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

millenium

Millenium, 2(Edição Especial Nº20)

DESENVOLVIMENTO E VALIDAÇÃO DE ESCALA DE AVALIAÇÃO DAS COMPETÊNCIAS DE COMUNICAÇÃO DE ENFERMEIROS COM DOENTES CRÍTICOS

DEVELOPMENT AND VALIDATION OF AN ASSESSMENT SCALE FOR NURSES´ COMMUNICATION COMPETENCIES WITH CRITICALLY ILL PATIENTS

DESARROLLO Y VALIDACIÓN DE UNA ESCALA DE EVALUACIÓN DE LAS COMPETENCIAS DE COMUNICACIÓN DE ENFERMEROS CON PACIENTES CRÍTICOS

Maria Gorete Batista[1,2,3] *https://orcid.org/0000-0002-6750-1825*
Bruno Magalhães[4,5,6,7] *https://orcid.org/0000-0001-6049-8646*
Vítor Rodrigues[4,5,8] *https://orcid.org/0000-0002-2795-685X*

[1] Instituto Politécnico de Bragança, Bragança, Portugal
[2] Live Well-Centro de Investigação para Vida Ativa e Bem-Estar, Bragança, Portugal
[3] Centro de Estudos e Pesquisa (CEPs), Instituto Jean Piaget, Benguela, Angola
[4] Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal
[5] RISE-Health, Vila Real, Portugal
[6] Unidade de Investigação em Enfermagem Oncológica Centro de Investigação IPO Porto (CI-IPOP), Porto, Portugal
[7] Centro Académico Clínico de Trás-os-Montes e Alto Douro (CACTMAD), Vila Real, Portugal
[8] CIDESD - Centro de Investigação em Desporto, Saúde e Desenvolvimento Humano, Vila Real, Portugal

Maria Gorete Batista - gorete@ipb.pt | Bruno Magalhães - brunomm@utad.pt | Vítor Rodrigues - vmcpr@utad.pt

Corresponding Author:
Maria Gorete Batista
R. Alexandre Herculano
5300-075 – Bragança - Portugal
gorete@ipb.pt

RECEIVED: 08th November, 2024
REVIEWED: 19th February, 2025
ACCEPTED: 25th November, 2025
PUBLISHED: 29th December, 2025

DOI: https://doi.org/10.29352/mill0220e.38697

RESUMO

Introdução: Nas Unidades de Cuidados Intensivos (UCIs), os enfermeiros enfrentam grandes desafios na comunicação, principalmente com pacientes que não se expressam verbalmente. Embora se reconheça a importância da comunicação nesses contextos, há uma lacuna quanto à avaliação das competências comunicativas dos enfermeiros.
Objetivo: Desenvolver e validar uma escala para avaliar as competências de comunicação dos enfermeiros com pacientes críticos e suas famílias; caracterizar essas competências em enfermeiros de UCIs.
Métodos: Estudo descritivo e analítico com 139 enfermeiros de UCIs a nível nacional, aplicado questionário online divulgado pela Ordem dos Enfermeiros. A escala construída para o estudo incluiu 22 itens, em escala Likert de 0 a 4, e foi validada através da Análise Fatorial de Componentes Principais (AFCP) e Alfa de Cronbach ($\alpha \geq 0,70$).
Resultados: A escala revelou-se válida e confiável, identificando quatro componentes principais: "Comunicação Centrada no Doente" ($\alpha = 0,820$), "Comunicação Não-Verbal" ($\alpha = 0,847$), "Comunicação Empática e Suporte Emocional" ($\alpha = 0,799$) e "Eficácia na Comunicação" ($\alpha = 0,842$). 69,1% dos enfermeiros obtiveram elevado nível de competências comunicativas; aqueles com mais habilitações e interesse pela área obtiveram média mais alta em todas as dimensões.
Conclusão: A maioria dos enfermeiros das UCIs possui competências comunicativas adequadas. Destaca-se a necessidade de aprimorar a comunicação não-verbal. A escala validada é uma ferramenta útil para futuros estudos e melhorias nas práticas comunicativas em saúde.

Palavras-chave: competências de comunicação; enfermeiro; doente crítico; família; cuidados intensivos

ABSTRACT

Introduction: In Intensive Care Units (ICUs), nurses face significant challenges in communication, especially with patients who cannot express themselves verbally. Although the importance of communication in these contexts is well recognized, there is a gap in assessing nurses' communication competencies.
Objective: To develop and validate a scale to assess nurses' communication competencies with critically ill patients and their families, and to characterize these competencies among ICU nurses.
Methods: This is a descriptive and analytical study involving 139 ICU nurses nationwide, using an online questionnaire disseminated by the Order of Nurses. The scale constructed for the study included 22 items on a Likert scale from 0 to 4, and was validated through Principal Component Factor Analysis (PCA) and Cronbach's Alpha ($\alpha \geq 0.70$).
Results: The scale proved to be valid and reliable, identifying four main components: "Patient-Centered Communication" ($\alpha = 0.820$), "Nonverbal Communication" ($\alpha = 0.847$), "Empathic Communication and Emotional Support" ($\alpha = 0.799$), and "Communication Effectiveness" ($\alpha = 0.842$). 69.1% of nurses achieved a high level of communication competency; those with higher qualifications and interest in the field scored higher on all dimensions.
Conclusion: The majority of ICU nurses demonstrate adequate communication competencies. However, there is a notable need to improve nonverbal communication. The validated scale serves as a useful tool for future studies and improvements in healthcare communication practices.

