse impact on interdisciplinary collaboration, creating a major barrier to communication.
Shields HM, et al. (2022)[14]	Level III.2	Lack of collaboration in decision-making among professionals is a factor that hinders communication and increases the expected risk of negative results for the patient.
Yamamoto K (2022)[15]	Level III.3	Leadership ability in critical care nurses is related to a high level of collaboration among health professionals. However, examining and implementing educational methods, including improving coordination capacity, remains a hindering factor for collaborative communication.
Kiessling A, et al. (2022)[16]	Level III.3	Regardless of previous experience and profession, simulation-based interprofessional team training is an effective means to develop sustainable confidence; in acute interprofessional communication; and in self-efficacy to deal with emergency situations.
Jonsson K, et al. (2021)[17]	Level II	This intervention study shows that a two-hour education in situational awareness improved parts of the team's performance. Team leadership and task management improved in the intervention group, which may indicate that one or several of the components (perception, comprehension, and projection) were improved).
Ntinga MN, et al. (2020)[18]	Not applicable *	Important barriers to achieving interprofessional communication include the lack of orientation programs for new staff joining the ICU team and overworked health care workers who are responsible for many patients, which can result in diagnostic and management errors.
Liaw YS, et al. (2020)[19]	Level II	Training the interprofessional team through simulations has proven logistically challenging to implement at the pre-registration level due to the difficulties in bringing together different groups in the health area.
Michalsen A, et al. (2019)[20]	Level I	Clinicians should consider using a model that allows for the exchange of information, deliberation, and joint achievement of a treatment decision in a structured manner.
Schmutz JB, et al. (2019)[21]	Level I	The current meta-analysis confirms that the increase in health professionals, teams have difficulties in developing and maintaining a structure of roles and responsibilities.
Walter JK, et al. (2019)[22]	Level III.2	Members of different professions behave differently in team meetings, the study reveals findings of medical dominance in interprofessional meetings.
Reeves S, et al. (2017)[23]	Level II	The difficulties that health professionals encounter when collaborating in clinical practice in physical and organizational structure to incorporate interprofessional practice.
Reeves S, et al. (2017)[24]	Not applicable *	Team members need to feel confident to question, review and reflect on their interdependent work that involves a range of professional groups and tackle difficult issues such as power imbalances, limited trust in relationships and interprofessional hierarchies.
Stocker M, et al. (2016)[25]	Not applicable *	The self-esteem of independence of physicians with high individual autonomy contrasts the interdependence of shared mental models and mutual trust, in addition to hindering efficient communication and follow-up involving the nursing team, early-stage physicians, and other collaborative health professionals. The

		absence of communication is another important factor that hinders learning on the job and contributes to communication errors in hospitals.
Foronda C, et al. (2016)[26]	Not applicable *	Nurse-physician communication was identified as an obstacle to the performance of ICU nurses (nurses' disorganization with information; inclusion of extraneous or irrelevant information; different communication styles). Obstacles to physicians' performance (physicians seemed inattentive; they seemed reluctant to discuss the goals of care; interprofessional relationships that were not very collaborative).
Costa DK, et al. (2014)[27]	Not applicable *	The conceptual domains of structural and cultural facilitators can be used to assess and improve interprofessional collaboration in the ICU.
Brock D, et al. (2013)[28]	Level II	The organizational logistics challenges for communication were important and the opportunity to work in interprofessional teams was described as valuable, contributing to patient safety.
Reader TW, et al. (2011)[29]	Level II	The teamwork skills that underpin effective performance are similar, and the team training process should be based on methods and techniques. However, it is perceived that there are many differences in the team's performance.

*Does not apply to qualitative studies and literature reviews, except for systematic reviews.

Thus, it was possible to develop a summary table of the factors found, which were categorized into factors that interfere positively and negatively in collaborative interprofessional communication in the ICU (Chart 2).

Chart 2 - Synthesis of factors that positively and negatively interfere in collaborative interprofessional communication in the Intensive Care Unit

Positive factors	Negative factors
Training of the interprofessional team[16-17,28-29]	Interprofessional relationships that are not very collaborative in decision-making [13-14,23,28]
Structured models for joint decision-making information exchange [10,20,27]	Difficulty in implementing interprofessional training [15,28-19]
Nurses' leadership skills[15,17]	Difficulty managing roles and responsibilities [21,28]
Regular meetings[11]	Different communication styles [26,29]
Fair and favorable work environment[12]	Overload of health professionals [18]
Proper task management[17]	Limited trust in interprofessional relationships and hierarchies [24]
-	High individual autonomy of medical professionals[25]
-	Lack of communication [25]
-	Inclusion of irrelevant information [26]

Discussion

Through the selected studies, there is a scarcity of publications in the literature that specifically indicate the factors that interfere in collaborative interprofessional communication in the ICU setting. On the other hand, it is observed that this theme has gained more prominence in the last five years.

