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INTERVENÇÃO ESTRUTURADA NA COMUNICAÇÃO E COESÃO DA EQUIPA DE ENFERMAGEM: ESTUDO PILOTO EXPLORATÓRIO NUMA UNIDADE DE CUIDADOS NA COMUNIDADE

STRUCTURED INTERVENTION IN NURSING COMMUNICATION AND COHESION: AN EXPLORATORY PILOT STUDY IN A COMMUNITY CARE UNIT

COMUNICACIÓN Y COHESIÓN DEL EQUIPO DE ENFERMERÍA: ESTUDIO PILOTO EXPLORATORIO EN UNA UNIDAD DE CUIDADOS EN LA COMUNIDAD

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RESUMO

Introdução: A comunicação interprofissional é um pilar da segurança do doente, exigindo estratégias estruturadas para fortalecer a coesão das equipas de saúde.
Objetivo: Avaliar a exequibilidade e o impacto de uma intervenção estruturada na perceção das competências comunicacionais e coesão de uma equipa de enfermagem.
Métodos: Estudo piloto exploratório, de abordagem quantitativa, realizado numa Unidade de Cuidados na Comunidade (*n=4*). A intervenção incluiu três sessões de teambuilding (baseadas no TeamSTEPPS) e a implementação de briefings diários (modelo SBAR) durante sete meses. A colheita de dados utilizou a escala ECIpS em dois momentos (T0 e T1). A análise centrou-se no tamanho do efeito (Cohen's *d*) e na fidelidade da intervenção através de auditoria documental.
Resultados: Observou-se uma evolução positiva no score total da ECIpS, com um tamanho do efeito substancial (d = 0,73). A dimensão "Liderança" revelou o maior impacto (d = 0,70), refletindo um aumento na agência profissional e coordenação de cuidados. A dimensão "Trabalho em Equipa" manteve-se estável em níveis elevados (M=3,95), sugerindo um efeito de teto em equipas experientes. A taxa de adesão aos briefings foi de 88,1%, confirmando a viabilidade da intervenção.
Conclusão: Este estudo piloto exploratório sugere que a intervenção poderá ser exequível e clinicamente pertinente, promovendo potencialmente o protagonismo técnico dos enfermeiros. Dada a reduzida dimensão da amostra, estes resultados preliminares deverão ser confirmados por futuros estudos multicêntricos que visem consolidar a comunicação estruturada nos cuidados de saúde primários.

Palavras-chave: comunicação; coesão do grupo; cultura organizacional; segurança

ABSTRACT

Introduction: Interprofessional communication is a cornerstone of patient safety, requiring structured strategies to strengthen healthcare team cohesion.
Objective: To evaluate the feasibility and impact of a structured intervention on the perception of communication competencies and cohesion within a nursing team.
Methods: An exploratory pilot study with a quantitative approach was conducted in a Community Care Unit (*n=4*). The intervention included three team-building sessions (based on the TeamSTEPPS model) and the implementation of daily briefings (SBAR framework) over seven months. Data were collected using the ICHS scale at two time points (T0 and T1). Analyses focused on effect size (Cohen's *d*) and intervention fidelity assessed through a documentary audit.
Results: Positive changes were observed in the total ICHS score, with a substantial effect size (*d = 0.73*). The "Leadership" dimension showed the greatest impact (*d = 0.70*), reflecting increased professional agency and care coordination. The "Teamwork" dimension remained stable at high levels (*M=3.95*), suggesting a ceiling effect in experienced teams. Adherence to the daily briefings was 88.1%, confirming the intervention's feasibility.
Conclusion: This exploratory pilot study suggests that the intervention may be feasible and clinically relevant, potentially enhancing nurses' professional agency. Given the small sample size, these preliminary findings should be confirmed by future multicenter studies aimed at consolidating structured communication in primary care.