Keywords: communication competencies; nurse; critically ill patient; family; intensive care

RESUMEN

Introducción: En las Unidades de Cuidados Intensivos (UCIs), los enfermeros enfrentan grandes desafíos en la comunicación, especialmente con pacientes que no pueden expresarse verbalmente. Aunque se reconoce la importancia de la comunicación en estos contextos, existe una brecha en la evaluación de las competencias comunicativas de los enfermeros.
Objetivo: Desarrollar y validar una escala para evaluar las competencias de comunicación de los enfermeros con pacientes críticos y sus familias; caracterizar dichas competencias en enfermeros de UCIs.
Métodos: Estudio descriptivo y analítico con la participación de 139 enfermeros de UCIs a nivel nacional, mediante un cuestionario en línea difundido por el Colegio de Enfermería. La escala diseñada para el estudio incluyó 22 ítems, en una escala Likert de 0 a 4, y fue validada mediante Análisis Factorial de Componentes Principales (AFCP) y Alfa de Cronbach ($\alpha \geq 0,70$).
Resultados: La escala demostró ser válida y confiable, identificando cuatro componentes principales: "Comunicación Centrada en el Paciente" ($\alpha = 0,820$), "Comunicación No Verbal" ($\alpha = 0,847$), "Comunicación Empática y Apoyo Emocional" ($\alpha = 0,799$) y "Eficacia en la Comunicación" ($\alpha = 0,842$). El 69,1% de los enfermeros alcanzaron un nivel elevado de competencias comunicativas; aquellos con mayor formación e interés en el área obtuvieron un promedio más alto en todas las dimensiones.
Conclusiones: La mayoría de los enfermeros de las UCIs poseen competencias comunicativas adecuadas. Se destaca la necesidad de mejorar la comunicación no verbal. La escala validada es una herramienta útil para futuros estudios y para la mejora de las prácticas comunicativas en el ámbito de la salud.

Palabras clave: competencias de comunicación; enfermero; paciente crítico; familia; cuidados intensivos

DOI: https://doi.org/10.29352/mill0220e.38697

INTRODUCTION

Effective communication among nurses, critically ill patients, and their families in Intensive Care Units (ICUs) is a crucial competency for ensuring high-quality and humanized care. In these environments, the severity of patients' conditions and invasive interventions, such as mechanical ventilation, often limit patients' ability to express themselves verbally, creating significant communication barriers (Happ et al., 2011; Kuruppu et al., 2023). Communication under these circumstances goes beyond the mere exchange of clinical information, serving as a key element in building trust and providing emotional support among nurses, patients, and families (Mitchell et al., 2016).

Research on patient- and family-centered care in ICU settings suggests that effective communication can not only improve clinical outcomes but also reduce the anxiety and stress experienced by patients and their families (Lee & Yi, 2017; Mitchell et al., 2016). In particular, empathetic communication and the use of nonverbal strategies are essential for fostering a trusting relationship, especially when patients are unable to express themselves verbally (Slatore et al., 2012). Therefore, developing effective communication competencies is fundamental for nurses to meet these challenges and ensure high-quality care.

While the literature has already highlighted the importance of communication in ICUs. However, comparative international studies such as Martinez et al. (2022) and Khalil et al. (2023) point to gaps in training and protocol use among ICU nurses globally. There remains a gap in the systematic assessment of nurses' communication competencies and in identifying areas for improvement to optimize person-centered care (Kang et al., 2018; Park & Oh, 2018).

This study aims to develop and validate an assessment scale for evaluating the communication competencies of nurses with critically ill patients and their families, to be applied to a sample of nurses working in these units. The scale covers multiple dimensions of communication, including verbal, nonverbal, empathetic, and the use of alternative communication strategies. The goal is to understand the extent to which these communication competencies are present among these professionals and to identify areas that could be improved or developed to ensure more patient-centered care delivery.

1. THEORETICAL FRAMEWORK

Effective communication in healthcare, particularly within Intensive Care Units (ICUs). Communication in healthcare is a multidimensional process that involves the exchange of information, emotions, and intentions, crucial for delivering safe and compassionate care (O'Hagan et al., 2022). Is a critical factor in delivering high-quality care. The ICU environment, characterized by high technical and emotional complexity, requires nurses to possess refined communication skills capable of overcoming the barriers imposed by the critical conditions of patients and the emotional strain on their families (Phaneuf, 2005; Lee & Yi, 2017). These competencies go beyond the simple exchange of information and include skills such as active listening, empathy, and the ability to adapt to each context, promoting a more humanized, patient-centered approach to care (Phaneuf, 2005; Sequeira, 2016; Yoo, Lim, & Shim, 2020).

1.1 The Importance of Communication in ICUs

The ICU setting is marked by technical complexity and high emotional tension for both patients and their families. In this scenario, nurses face the challenge of maintaining clear and effective communication with patients who are often unable to communicate due to mechanical ventilation, sedation, or other critical conditions (Dithole et al., 2016; Martinho & Rodrigues, 2016). Studies suggest that 50-75% of ICU patients experience communication difficulties, which can increase anxiety and compromise the care process (Mitchell et al., 2016).

Patient-centered communication involves both active listening and adapting communication to meet the individual needs of patients (Kang, 2018). This includes the use of Augmentative and Alternative Communication (AAC) technologies, such as communication boards and electronic devices, which help patients express their needs even when they cannot communicate verbally (Kuruppu, 2023; Al-Yahyai, 2021; Park & Oh, 2018; Ten Hoorn, 2016). These tools are essential in ensuring that patients feel heard and understood, thus minimizing feelings of isolation and helplessness (Jang & Kim, 2019).

In ICUs, nurses are in constant interaction with patients who are often unable to communicate verbally due to the severity of their condition. Therefore, effective communication is essential to ensure that the needs of these patients are met and that a trusting relationship is established with their families (Chiara & Lucia, 2018). Studies by Arimon et al (2021) and Foà et al. (2016) indicate that a good relationship and effective communication between nurses and critically ill patients result in better clinical outcomes and greater adherence to treatment plans. Furthermore, they show that effective communication significantly reduces anxiety and fear for both patients and their families.

Communication in ICUs is not limited to verbal content; the relational component is equally important. As Sequeira (2016) notes, effective communication should be adapted to the patient's emotional and physical context, using verbal and non-verbal strategies to facilitate understanding and emotional support. Phaneuf (2005) and Jang & Kim (2019) reinforce this idea by stating that communication is, in itself, an essential therapeutic resource, particularly in crisis situations. In this context, the nurse plays a vital role in mediating between the patient, their family, and the healthcare team.

