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Clinical supervision in the quality of care provided by portuguses nursing teams in medical-surgical inpatiente services

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RESUMO

Objetivo: Comparar índices de positividade e indicadores da qualidade assistencial nos serviços de internação médico-cirúrgico antes, durante e após a implementação da supervisão clínica das equipes de enfermagem numa unidade de saúde do sector privado da saúde de Lisboa, Portugal. **Método:** Estudo observacional, retrospetivo, com abordagem quantitativa e amostragem do tipo não aleatória aos registros de auditorias à qualidade assistencial de enfermagem (n=543) entre setembro de 2019 e dezembro de 2022. Teve como variável independente a supervisão clínica e, como variáveis dependentes, as características das equipes e as dimensões do checklist de auditoria. Foram utilizados como instrumentos de pesquisa o plano de registro do supervisor e o checklist da auditoria, além do tratamento estatístico descritivo e inferencial com recurso da ANOVA para as medições repetidas e o teste não paramétrico de Kruskal-Wallis. **Resultados:** Os resultados mostraram que, durante a fase de implementação da supervisão no serviço de cirurgia, os scores médios subiram de 4.06 para 4.43 e desceram para 4.27, mantendo o indicador de qualidade desejada, enquanto, no serviço de medicina, os scores médios subiram de 3.82 para 3.97 na implementação e, após implementação, para 4.17, com subida do indicador médio de qualidade adequada para qualidade desejada. **Conclusão:** A supervisão das equipes eleva os índices de positividade e os indicadores da qualidade das práticas no cumprimento de conformidades com impacto direto no paciente.

Descritores: Supervisão de enfermagem; Auditoria de enfermagem; Indicadores de qualidade em assistência à saúde; Assistência de enfermagem; Padrões de prática em enfermagem.

ABSTRACT

Objective: To compare positivity rates and quality care indicators in medical-surgical inpatient services before, during, and after the implementation of clinical supervision of nursing teams in a private healthcare unit in Lisbon, Portugal. **Methods:** Observational, retrospective study with a quantitative approach and non-random sampling of nursing care quality audit records (n=543) from September 2019 to December 2022. The independent variable was clinical supervision, and the dependent variables were team characteristics and the dimensions of the audit checklist. The research instruments used were the supervisor's record plan and the audit checklist, as well as descriptive and inferential statistical treatments using ANOVA for repeated measures and the non-parametric Kruskal-Wallis test. **Results:** The results showed that during the implementation phase of supervision in the surgical service, the average scores increased from 4.06 to 4.43 and then decreased to 4.27, maintaining the desired quality indicator. In the medical service, the average scores increased from 3.82 to 3.97 during implementation and, after implementation, to 4.17, with an increase in the average indicator from adequate quality to desired quality. **Conclusion:** The supervision of the teams raises the positivity rates and the indicators of the quality of practices in compliance with compliances with a direct impact on the patient.

Descriptors: Supervisory nursing; Nursing audit; Quality indicators, Health care; Nursing care; Practice patterns nurses.

RESUMEN

Objetivo: Comparar los índices de positividad y los indicadores de calidad asistencial en los servicios de internamiento médico-quirúrgico antes, durante y después de la implementación de la supervisión clínica de los equipos de enfermería en una unidad de salud del sector privado en Lisboa, Portugal. **Método:** Estudio observacional, retrospectivo, con enfoque cuantitativo y muestreo no aleatorio de registros de auditorías de calidad asistencial de enfermería (n=543) entre septiembre de 2019 y diciembre de 2022. La supervisión clínica fue la variable independiente y las características de los equipos y las dimensiones del checklist de auditoría fueron las variables dependientes. Se utilizaron como instrumentos de investigación el plan de registro del supervisor y el checklist de auditoría, además del tratamiento estadístico descriptivo e inferencial con ANOVA para medidas repetidas y la prueba no paramétrica de Kruskal-Wallis. **Resultados:** Los resultados mostraron que durante la fase de implementación de la supervisión en el servicio de cirugía, las puntuaciones promedio aumentaron de 4.06 a 4.43 y luego descendieron a 4.27, manteniendo el indicador de calidad deseado, mientras que, en el servicio de medicina, las puntuaciones promedio aumentaron de 3.82 a 3.97 durante la implementación y luego a 4.17 después de la implementación, con aumento del indicador promedio de calidad adecuada a calidad deseada. **Conclusión:** La supervisión de equipos eleva los índices de positividad y los indicadores de calidad de las prácticas en el cumplimiento de conformidades con impacto directo en el paciente.