Keywords: communication; social cohesion; organizational culture; safety

RESUMEN

Introducción: La comunicación interprofesional es un pilar de la seguridad del paciente y requiere estrategias estructuradas para fortalecer la cohesión de los equipos de salud.
Objetivo: Evaluar la factibilidad y el impacto de una intervención estructurada en la percepción de las competencias comunicativas y la cohesión de un equipo de enfermería.
Métodos: Se realizó un estudio piloto exploratorio con enfoque cuantitativo en una Unidad de Cuidados en la Comunidad (*n=4*). La intervención incluyó tres sesiones de team-building (basadas en el modelo TeamSTEPPS) y la implementación de briefings diarios (marco SBAR) durante siete meses. Los datos se recopilaron mediante la escala ICHS en dos momentos (T0 y T1). Los análisis se centraron en el tamaño del efecto (*d* de Cohen) y en la fidelidad de la intervención, evaluada mediante auditoría documental.
Resultados: Se observaron cambios positivos en la puntuación total de la ICHS, con un tamaño del efecto sustancial (*d = 0,73*). La dimensión "Liderazgo" mostró el mayor impacto (*d = 0,70*), lo que refleja un aumento de la agencia profesional y la coordinación de los cuidados. La dimensión "Trabajo en equipo" se mantuvo estable en niveles altos (*M = 3,95*), lo que sugiere un efecto techo en equipos experimentados. La tasa de adherencia a los briefings fue del 88,1%, confirmando la factibilidad de la intervención.
Conclusión: Este estudio piloto exploratorio sugiere que la intervención podría ser factible y clínicamente relevante, potenciando de forma preliminar la agencia profesional de los enfermeros. Dado el reducido tamaño de la muestra, estos hallazgos preliminares deberán confirmarse mediante futuros estudios multicéntricos orientados a consolidar la comunicación estructurada en la atención primaria.

Palabras clave: comunicación; cohesión ssocial; cultura organizacional; seguridad

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INTRODUCTION

Patient safety is unequivocally a strategic priority for modern health systems, constituting a fundamental cornerstone for Universal Health Coverage (World Health Organization, 2023). However, despite technological and scientific advances, the occurrence of adverse events remains a persistent reality, frequently rooted in systemic failures of human interaction (Mujuru & Peisah, 2024; Weller et al., 2024; World Health Organization, 2023). Therefore, interprofessional communication cannot be reduced to mere behavioral or 'soft' competence; it is a critical determinant of organizational effectiveness and clinical safety (Alhur et al., 2024; Dietl et al., 2023; Silva et al., 2024). Studies indicate that communication breakdowns and disciplinary fragmentation are significant barriers to excellence in care, underscoring the need to transition from an individual competence model to a collective and patient-centered safety culture, where responsibility is shared across the entire team (Mujuru & Peisah, 2024; Weller et al., 2024; World Health Organization, 2023).

This imperative for cohesion takes on specific and challenging contours within the context of Primary Health Care (PHC) in Portugal, specifically in Community Care Units (CCUs) (Carrapiço et al., 2025; Souza & Sá, 2013). The reform of PHC in Portugal emphasized teamwork as a vector of change; however, challenges concerning the relative isolation of nurses and the need to transform nominal proximity into effective cooperation persist (Neves, 2012). Practice within these units requires more than a mere juxtaposition of knowledge, demanding true interdisciplinarity to mitigate care fragmentation and address the complex needs of the community (Dalla Nora et al., 2018; Neves, 2012).

The quality of team dynamics impacts more than patient health outcomes; it is a determining factor for occupational health and professional retention. Evidence suggests a strong positive correlation between leadership effectiveness, team cohesion, and job satisfaction (Fernandes et al., 2021; Inês & Pacheco, 2021). Conversely, teams characterized by poor communication and low levels of mutual support tend to fragment, thereby increasing the risk of burnout and the intention to leave the profession (Bragadóttir et al., 2023). In a scenario of human resource scarcity, fostering a psychologically safe and collaborative work environment is essential for the sustainability of healthcare organizations (Fernandes et al., 2021).