1.2 Nurses' Communication Competencies

The communication skills that nurses develop are essential for successful care in ICUs. Webster (2013) highlights the promotion of communication skills among nurses, particularly in contexts where empathy and emotional support are paramount. Many authors describe empathetic communication as one of the most important competencies for nurses, centering care around the

DOI: https://doi.org/10.29352/mill0220e.38697

patient and facilitating the creation of a therapeutic relationship based on trust. This competency is especially important when dealing with critically ill patients who may be unconscious or unable to verbally express their concerns (Hardie, et al, 2021; Ten Hoorn, et al, 2016; Foà, et al, 2016; Phaneuf, 2005). Additionally, nonverbal communication, such as gestures, facial expressions, and touch, is a powerful tool in interactions with critically ill patients, promoting a more humanized, patient-centered approach to care (Park & Oh, 2021; Jang & Kim, 2019; Michel, 2016).

Another important factor is the use of AAC. This is an effective strategy for overcoming communication barriers caused by patients' critical conditions, such as mechanical ventilation or sedation. These devices allow patients to express their needs, albeit in a limited way, and help reduce the frustration and isolation that many experience (Kuruppu et al., 2023; Al-Yahyai et al.,2021, Ten Hoorn, 2016).

Effective communication with patients' families also plays a vital role in the overall quality of care provided in Intensive Care Units. Families often experience high levels of anxiety, uncertainty, and emotional distress when their loved ones are critically ill. In this context, family members are not only recipients of information but also vulnerable partners in the therapeutic process who need emotional support and clear, timely communication. Recent evidence from Zhang et al. (2023) demonstrates that the implementation of structured communication protocols can significantly reduce family stress and enhance satisfaction with care. Studies have shown that nurses who are able to overcome communication barriers with family members foster stronger therapeutic relationships, promote trust, and alleviate the emotional burden faced by families (Adams, Mannix, & Harrington, 2017; Ahn & Kim, 2013). Moreover, effective communication with families facilitates shared decision-making, especially in end-of-life situations or when clinical prognoses are uncertain, contributing to greater transparency and ethical care delivery.

Despite its importance, family-centered communication is still insufficiently addressed in many ICU protocols. The absence of ongoing training in communication skills remains a major obstacle—particularly in high-intensity settings where time constraints and technical demands often limit meaningful interaction (Baptista, 2024; Park & Oh, 2018). Nurses need not only general communication training but also specific competencies to recognize family dynamics, emotional distress signals, and cultural expectations. Strengthening these skills is essential for promoting inclusion, trust, and a sense of partnership, thereby advancing a more holistic and humanized model of critical care.

1.3 Challenges and Barriers to Communication in ICUs

Despite advances in communication strategies, ICU nurses continue to face significant challenges. Major barriers include the technical complexity of the ICU environment, the emotional burden associated with caring for critically ill patients, and the physical limitations imposed by the patient's condition. Many patients are unconscious or unable to communicate verbally, increasing the complexity of communication (Al-Yahyai, 2021; Ditole, 2016). Additionally, the workload and pressure to perform technical tasks quickly can limit the time available for more detailed and empathetic communication (Arimon, 2021; Webster, 2013).

In addition to technological barriers, the impact of intense emotions experienced by patients and their families must be considered. Anxiety, fear, and stress are common emotions in critical care settings and can compromise the clarity and effectiveness of interactions. These factors, combined with patients' critical conditions, create physical and psychological barriers that hinder nurse-patient interaction (Yoo, Lim, & Shim, 2020; Martinho, & Rodrigues, 2016). The high emotional burden of both professionals and families can further complicate communication, increasing the risk of misunderstandings or inadequate communication. Thus, nurses need to be prepared to handle these emotional states and adapt their communication to provide reassurance and support to those involved (Chiara, 2018; Park & Oh; 2018; Lee, & Yi, 2017).

1.4 Strategies to Improve Communication

Given these challenges, several strategies have been proposed to improve communication in ICUs. Training programs focused on developing verbal, non-verbal, and empathetic communication skills, as well as the use of technological tools, are essential to ensure that healthcare professionals are equipped to interact with patients in critical situations (Hardie, 2021; Sequeira, 2016; Webster, 2013).

The use of AAC technologies enables patients with temporary or permanent verbal limitations to express their needs in a non-verbal manner. Devices such as communication boards, tablets with adapted software, and personalized electronic devices are widely used in ICUs to facilitate communication with patients who cannot speak, such as those on mechanical ventilation (Al-Yahyai et al., 2021; Park & Oh, 2018). However, these strategies need to be effectively integrated into nurses' daily practice to ensure that communication is continuous and adapted to the patient's changing clinical status (Mitchell et al., 2016; Kang, 2018).

Effective communication plays a central role in building a strong therapeutic relationship between the nurse and the patient. As Phaneuf (2005) highlights, the therapeutic relationship is built on mutual respect, empathy, and trust, with communication as the primary vehicle for developing this connection. Baptista et al (2024) and Park & Oh(2018) emphasize that for communication to be truly effective, nurses must be attentive not only to words but also to the emotions they convey. Active listening and emotional validation are essential strategies for ensuring that patients feel heard and understood, contributing to a trusting relationship and improving the quality of care provided.

The use of formal communication protocols, which offer clear guidelines on how to approach and interact with patients and families in ICUs, is also an essential strategy. These protocols help standardize interactions, ensuring that information is conveyed clearly and consistently, even in high-pressure situations (Boykins, 2014, Hardie, 2021).