Regarding the factors that positively interfere in collaborative interprofessional communication, the training of the interprofessional team

proved to be very effective to work on communication between teams, even with other previous experiences or based on simulation.[16,28-29] Collaborating with this finding, research indicates that measures that contribute to the structuring of teams, such as training and continuous meetings, and these seem to be effective in reducing conflicts.[30, 31]

Another factor that interferes positively was the regular meetings between professionals[23]. Thus, the study proves that daily quick meetings improve the dynamics of a team through the sharing of knowledge and discussion of care issues, thus promoting more patient safety and the reduction of adverse events.[32]

Proper task management, nurses' leadership ability, and a fair and supportive work environment effectively improve the perception, understanding, and projection of information in the communication process. A cross-sectional study conducted in Japan denotes that there is an objective to improve the care of doctors and nurses through interdisciplinary collaboration of competencies with other health professionals.[15,17]

In addition, diffuse noise in the ICU environment, parallel conversations, interactions that intervene in the flow of activities, such as late arrivals or early departures, as well as the lack of clarity in speech, further weaken the reports between professionals, often culminating in erroneous or unnecessary actions. Thus, it is necessary to use strategies that evaluate and improve communication among professionals, through structured models, such as clinical protocols, checklists and information technology for joint information exchange in decision-making.[20-21,33-34]

Compreender os fatores que interferem de modo negativo na comunicação interprofissional colaborativa possibilita a realização de mudanças para superar as barreiras na comunicação. Quando não há comunicação efetiva, a presunção de resultados negativos pelos pacientes aumenta cerca de 69%, e quando há relações interprofissionais pouco colaborativas na tomada de decisão, cerca de 31%.[12-13,28]

Although the training of the interprofessional team has been identified as a factor that positively interferes with communication, other studies have shown that implementing training is logistically challenging in the ICU environment due to the difficulty in bringing together different health professionals, which is considered a factor that negatively interferes with communication.[14,17-18]

Study reports that poor communication is a contributing factor to more than 60% of all hospital adverse events. Different communication styles can lead to miscommunication, especially in patient transfers and environments where quick and effective management is indispensable.[25,28,35]

Another important barrier to achieving interprofessional communication is the overload of health professionals, who are often responsible for many assignments, which can result in diagnostic and management errors. Professionals perform various activities and, often, with an interrupted workflow. The high level of interruptions can induce cognitive overload and result in impairments in clinical performance and patient safety.[27,35]

Especially in the hospital environment, the presence of hierarchies of power between the professions and the activities to be performed is notorious. In general, some professional categories often face challenges related to their

vulnerability and limited autonomy. While these professionals are responsible for the safety of patients, they are often faced with intimidating situations that make it difficult to practice effective and timely communication, which in turn impairs the ability to carry out appropriate interventions to prevent harm.[23-24,36]

As presented, the absence of communication is considered an important factor that hinders learning at work and contributes to communication errors in hospitals. On the other hand, the excess of information, that is, the inclusion of irrelevant information, is presented as an obstacle to the performance of communication.[12,17,24-35,36]

Interprofessional communication about the care of the critically ill patient can commonly fail and lead to poor prognosis. Therefore, we recommend the implementation of strategies that encourage the standardization of effective and collaborative communication in ICU environments, articulated with public patient safety policies.

It is recommended that studies be carried out with other designs on this theme, in order to carry out accurate clinical analyses with the health context, with a view to reducing avoidable damage, especially in developing countries.

The limitations of this study may be associated with the databases that were used, which may have introduced some bias in the selection. In addition, the sample size and specific context of the study may restrict the generalization of the study findings to other scenarios.

Conclusion

The results of the study in question made it possible to identify the factors that interfere with collaborative interprofessional communication in the ICU. The main factors that interfere positively were: training of the interprofessional team, structured models for joint exchange of information in decision-making, and nurses' leadership capacity. The main factors that interfere negatively were: interprofessional relationships that are not very collaborative in decision-making, difficulty in implementing interprofessional training and difficulty in managing functions and responsibilities.

With this, the study allows the interprofessional team and ICU management to know and identify the factors that drive or hinder team collaboration. In addition, collaborative and interprofessional work contributes to safe and qualified care in health services.

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