To address these challenges, evidence-based intervention strategies drawn from the principles of high-reliability industries have emerged, including briefings (or huddles) and teambuilding. Daily briefings, consisting of short, structured meetings to share critical information and align goals, have proven effective in enhancing situational awareness and reducing adverse events (Pimentel et al., 2021; Stychno & Kulczycka, 2023). Simultaneously, teambuilding interventions focused on role clarification and establishing common goals have proven effective in improving team functioning and, consequently, care quality, although their application in non-acute settings still warrants further systematic exploration (Haugstetter et al., 2024; Weller et al., 2024).

Despite the robust evidence regarding the impact of these strategies in hospital settings, a notable gap remains in the literature concerning their application and effectiveness within the specific context of PHC (Kanno et al., 2023; Ribeiro et al., 2021). In Portugal, although the importance of clinical governance and care integration is well-recognized, there is a scarcity of studies assessing the impact of structured communication and cohesion interventions in CCUs (Carrapiço et al., 2025; Souza & Sá, 2013). Specifically, it remains unclear whether the combined implementation of teambuilding and daily briefings, as an integrated communication strategy, is feasible and capable of producing measurable improvements in interprofessional communication and team cohesion within the organizational reality of Portuguese CCUs.

The present study aims to bridge this gap by analyzing the impact of implementing briefings and teambuilding strategies on team cohesion and communication within a CCU. Ultimately, this work seeks to contribute to the definition of new health governance practices and, by extension, the enhancement of patient safety.

1. STATE OF THE ART

1.1 Interprofessional Communication Models and Patient Safety

Effective interprofessional communication is widely recognized as a structural component of quality and safety in healthcare. Current literature defines interprofessional collaboration not merely as the coexistence of different professionals, but as a dynamic process involving the coordination of distinct disciplinary cores to produce comprehensive care (Kanno et al., 2023).

Historically, healthcare communication has been vulnerable to fragmentation. Transitioning from linear, hierarchical models toward complex, bidirectional, 'closed-loop' systems is essential to ensure that critical information is not only transmitted but accurately received and understood (Ashour et al., 2025; Stychno & Kulczycka, 2023). The absence of this confirmation is frequently cited as a significant contributing factor to errors of omission and adverse events.

Within the context of patient safety, communication acts as a preventive barrier against error. According to the World Health Organization's Global Patient Safety Action Plan 2021–2030, most harm is preventable and results from systemic failures rather than individual incompetence (World Health Organization, 2023).

Evidence emphasizes that barriers to interdisciplinary communication, including role ambiguity and hierarchical organizational cultures, increase the likelihood of failures in care processes, underscoring the need for management models that integrate communication as a core safety vector (Dietl et al., 2023; Gleeson et al., 2023; Ribeiro et al., 2021).

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1.2. Group Dynamics and Cohesion in Healthcare Teams

The effectiveness of healthcare teams intrinsically depends on the cohesion among their members. Team cohesion can be defined as the tendency of a group to unite in the pursuit of common goals, serving as a significant predictor of job satisfaction and the intention to remain within the organization (Bragadóttir et al., 2023).

In the specific context of PHC and CCUs in Portugal, cohesion faces unique challenges. Teamwork within these units necessitates integration and voluntary cooperation, often predicated on interpersonal affinities during the initial stages of team formation (Carrapiço et al., 2025; Marques, 2025).

Factors such as participative leadership, technical-operational autonomy, and a shared action plan positively influence team morale and perceived service quality (Carrapiço et al., 2025; Souza & Sá, 2013).

Conversely, a lack of mutual support and defensive communication fragment the team and exacerbate the risk of burnout (Bragadóttir et al., 2023).