Cultural sensitivity is also a crucial factor in communication, as patients from different cultural backgrounds may have distinct ways of expressing their emotions or interpreting information. Nurses who can adapt their communication approach to the needs

DOI: https://doi.org/10.29352/mill0220e.38697

and beliefs of patients and their families foster a relationship of mutual trust and respect. A lack of cultural sensitivity can result in misunderstandings and compromise the quality of care (Hardie, 2021; Foá, 2016; Boykins, 2014). Implementing bedside shift reporting is another effective strategy for improving communication, as it involves exchanging information with the patient and family, allowing them to participate actively in discussions about the care plan (Lee and Yi, 2017; Yoo, Lim, and Shim, 2020).
Thus, effective communication should be seen as a central element in ICU care, essential for ensuring humanized, quality care that respects and responds to the needs of patients and their families.

2. METHODS

In line with the study objectives, a cross-sectional, quantitative, descriptive, and analytical study was conducted.

2.1 Sample

This research targeted ICU nurses nationwide, from July to September 2024, using an online questionnaire. The questionnaire was disseminated by the Nursing Council (Ordem dos Enfermeiros - OE) on their platform after requesting and obtaining Ethics Committee approval. Nurses were invited to participate voluntarily and anonymously complete the questionnaire. The final sample included 139 ICU nurses from various regions across the country.

2.2 Data collection instruments

The questionnaire was divided into two main parts:
I) Social Characterization Questions: These variables were used to characterize the nurses' profiles and explore potential influences on their communication competencies. The variables included:
Gender: male and female
Age: measured in full years
Years of Nursing Experience: total years of professional experience in nursing
Years of ICU Experience: number of years working specifically in intensive care units
Academic Education Level: categories including Bachelor's, Master's, and Doctorate degrees
Specific Communication Training: courses taken in communication
Interest in the Field: autonomous research habits
II) "Nurse Communication Competency with Critically Ill Patients and Families -Scale " (NCCCPF-S):
The communication competency scale for ICU nurses was developed based on literature and clinical practice. A Scoping Review (ScR) (Baptista et al., 2024) contributed to identifying the primary communication competencies of nurses in intensive care contexts. Each item on the scale was carefully selected, taking into account aspects of verbal and non-verbal communication, including new technologies for Augmentative and Alternative Communication (AAC), empathy, active listening, emotional adaptability, and patient-centered care (Phaneuf, 2005; McCabe & Timmins, 2016; Sequeira, 2016; Park & Oh, 2018; Yoo, Lim & Shim, 2020; Al-Yahyai et al., 2021; Arimon et al., 2021, among others). The scale was initially composed of 23 items, as shown in Table 1, with responses on a Likert scale from 0 to 4, where 0 means "never" and 4 means "always."

2.3 Statistical analysis

To describe the participants' profiles and responses to the questionnaire, providing an overview of nurses' communication competencies in ICUs, a descriptive analysis of the variables was conducted. Frequency distribution tables were used for nominal variables, while quantitative variables were analyzed using measures such as mean, standard deviation, minimum, and maximum values. To compare each dimension's results, weighted scores were calculated based on the number of items in each dimension.
Scale Validation:The NCCCPF-S was subjected to Principal Component Factor Analysis (PCA) with the Kaiser criterion used to retain components with eigenvalues greater than 1. This statistical method was used to reduce data dimensionality by grouping correlated variables into components that represent the main characteristics of the assessment scale (Lever, Krzywinski & Altman, 2017). Choosing PCA allowed for the identification of item groupings representing underlying constructs, justifying the clustering of items into dimensions and validating the scale's structure. High internal consistency (Cronbach's Alpha > 0.70) across dimensions indicated that the items are reliable for assessing specific communication competencies (Taber, 2018).
After validating the scale and identifying its factors, intervals were created to evaluate the levels of nurses' communication competencies (CC) when approaching critically ill patients. First, the total score of the communication competency scale was calculated (Likert scale from 0-4 points, with a minimum of 0 and a maximum of 88 points). Intervals were derived based on the percentiles 0-25, 26-50, 51-75, and >75, corresponding to: Insufficient communication, Sufficient communication, Good communication, and Excellent communication, respectively.
To enable comparisons across all dimensions according to social characteristics, multiple parametric tests were applied, including independent sample t-tests and one-way ANOVA. Assumptions for performing these tests were met. The significance levels used as a threshold for rejecting the null hypothesis were set at 5% (0.05).
All statistical analyses were conducted using IBM SPSS Statistics 24.0 (IBM Corp., 2016).

DOI: https://doi.org/10.29352/mill0220e.38697

3. RESULTS

The main results are presented according to the study's objectives, from the validation of the scale through Principal Component Factor Analysis to the assessment of communication competencies among nurses, organized by the scale dimensions and the social profile of the participants.

Validation of the scale through Principal Component Factor Analysis

In Table 1, we can observe the results of the Principal Component Analysis (PCA) conducted to identify and simplify the variables related to nurses' communication competencies among the 23 items on the constructed scale. Only item 6, was excluded due to its low communality (0.401), indicating it was not well-represented in the factor solution.

The nurses' communication competencies were grouped into four main dimensions, reflecting the key aspects of communication practices in ICUs:

Component 1: Comprising 6 items (2, 1, 5, 3, 4, 11), this component explains 39.5% of the variance. Due to its inclusion of elements related to humanization, mobilization, and adaptation of communication strategies with the patient and family, it has been named "*Patient-Centered Communication*."

Component 2: Comprising 6 items (9, 16, 17, 15, 18, 22), this component explains 10.2% of the variance. The items highlight a strong emphasis on the use of non-verbal communication and the necessary adaptations for different critical situations, as well as the use of tools to support this type of communication. For these reasons, Component 2 has been named "*Non-Verbal Communication*."

Component 3: Comprising 4 items (19, 20, 21, 23), this component explains 6.3 % of the variance. This component addresses aspects related to the perception of satisfaction, quality, and effectiveness from both the nurse and the patient/family regarding the established communication, as well as the trust and security conveyed during the process. For these reasons, Component 3 has been named "*Communication Effectiveness*".