1.3. Structured Interventions: Briefing and Teambuilding as Management Tools

To mitigate communication failures and strengthen cohesion, the literature proposes evidence-based structured interventions, most notably briefings (or huddles) and teambuilding. The daily briefing, frequently referred to as a 'safety huddle,' is rooted in High-Reliability Organizations (HROs). This tool consists of brief, frequent meetings of 5 to 15 minutes designed to increase situational awareness, facilitate the rapid identification of risks, and ensure the alignment of care plans (Pimentel et al., 2021). Studies demonstrate that the systematic implementation of huddles enhances safety climate, teamwork culture, and operational efficiency, thereby mitigating delays and adverse events (Pimentel et al., 2021).

In parallel, teambuilding interventions are essential for managing relational dynamics and role clarification. Unlike purely social activities, effective teambuilding in healthcare settings focuses on goal alignment, conflict resolution, and the enhancement of interpersonal communication skills (Haugstetter et al., 2024; Weller et al., 2024).

The effectiveness of these tools can be explained through the theory of Shared Mental Models (SMM). This framework suggests that team performance improves when all members possess a common and accurate understanding of the tasks, equipment, individual roles, and the current situation (Ashour et al., 2025; Curșeu et al., 2025; Friederich et al., 2025). Briefings and teambuilding act as coordination mechanisms that build and update these mental models, enabling the team to anticipate needs and adapt their actions in a coordinated manner amidst the complexity of care (Ashour et al., 2025).

Consequently, these interventions emerge as strategic pillars for enhancing clinical governance within the specific framework of Portuguese PHC.

2. METHODS

This study is an exploratory pilot investigation with a quantitative approach, employing a quasi-experimental, pretest-posttest design (*T_0* and *T_1*) without a control group. The primary objective was to evaluate the impact of a structured intervention, comprising daily briefings and teambuilding activities, on interprofessional communication and team cohesion within a nursing team. The reporting of this study adheres to the TREND (Transparent Reporting of Evaluations with Nonrandomized Designs) Statement recommendations.

2.1 Sample

The study population consisted of nurses working at a Community Care Unit (CCU) in the Central Region of Portugal. A non-probability convenience sampling technique was adopted. Given the exploratory nature of this pilot study, the sample size was determined by the number of nurses available in the unit rather than by a formal statistical power calculation.

From the total staff (N = 9), three professionals were initially excluded: two who were members of the research team to prevent response bias, and one who was on long-term medical leave during the intervention period. The remaining six nurses were considered eligible for participation.

The inclusion criteria were: (a) working at the CCU for at least six months; (b) performing direct clinical care during the intervention; and (c) completing both pre-test (T0) and post-test (T1) evaluations. Given the resulting small sample size (n = 4), the statistical power of subsequent analyses was inherently limited, a constraint that is considered throughout the interpretation of the results.

2.2. Intervention

The structured intervention was designed to optimize interprofessional communication and strengthen nursing team cohesion. It comprised two complementary components: team-building activities and the implementation of structured daily briefings, conducted from June to December 2025.

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2.2.1. Team-Building Activities

Team-building activities were conducted during the intervention period and consisted of three in-person sessions, each lasting approximately 30 minutes. These sessions were informed by the TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) framework, widely used in healthcare to promote effective communication, shared leadership, situation monitoring, and mutual support. The activities were structured around three core domains:

Team Cohesion Dynamics: Interactive exercises aimed at strengthening mutual trust, professional empathy, and team psychological safety.

Role Clarification: Guided discussions based on clinical scenarios and collective reflection on the distribution of responsibilities and the nurse's role in care coordination.

Assertive Communication Training: Exploration of communication strategies that support the expression of clinical opinions, constructive management of divergences, and the sharing of scientific knowledge. The sessions were facilitated by the researchers during regular team meetings and served as catalysts for the subsequent implementation of daily briefings. The facilitator held training in human resources management and clinical simulation, through which facilitation competencies were developed. Sessions were supported by structured guides outlining the planned activities, complemented on occasion by projected slides.