Component 4: Comprising 6 items (7, 8, 10, 12, 13, 14), this component explains 5,1% of the variance. The items emphasize empathy, active listening skills, and anxiety reduction for the patient, as well as providing clarity in information and opportunities for the patient/family to express their emotions. Due to its predominantly emotional dimension, this component has been named "*Empathic Communication and Emotional Support."*

Table 1- Principal Component Analysis (PCA) of the NCCCPF-S

Items	Communality	Components 1	2	3	4
2. I address the critically ill person/family by name, regardless of their condition.	0.539	0.706	0.162	-0.018	0.123
1. I introduce myself to the critically ill person/family, regardless of their condition.	0.538	0.671	0.075	0.282	0.049
5. I incorporate the need for communication/communication strategies into the care plan adapted for the critically ill person/family.	0.557	0.670	0.241	0.195	0.108
3. I assess the communication abilities of the critically ill person/family.	0.621	0.668	0.284	0.220	0.214
4. I identify the communication difficulties of the critically ill person/family.	0.576	0.651	0.185	0.201	0.277
11. I am concerned with the well-being of the critically ill person/family.	0.552	0.524	0.067	-0.003	0.522
9. I provide the critically ill person/family with the opportunity to ask questions.	0.496	0.498	-0.172	0.329	0.332
16. I use tools that aid in non-verbal communication with the critically ill person/family.	0.828	0.128	0.870	0.177	0.153
17. I have access to tools that support non-verbal communication with the critically ill person.	0.762	0.187	0.821	0.216	0.079
15. I have knowledge of various forms of non-verbal communication with the critically ill person/family.	0.730	0.183	0.813	0.166	0.090
18. I adapt non-verbal communication to meet the needs of the critically ill person.	0.688	0.065	0.634	0.510	0.151
22. My working conditions allow me to communicate effectively with the critically ill person/family.	0.562	0.378	0.537	0.345	0.111
20. The critically ill person/family expresses satisfaction with the information I provide.	0.664	0.170	0.203	0.741	0.212
19. I convey a sense of security to the critically ill person/family.	0.686	0.081	0.328	0.741	0.151
21. I feel satisfied with the communication process I establish with the family/critically ill person.	0.649	0.245	0.178	0.729	0.161
23. Overall, I believe I possess the necessary communication competencies for effective communication with the critically ill person/family.	0.695	0.234	0.416	0.661	0.174
12.When I communicate with the critically ill person/family, I put myself in their position.	0.642	-0.145	0.192	0.042	0.763
8. I listen attentively to the critically ill person/family.	0.764	0.405	0.060	0.286	0.717
10. When I communicate, I aim to reduce the anxiety of the critically ill person/family.	0.622	0.247	0.085	0.280	0.690
7. I prioritize clarity in the information I convey to the critically ill person/family.	0.474	0.200	0.011	0.317	0.577
13. I provide the critically ill person/family with the opportunity to express emotions.	0.497	0.384	0.177	0.033	0.563
I use and adapt non-verbal communication with the critically ill person/family as needed.	0.511	0.378	0.311	0.327	0.404
% of Variance Explained by Each Component	39,5%	10,2%	6,3 %		5,1%
KMO (Kaiser-Meyer-Olkin)			0.903		
Bartlett's Test of Sphericity: p<0,001					
Total % of Variance Explained	61.1				

Note: The item 6, "I regularly explain the health status of the person I care for to the person/family," was excluded due to its low communality value (0.401).

DOI: https://doi.org/10.29352/mill0220e.38697

Assessment of Nurse Communication Competencies with Critically Ill Patients/Families According to the Dimensions of the ECCEDC

Table 2 assesses nurses' communication competencies with critically ill patients and their families across the identified dimensions. These competencies were measured on a Likert scale from 0 ("Never") to 4 ("Always"), indicating the frequency with which nurses demonstrate these competencies.

Patient-Centered Communication (6 items): This dimension showed a high mean score of 3.5, suggesting that nurses frequently demonstrate patient-centered attitudes and behaviors, such as inclusion and consideration for the well-being of critically ill individuals. The standard deviation of 0.4 indicates low variation in responses, meaning that most nurses share a similar perception of their patient-centered communication practice. A Cronbach's Alpha of 0.820 indicates good internal reliability, showing that the items consistently measure this dimension.

Non-Verbal Communication (6 items): This dimension has a lower mean score of 2.9, indicating that nurses use non-verbal communication techniques less frequently. The standard deviation of 0.6 shows slightly higher variability in responses, suggesting that some nurses feel more confident in using these skills than others. Despite this, the Cronbach's Alpha of 0.847 reflects excellent internal reliability, showing that the items within this dimension are consistent.

Communication Effectiveness (4 items): This dimension has a mean score of 3.1, indicating that nurses generally perceive their communication with patients and families as effective. The standard deviation of 0.5 indicates moderate variation in responses, reflecting some differences in nurses' perceptions of their communication effectiveness. The Cronbach's Alpha of 0.842 demonstrates high reliability, reinforcing the consistency of nurses' responses regarding this dimension.

Empathic Communication and Emotional Support (6 items):

This dimension shares the highest mean score of 3.5 with "Patient-Centered Communication," suggesting that nurses frequently exhibit empathy in their interactions with patients. The standard deviation of 0.4 suggests low response variation, indicating a common view among nurses regarding their empathetic behavior. A Cronbach's Alpha of 0.799 indicates good internal reliability, showing consistent responses among nurses for items in this dimension.

Table 2- Descriptive Analysis of Dimensions and Assessment of Nurse Communication Competencies with Critically Ill Patients/Families

	Nº itens	Média	Desvio Padrão	Minimo	Máximo	Alpha de Cronbach
Patient-Centered Communication	6	3,5	0,4	1,8	4,0	0,820
Non-Verbal Communication	6	2,9	0,6	0,8	4,0	0,847
Communication Effectiveness	4	3,1	0,5	1,5	4,0	0,842
Empathic Communication and Emotional Support	6	3,5	0,4	2,3	4,0	0,799

Note: Interpretation based on the Likert scale from 0 – Never to 4 – Always

Overall Classification of Communication Competencies

According to the percentile categorization (Table 3), the results indicate that 69.1% of nurses have communication competencies rated as excellent, reflecting consistent and effective practices in interactions with patients and their families. Additionally, 29.5% of nurses were classified as having good communication, suggesting areas for further development, particularly in the use of non-verbal communication and assistive alternatives. Only 1.4% of nurses were classified as having insufficient competencies, pointing to an overall positive scenario but with a need for continuous training in specific areas.