2.2.2. Implementation of Daily Briefings

The second component involved introducing a structured communication procedure through daily briefings at the start of each shift. The briefings followed these principles:

- Frequency and Duration: Conducted daily at shift onset, with an average duration of approximately 10 minutes.
- Structured Content: Information was shared regarding critical patient data, daily care planning, and logistical coordination. Communication followed the SBAR (Situation, Background, Assessment, Recommendation) framework, widely recommended to standardize and improve clarity in clinical communication.
- Shared Leadership: Briefing leadership rotated among team members, allowing each nurse to present updates regarding their respective patients and assume an active role in care coordination. This model aimed to promote professional agency, strengthen shared decision-making, and encourage active participation in care management.

2.2.3. Intervention Fidelity and Adherence Monitoring

To ensure intervention fidelity, a systematic record of briefing implementation was maintained throughout the study period. Adherence was evaluated through a documentary audit, calculating the percentage of eligible working days in which the briefing was performed. This indicator served as a measure of organizational adherence to the intervention and provided contextual support for interpreting the results of the interprofessional communication competency assessment. In addition, professionals' satisfaction with the daily briefing procedure was assessed; as this outcome concerns a distinct dimension of the intervention and falls outside the scope of the present analysis, it is not reported in this manuscript.

2.3. Data collection instruments

To assess the study variables, several instruments were utilized. First, a sociodemographic and professional characterization questionnaire was developed specifically for this study to collect data on age, gender, years of professional practice, and length of service at the CCUs. Furthermore, the Interprofessional Communication in Health Scale (ICHS), validated by Brás et al. (2023), was employed to assess professionals' perceptions of communication in healthcare contexts. This Likert-type scale focuses on key domains such as clarity, feedback, and collaboration. Additionally, an investigator-developed adherence monitoring grid (audit) was used to measure the implementation rate of the new briefing procedure by recording the percentage of days the intervention was successfully performed relative to the total working days.

2.4. Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 26.0. Descriptive statistics, including absolute and relative frequencies, means, standard deviations, and ranges, were employed to characterize the sample and analyze audit adherence rates.

To explore the impact of the intervention, ICHS scores were compared between baseline (T0) and post-intervention (T1). Given the exploratory pilot design and small sample size ($n = 4$), data distribution was assessed using the Shapiro–Wilk test. Although no statistically significant deviations from normality were detected ($p > 0.05$ for all variables), results were interpreted with caution due to the limited power of normality testing in very small samples.

Paired-sample *t*-tests were conducted to examine within-subject differences between T0 and T1. Considering the pilot nature of the study, findings were interpreted as preliminary trends rather than confirmatory evidence. Accordingly, the primary purpose of the statistical analysis was to explore potential trends and estimate effect sizes, rather than to demonstrate the effectiveness of the intervention. To complement *p*-values and provide an estimate of practical relevance, effect sizes were calculated using Cohen's *d*. Statistical significance was set at $p < 0.05$, and 95% confidence intervals were reported where applicable.

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2.5. Ethical Considerations

The study was conducted in strict compliance with the ethical principles of the Declaration of Helsinki. The research protocol was approved by the Health Ethics Committee of the Local Health Unit of Viseu Dão-Lafões (ULSVDL) (Opinion No. 24/06/06/2025). All participants were fully informed regarding the study objectives, the voluntary nature of their participation, and their right to withdraw at any stage without penalty. Data collection was preceded by the signing of Informed Consent. To ensure anonymity and confidentiality, questionnaires were coded to prevent the individual identification of professionals, and data were analyzed in aggregate form.

3. RESULTS

The nursing staff of the unit under study consists of nine professionals (N = 9). Three professionals were excluded from eligibility: two who performed research functions in the current study and one who was on long-term medical leave during the intervention period. Of the six eligible nurses, two declined to participate in the research phase and did not complete the baseline questionnaire, although they remained involved in the clinical activities of the unit. Consequently, the final sample included four nurses (n = 4), corresponding to a participation rate of 66.7% among eligible professionals and 44.4% relative to the total nursing staff (Figure 1).

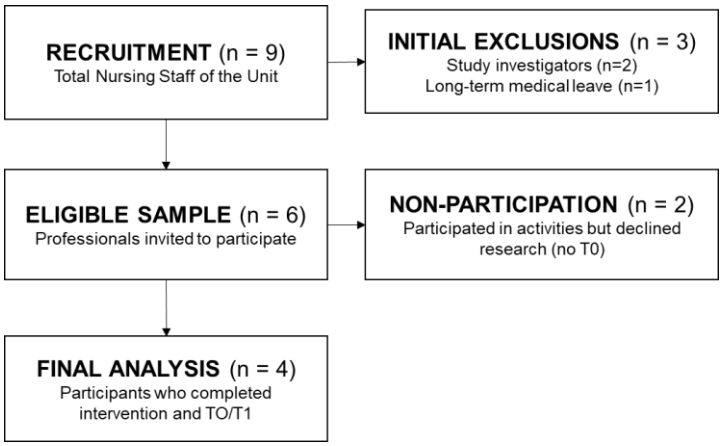


Figure 1 – Participant Flow Diagram (Based on TREND)

The participants constitute a homogeneous and highly qualified group, consisting exclusively of females (100%). The mean age is 43.6 years (*SD* = 6.84), with extensive professional experience (*M* = 18.8 years; *SD* = 10.28). It is noteworthy that the entire sample (100%) holds the title of Specialist Nurse, although none reported prior structured training in interprofessional communication skills (Table 1).

Table 1 - Sociodemographic and Professional Characterization (n=4)

Variable	Category	*n* (%)	Mean (*SD*)	Min-Max
Gender	Feminine	4 (100,0%)	-	-
Age (years)	-	-	43,6 (6,8)	37-55
Civil status	Married/Common-law marriage	3 (75,0%)	-	-
	Single	1 (25,0%)	-	-
Qualifications	Postgraduate studies	1 (25,0%)	-	-
	Master's degree	3 (75,0%)	-	-
Professional experience (years)	-	-	18,8 (10,3)	5-34
Communication Training	No	4 (100%)	-	-

Note: *SD* = standard deviation.

During the intervention period, briefings were conducted on 119 of the 135 eligible working days, corresponding to an adherence rate of 88.1%. Regarding intervention fidelity, the three planned team-building sessions were completed as scheduled (100% execution). These indicators demonstrate high consistency in the implementation of all intervention components designed to support improvements in interprofessional communication and team coordination.

Data distribution was assessed using the Shapiro-Wilk test, which is recommended for small sample sizes. No statistically significant deviations from normality were detected for the ICHS global score at T0 ($p = 0.691$) or T1 ($p = 0.902$), nor for its individual dimensions ($p > 0.05$).

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While acknowledging the limited power of normality testing in very small samples, these results, combined with the exploratory pilot nature of the study, supported the use of parametric statistics. Consequently, paired-sample *t*-tests were employed to identify preliminary trends in communication scores.

A positive trend was observed in the total ICHS score, with a moderate-to-large effect size (Cohen's d = 0.73) (Table 2). Given the exploratory nature of this pilot study and the small sample size, these results are interpreted as indicative of potential improvements in the team's communicational competencies rather than definitive evidence of effectiveness.

Table 2 - Comparison of ICHS Scores (Pre and Post-Intervention)

Dimension/Scale	T0 (Pre) Mean (*SD*)	T1 (Post) Mean (SD)	*t (df=3)*	*p*	*Cohen's d*
Global (ICHS)	3,68 (0,19)	3,76 (0,29)	1,477	0,236	**0,73**
Teamwork	3,95 (0,13)	3,93 (0,17)	-0,522	0,638	-0,26
Conflict Management	3,50 (0,18)	3,56 (0,17)	0,885	0,495	0,39
Leadership	3,46 (0,18)	3,75 (0,31)	1,40	0,256	**0,70**

Note: ICHS: Interprofessional Communication in Health Scale (24-item validated version); *SD*: Standard Deviation; t: Student's paired *t*-test statistic; *df*: degrees of freedom (n-1); *p*: statistical significance level; Cohen's d classification: 0.20 - small, 0.50 - Medium, 0.80 - Large.