Table 3 - Total Score for Communication Competency Assessment (Interval Analysis)

	n	%
Poor Communication	0	0,0
Insufficient Communication	2	1,4
Good Communication	41	29,5
Excellent Communication	96	69,1
Total	139	100,00

Sociodemographic Characterization vs Communication Competencies

The sample consisted of 139 nurses, of which 82% were female and 18% male. The average age was 43.6 years, with a standard deviation of 8.2 years, reflecting a predominantly experienced workforce. The average length of nursing service was 19.9 years (SD = 7.4), with an average of 6.6 years (SD = 5.8) working in ICUs.

Regarding education level, 55.4% of the nurses held a bachelor's degree, 41.7% a master's degree, and 2.9% a doctorate. Approximately 28.1% reported having specific training in communication, underscoring the growing importance of this competency in intensive care practices.

DOI: https://doi.org/10.29352/mill0220e.38697

Only a few statistically significant relationships were found between communication quality and both academic qualifications and interest in the field.

In all dimensions, nurses with higher academic qualifications demonstrated higher scores in Communication skills, with those holding only a bachelor's degree showing a significantly lower average in this dimension. In the dimension of non-verbal communication, the results revealed a statistically significant relationship ($p < 0.05$) with non-verbal communication skills and a value very close ($p = 0.056$) for effective communication (Table 4). Therefore, education plays an important role in the development of communication skills.

Table 4- Comparisons by Academic Qualifications

	Bachelor's Degree		Master's Degree		Doctorate		
	Mean	SD	Mean	SD	Mean	SD	*p*
Patient-Centered Communication	3,6	0,5	3,5	0,5	3,9	0,1	0,234
Non-Verbal Communication	2,7	0,6	3,0	0,7	3,1	0,7	**<0,05**
Communication Effectiveness	3,0	0,6	3,2	0,5	3,2	0,8	0,056
Empathic Communication and Emotional Support	3,5	0,4	3,5	0,5	3,8	0,4	0,444
Global Communication Skills Score	70,0	9,0	73,0	10,0	78,0	8,0	0,168

In Table 5, we can observe that nurses who expressed an interest in the field of communication with critically ill patients have significantly higher mean scores ($p <0.05$) across all dimensions of communication skills. The global communication skills score is also significantly higher in this group ($p <0.001$). It can be stated that there is better performance in communication skills with critically ill patients among those who show interest in this field, as indicated by their research and training in the area."

Table 5- Comparisons according to interest in the field of communication with critically ill patients

	No		Yes		
	Mean	SD	Mean	SD	*p*
Patient-Centered Communication	3,2	0,5	3,6	0,4	<0,05
Non-Verbal Communication	2,5	0,7	3,0	0,6	<0,05
Communication Effectiveness	2,9	0,5	3,1	0,6	<0,05
Empathic Communication and Emotional Support	3,3	0,5	3,5	0,4	<0,05
Global Communication Skills Score	66,0	10,0	73,0	9,0	<0,001

4. DISCUSSION

Institutions must prioritize communication as a core competency, embedding it within organizational culture, clinical supervision, and professional development frameworks.

Despite the overall positive scenario, the study's limitations—such as sample size, cross-sectional design, and self-report bias—warrant caution.

Nurses with postgraduate education and those who demonstrated an interest in communication scored significantly higher across all dimensions. This aligns with international evidence that highlights continuing education and self-directed learning as critical enablers of advanced communication skills (Khalil et al., 2023; Hardie et al., 2021).

The inclusion of structured family communication protocols, as highlighted by Zhang et al. (2023), has been shown to improve satisfaction and reduce family anxiety.

However, empathy alone does not ensure effective communication if it is not paired with clarity and structured dialogue, particularly when delivering complex or distressing information (Brown & Tan, 2022).

These findings resonate with global literature indicating that non-verbal and augmentative communication tools are underutilized in high-pressure ICU environments (Khalil et al., 2023; Zhang et al., 2023).

Yet, the consistency of high scores may reflect social desirability bias or a lack of critical self-assessment, indicating the need for triangulated data using observational methods in future research (Martinez et al., 2022).

However, these findings should be interpreted with nuance and contextual depth.

In summary, the results confirm the importance of nurses' communication skills in the intensive care environment and indicate non-verbal communication as an area that can be improved, possibly with specific training that broadens the range of accessible techniques and tools for professionals. These interventions are essential to ensure that communication with critically ill patients and their families is understandable, empathic, and contextually adapted, ensuring a patient-centered approach and promoting a welcoming and safe care environment.

Finally, communication effectiveness, with an average of 3.1 and explaining 6.3% of the variance, indicates that nurses generally perceive their interactions as effective, conveying security and trustworthiness to patients and families. Authors such as McCabe

DOI: https://doi.org/10.29352/mill0220e.38697

and Timmins (2013) and Ali (2017) associate communication effectiveness with strengthening the nurse-patient relationship, increasing patient satisfaction with the care received, and consequently improving clinical outcomes. Ribeiro (2018) also addresses professional satisfaction through effective communication. Perceived effectiveness in interactions is reinforced by positive family evaluations, suggesting that clear communication and emotional support are valued by families of critically ill patients (Ahn & Kim, 2013; Adams, Mannix, and Harrington, 2017).

In the dimension of empathic communication and Emotional Support, with a high average (3.5) and explaining 5.1% of the variance, nurses demonstrate significant emotional involvement in interactions, facilitating the creation of a trustful therapeutic environment (Phaneuf, 2005; 2011; Sequeira, 2016). This aspect is fundamental for reducing patient anxiety and providing emotional comfort, as advocated by Yoo, Lim, and Shim (2020). Practicing empathy, active listening, and clarity in communication are emphasized by Webster (2013) and by Adams, Mannix, and Harrington (2017) as essential skills in ICU contexts, where patients and their families face high levels of stress and emotional vulnerability.