The 'Leadership' dimension demonstrated the largest relative increase (d = 0.70). As illustrated in the Radar Chart (Figure 2), this domain showed the most substantial relative change in the competency profile following the intervention.

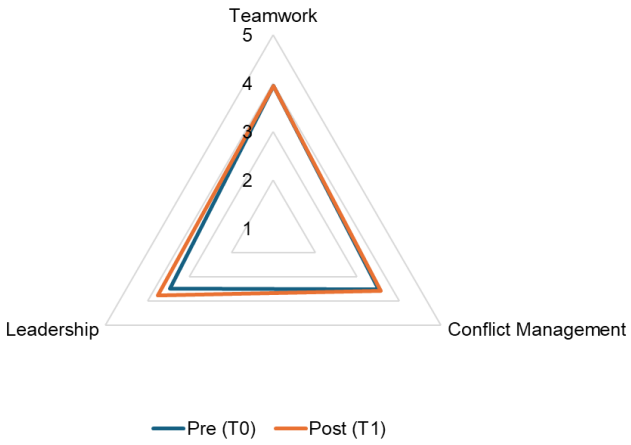


Figure 2 – Radar chart of the evolution of ICHS dimensions between baseline (T0) and post-intervention (T1)

The 'Teamwork' domain remained stable at high levels, reflecting a previously strong baseline cohesion that was maintained throughout the intervention period (Figure 3).



Figure 3 – Comparison of mean scores for the global ICHS and its dimensions at Pre (T0) vs Post-intervention (T1)

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A positive, though modest, trend was also noted in the 'Conflict Management' dimension (Table 2).
It should be noted that the ICHS has been previously validated, demonstrating robust psychometric properties and ensuring the theoretical relevance of its items across all three dimensions. Therefore, observed changes are interpreted with respect to a reliable and theoretically sound measurement framework.

4. DISCUSSION

The analysis of this exploratory pilot study—centered on a structured intervention of teambuilding and briefings within a CCU provides preliminary insights into potential improvements in interprofessional communication. While the small sample size ($n=4$) inherently limits statistical significance ($p > 0.05$) and generalizability, the observed effect size (Cohen's $d = 0.73$) indicates a moderate-to-large change, suggesting practical relevance in the team's communicational dynamics. These findings support the feasibility of structured communication tools in specialized primary care settings (Dietl et al., 2023).

Preliminary Trends in Leadership Agency

The most pronounced trend was observed in the "Leadership" dimension, which increased from 3.46 to 3.75 ($d = 0.70$). Within the ICHS framework, this dimension reflects professional agency rather than hierarchical management. Items indicating improved self-perception in "sharing knowledge" and "presenting scientific data" suggest that the intervention may have contributed to an enhanced sense of professional agency. By providing a formalized space for clinical coordination, the briefings may have supported nurses in exercising a more active technical role, potentially mitigating passive professional stances often found in traditionally verticalized healthcare environments (Kanno et al., 2023).

Conflict Management and Assertiveness

A subtle increase in Conflict Management (3.50 to 3.56) may indicate a trend toward greater individual assertiveness. As highlighted by Alhur et al. (2024), deficits in dialogue are often precursors to errors. In this context, the introduction of a communication protocol appears to have established a safe space for more transparent exchange of perspectives. Although modest, these trends suggest that standardization can support collaborative decision-making and reduce hierarchical silencing.