Non-verbal communication, although it has high consistency ($\alpha = 0.847$), is the least utilized dimension among nurses, with an average score of 2.9. This lower frequency of use may be associated with the high workload and pressure for technical results, which reduces professionals' attention to gestures or other non-verbal strategies (Dithole et al., 2016). Non-verbal communication is essential for ensuring care sensitive to the patient's emotions and needs, which is particularly relevant when patients are unable to communicate verbally, improving empathy and emotional support (Mitchell et al., 2016; Sequeira, 2016; Phaneuf, 2005), including the use of simple or technological tools (McGonigle & Mastrian, 2017). These results suggest a need for greater training (Hardie, 2021) in using alternative communication tools, such as communication boards and assistive devices, which facilitate patient expression even when they are intubated or sedated (Al-Yahyai et al., 2021).

Patient-centered communication, which accounted for most of the variance (39.5%), reflects the nurses' ability to adapt communication to the context and specific needs of each patient, a crucial practice for humanized care (Phaneuf, 2005; Sequeira, 2016). The concept of patient-centered communication is supported by authors such as Boykins (2014) and Arimon et al (2021), who emphasize active listening and consideration of patient preferences as fundamental aspects of establishing an effective therapeutic connection, especially in critical care settings.

The scale constructed to assess nurses' communication skills with critically ill patients proved reliable, with internal consistency indices (Cronbach's Alpha) ranging from 0.799 to 0.847 across different dimensions, confirming the robustness of the instrument for measuring these skills (Taber, 2018). The results of this study showed that the communication skills of nurses in Intensive Care Units (ICUs) demonstrate a general adequacy in communicative abilities among professionals, with 69.1% of nurses demonstrating an 'excellent' level of competence.

CONCLUSION

This study highlighted the importance of nurses' communication skills in Intensive Care Units (ICUs), particularly in interactions with critically ill patients and their families. The validation of the assessment scale used revealed that these skills are multifaceted, encompassing dimensions such as patient-centered communication, empathic communication, non-verbal communication, and communication effectiveness. With high internal consistency across all dimensions, the scale constructed and validated in this study is an objective and reliable tool for evaluating communication skills, representing an important contribution to nursing practice in ICUs, with the potential for adaptation to different contexts.

The scale allows nurses to self-assess their communication skills. However, it is important to note that the current sample size limits generalizability, and future studies should consider larger and more culturally diverse samples (Brown & Tan, 2022). Offering a path for continuous improvement and development. The ease and expanded applicability of the instrument could help consolidate it as a standard tool in nursing, promoting a more effective and humanized care environment.

Following this study, an app is being developed that will allow access to the scale for self-assessment of communication skills. It is suggested that hospitals and healthcare units integrate the application of the scale, enabling the identification of nurses' specific needs within the communication dimensions.

The study results indicate that, although most nurses possess adequate communication skills (69.1%), a considerable portion still do not. Non-verbal communication was particularly highlighted as an area in need of development.

It is recommended that healthcare institutions invest in continuous training programs that address both verbal and non-verbal communication to strengthen healthcare professionals' communication skills, particularly nurses, as they spend the most time with patients. Naturally, nurses may take the initiative to pursue training and/or research in the area, which was also identified in this study as impactful on communication quality. Training activities could include practical workshops and clinical simulations, where nurses can gain a deeper understanding of the implications of their communication skills for humanized care. Empathy practice, active listening training, and the use of alternative and augmentative communication (AAC) technologies are important. These initiatives support professionals in integrating communication practices focused on patient well-being, promoting care that goes beyond technique and reaches the emotional experience of critically ill patients and their families.

DOI: https://doi.org/10.29352/mill0220e.38697

Despite promising results, this study has some limitations. The sample obtained, consisting of 139 nurses from different parts of the country, although significant, may not represent the diversity of communication practices in ICUs of different cultural and institutional contexts. Future studies could consider larger and more diverse samples, including hospitals with varying levels of complexity.

ACKNOWLEDGEMENTS

We would like to thank all the nurses who contributed to the completion of this study and the Nursing Order (OE) for their collaboration.

AUTHORS' CONTRIBUTION

Conceptualization, G.B.; data curation, G.B.; formal analysis, G.B.; investigation, G.B.; methodology, G.B.; project administration, G.B., B.M. and V.R.; resources, G.B.; software, G.B.; supervision, G.B., B.M. and V.R.; validation, G.B., B.M. and V.R.; visualization, G.B.; writing – original draft, G.B.; writing – review & editing, G.B., B.M. and V.R.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

REFERENCES

Adams, A., Mannix, T., & Harrington, A. (2017). Nurses' communication with families in the intensive care unit—a literature review. *Nursing in Critical Care*, 22(2), 70–80. https://doi.org/10.1111/nicc.12141

Ali, M. (2017). Communication skills 1: Benefits of effective communication for patients. *Nursing Times*, *113*, 18–19. https://www.nursingtimes.net/assessment-skills/communication-skills-1-benefits-of-effective-communication-for-patients-20-11-2017/

Al-Yahyai, A., Arulappan, J., Matua, G.A., Al-Ghafri, S.M., Al-Sarakhi, S.H., Al Rahbi, K.K., & Jayapal, S.K. (2021). Communicating to non-speaking critically ill patients: Augmentative and alternative communication technique as an essential strategy. *SAGE Open Nursing*, 7. https://doi.org/10.1177/23779608211015234

Arimon, M. P., Llobet, M.P., Roldán-Merino, J., Moreno-Arroyo, C., Blanco, M. A. H. & Lluch-Canut, T. (2021). A communicative intervention to improve the psychoemotional state of critical care patients transported by ambulance. *AJCC: American Journal Of Critical Care, 30* (1), 45-54. https://doi.org/10.4037/ajcc2021619

Baptista, G., Magalhães, B., Rodrigues, V., & Galvão, A. (2024). Estratégias de comunicação do enfermeiro com o doente crítico em unidades de cuidados intensivos: scoping review. *Millenium - Journal of Education, Technologies, and Health, 2*(15e), e35355. https://doi.org/10.29352/mill0215e.35355

Brown, C. J., & Tan, L. M. (2022). Enhancing ICU communication through participatory training: A multicenter study. *International Journal of Nursing Studies*, *129,* 104205. https://doi.org/10.1016/j.ijnurstu.2022.104205

Chiara, G., & Lucia, G. (2018). The patient in intensive care: Communication with the critical patient and his family members: A narrative review. *Nursing & Healthcare International Journal*, 2(3), 000134. https://doi.org/10.23880/NHIJ-16000134

Dithole, K., Sibanda, S., Moleki, M. M., & Thupayagale-Tshweneagae, G. (2016). Exploring communication challenges between nurses and mechanically ventilated patients in the intensive care unit: A structured review. *Worldviews on Evidence-Based Nursing, 13,* 197–206. https://doi.org/10.1111/wvn.12146

Foà, C., Cavalli, L., Maltoni, A., Tosello, N., Sangilles, C., & Maron, I. (2016). Communications and relationships between patient and nurse in intensive care unit: Knowledge, knowledge of the work, knowledge of the emotional state. *Acta Bio-medica*, 87, 71–82. https://pubmed.ncbi.nlm.nih.gov/27874846/

Hardie, P., Darley, A., Redmond, C., Lafferty, A., & Jarvis, S. (2021). Interpersonal and communication skills development in nursing preceptorship education and training programmes: A scoping review protocol. *HRB open research*, 4, 9. https://doi.org/10.12688/hrbopenres.13201.2

Jang, M. S., & Kim, S. (2019). Person-centered relational care experienced by critical care nurses: An interpretative phenomenological analysis study. *Journal of Korean Academy of Nursing,* 49(4), 423–436. https://doi.org/10.4040/jkan.2019.49.4.423

DOI: https://doi.org/10.29352/mill0220e.38697

Kang, J., Cho, Y. S., Jeong, Y. J., Kim, S. G., Yun, S., & Shim, M. (2018). Development and validation of a measurement to assess person-centered critical care nursing. *Journal of Korean Academy of Nursing*, *48,* 323–334. https:/doi.org/10.4040/jkan.2018.48.3.323

Khalil, H., Alibrahim, H., & Safdar, S. (2023). Communication training needs of critical care nurses: A cross-national perspective. *Journal of Clinical Nursing*, 32(5–6), 945–957. https://doi.org/10.1111/jocn.16542

Kuruppu, N. R., Chaboyer, W., Abayadeera, A., & Ranse, K. (2023). Augmentative and alternative communication tools for mechanically ventilated patients in intensive care units: A scoping review. *Australian Critical Care*, *36*(6), 1095-1109. https://doi.org/10.1016/j.aucc.2022.12.009

Lee, M., & Yi, M. (2017). Experiences of families in the intensive care unit: Interactions with health care providers. *Korean Journal of Adult Nursing*, *29*(1), 76–86. https:/doi.org/10.7475/kjan.2017.29.1.76

Martinez, R., Oliveira, A., & Chen, Y. (2022). Global disparities in ICU nurse-patient communication practices: A systematic review. *Nursing Ethics*, *29*(6), 1432–1445. https://doi.org/10.1177/09697330221085760

Martinho, C. I., & Rodrigues, I. T. (2016). Communication of mechanically ventilated patients in intensive care units. *Revista Brasileira de Terapia Intensiva*, 28(2), 132–140. https:/doi.org/10.5935/0103-507X.20160027

Mitchell, M. L., Coyer, F., Kean, S., Stone, R., Murfield, J., & Dwan, T. (2016). Patient, family-centred care interventions within the adult ICU setting: An integrative review. *Australian Critical Care*, 29(4), 179–193. https://doi.org/10.1016/j.aucc.2016.08.002

O'Hagan, S., Manias, E., Elder, C., Pill, J., Woodward-Kron, R., McNamara, T., & Webb, G. (2022). What counts as effective communication in nursing? Evidence from patient, nurse, and physician perspectives. *Journal of Advanced Nursing*, *78*(4), 1220–1232. https://doi.org/10.1111/jan.15082

Park, Y., & Oh, E. G. (2018). Factors related to intensive care unit nurses' patient-centered communication competency. *Journal of Korean Critical Care Nursing*, *11*, 51–62. https://koreascience.kr/article/JAKO201819757622326.page

Phaneuf, M. (2005). *Comunicação, entrevista, relação de ajuda e validação*. Lusociência.

Ribeiro, L. (2018). *La comunicación eficaz: Transforme su vida personal y profesional mejorando su capacidad de comunicación*. Ediciones Urano.

Sequeira, C. (2016). *Comunicação Clínica e Relação de Ajuda*. Lidel.

Taber, K.S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*, 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Ten Hoorn, S., Elbers, P. W., Girbes, A. R., & Tuinman, P. R. (2016). Communicating with conscious and mechanically ventilated critically ill patients: A systematic review. *Critical Care*, *20*(1), 333. https:/doi.org/10.1186/s13054-016-1489-3

Webster, D. (2013). Promoting therapeutic communication and patient-centered care using standardized patients. *Journal of Nursing Education*, *52*(11), 645–648. https://doi.org/10.3928/0148434-20131014-07

Yoo, H.J., Lim, O.B., Shim, J.L. (2020). Critical care nurses' communication experiences with patients and families in an intensive care unit: A qualitative study. *PLoS ONE*, *15*(7), e0235694. https://doi.org/10.1371/journal.pone.0235694

Zhang, L., Wu, Y., & Wang, H. (2023). Effects of structured family communication interventions in ICUs: A meta-analysis. *Intensive and Critical Care Nursing*, *72*, 103354. https://doi.org/10.1016/j.iccn.2022.103354