Teamwork Stability: The Ceiling Effect

Teamwork scores remained stable at high levels (M = 3.95), reflecting strong pre-existing social capital. This lack of quantitative variation is consistent with a ceiling effect, commonly observed in experienced teams where baseline cohesion is already high (Aaberg et al., 2025). In this case, the intervention appears to have functioned as a mechanism to sustain and validate existing cooperative relationships rather than produce further quantitative growth.

Potential Sources of Bias

Several methodological factors warrant consideration when interpreting these preliminary trends. The observed changes may partly reflect a Hawthorne effect, whereby participants' awareness of being observed and involved in a structured study could have influenced their behavior and self-reported perceptions independently of the specific content of the intervention. Similarly, as data collection relied on a self-report instrument, responses may have been subject to social desirability bias, particularly given the non-anonymous, small-team context in which the study was conducted. Although the two nurses involved in the research team were excluded from the participant sample to minimize direct response bias, they remained integrated members of the clinical unit throughout the intervention period; their presence during team-building sessions and daily briefings may nonetheless have influenced group dynamics and participants' responses in ways not fully captured by the study design. These factors should be considered when interpreting the observed trends, which are presented as plausible interpretations rather than demonstrated effects of the intervention.

Methodological Transparency and Feasibility

Finally, the study demonstrates methodological transparency. The exclusion of investigators and respect for participant self-determination ensure compliance with ethical standards, including the Declaration of Helsinki. Despite the small sample and attrition, the observed trends and effect sizes support the feasibility and potential replicability of this intervention model, providing a foundation for future studies with larger cohorts to confirm the effectiveness of structured communication in CCUs.

CONCLUSION

This exploratory pilot study suggests that the implementation of a structured intervention, based on teambuilding activities and daily briefings, may represent a feasible strategy for promoting interprofessional communication in a CCU. The findings indicate that formalizing clinical coordination spaces was associated with positive trends in the perception of communicational

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competencies, potentially contributing to professional empowerment and to reducing hierarchical silencing in favor of a safer, more collaborative practice.

The analysis revealed a moderate-to-large effect size (Cohen's d = 0.73), with a particular emphasis on the "Leadership" dimension. This trend in the self-perception of professional agency and clinical protagonism may reflect the potential role of structured communication tools in supporting the autonomous management of care by specialist nurses. Concurrently, the stability observed in "Teamwork" highlighted solid pre-existing social capital and cohesion, suggesting that the intervention may also have functioned as a mechanism for sustaining existing cooperative relationships in highly experienced teams.

These preliminary trends must be interpreted with caution, considering the methodological limitations inherent to this study design. The primary limitation lies in the small sample size (n=4), which restricted the statistical power to detect significance at the p-value level and precludes the generalization of findings to the general nursing population or other organizational contexts. Additionally, the exploratory nature and the absence of a control group preclude causal inference regarding the intervention's effectiveness.

Other factors, such as self-selection bias (motivated by voluntary participation), reliance on self-report instruments (subject to social desirability bias), a potential Hawthorne effect, and the continued presence of two research-team members within the clinical unit during the intervention, may have influenced subjective perceptions and should be considered when interpreting these findings.

In summary, this study fulfills its exploratory purpose by offering preliminary methodological insights. These findings should be regarded as hypothesis-generating rather than confirmatory, and further, larger multicenter studies employing more robust methodological designs, including a control group, are needed to examine the effectiveness of this intervention model in primary care.

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AUTHORS' CONTRIBUTION

Conceptualization, J.C.; data curation, J.C.; formal analysis, J.C., A.C.S. and C.V.; investigation, J.C. and A.C.S.; methodology, J.C.; project administration, J.C.; resources, J.C.; software, J.C.; supervision, J.C.; validation, J.C., A.C.S. and C.V.; visualization, J.C., A.C.S. and C.V.; writing – original draft, J.C., A.C.S. and C.V.; writing – review & editing, J.C., A.C.S. and C.V.

CONFLICT OF INTEREST

The authors declares no conflict of interest.

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