Descriptores: Supervisión de enfermería; Auditoría de enfermería; Indicadores de calidad de la atención de salud; Atención de enfermería; Pautas de la práctica en enfermería.

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Introduction

The culture of safety in healthcare organizations aims to manage the quality of practices by establishing relationships of trust, commitment, and inter-team proximity [1-2]. A management model focused on evidence-based practice promotes the integration of processes, values, and quality standards that reorient and enhance the autonomy and shared responsibility of teams in critically reflecting on practices and defining transformative strategies for thinking and acting [2-5].

One of the strategies involves conducting quality of care audits as an explicit and systematic process for meeting reference standards [6-7]. The use of this tool in problem identification enables reflection, planning, and the correction of practices, fostering the engagement of teams in reorienting care toward improved quality [8-11]. As a unifying source for guiding teams toward safe practice with a direct impact on the patient, the process of clinical supervision (CS) emerges [2,12]. This is a dynamic, motivating, and comprehensive support process for skill development, which becomes internalized by teams as they identify needs, define interventions, and validate practices in favor of quality care [13-15].

The integrative model of Proctor[16] is the most commonly used when clinical supervision (CS) is implemented in healthcare practice, as it consists of the normative component based on evidence and quality assessment. It supports reflection with the acquisition of knowledge on procedures and protocols through the formative component focused on knowledge, competencies, and critical thinking, as well as the sharing of knowledge in the development of reflective competencies. Additionally, the restorative component includes a motivational and developmental aspect that encourages the building of confidence inherent to the quality of care[16].

However, the effectiveness of CS becomes more evident when there is greater involvement and support from professionals in understanding its objectives and outcomes, fostered through a supportive leadership approach [14-15]. In this context, a private healthcare group in the Lisbon region of Portugal, comprising nine hospitals providing medical and surgical care, has, since 2016, incorporated monthly nursing care quality audits into its organizational quality management model, aiming to ensure compliance with established quality standards.

The audit process was based on the quality assessment model for nursing care by Haddad[17], which classifies quality according to positivity rates, indicators, and the quality standards set by the Portuguese Nurses' Association[18], categorized into dimensions and respective items. Reflecting on the audit results, evidence was found of practices with compromising indicators of care quality that had an impact on patients. Given this, the following hypothesis was posed: "Could clinical supervision of the teams influence positivity rates and quality indicators?"

Thus, we proposed the implementation of clinical supervision (CS) of nursing teams in the medical (MIS) and surgical (SIS) inpatient services of one of the hospitals in the group as a strategy to improve quality indicators. This led us to the objective of the study: to compare positivity rates and quality-of-care indicators in medical and surgical inpatient

services before, during, and after the implementation of clinical supervision of nursing teams.

Methods

Observational, retrospective study with a quantitative approach and non-random sampling of nursing care quality audit records.

For the organization of the text, the guidelines of the Equator Network STROBE (observational studies) were used, which describe the system to improve the quality, safety, and value of healthcare.

Data collection was conducted in a hospital belonging to a private healthcare group in the Lisbon region, Portugal, with 119 beds distributed across medical and surgical inpatient services. The research was conducted between September 2019 and December 2022.

The target population was based on the analysis of 1065 records (n=1065) resulting from quality care audits of patients, distributed across the MIS with 482 records (n=482) and the SIS with 583 records (n=583).

Inclusion criteria considered all items and dimensions of the audit checklist, with a quality indicator ⩽80%, impact on care practices, and subjects requiring immediate intervention, patients with a length of stay greater than 24 hours, and medical and surgical patients. Exclusion criteria applied to audit records that did not meet the previously described assumptions.

For sample size calculation with a 95% confidence interval and a 5% margin of error, the sample size was calculated separately for each group according to the formula (19), resulting in n=232 for the SIS and n=215 for the MIS.

Considering the importance of a smaller margin of error and an increased sample size to contribute to greater test power (19), the total number of audit records that met the inclusion criteria was integrated into the calculated sample size, resulting in a research sample of n=299 for SIC and n=244 for SIM.

The independent variable considered was clinical supervision (CS) in its formative, normative, and restorative dimensions, and the dependent variables were the dimensions and items of the audit checklist. Specifically, the dimensions were: Prevention of Complications (PC) with 13 items; Comfort and Well-being (CB) with 17 items; Functional Readaptation (RF) with nine items; and Care Organization (CO) with one item. Additionally, the characteristics of the teams were considered, including years of service and professional category (novice nurse, nurse, senior nurse, expert nurse), in accordance with the professional practice regulations of the Portuguese Nurses' Association (20).

Two instruments were used for data collection: the audit checklist and the supervisor's record plan. The audit checklist consisted of four dimensions and 51 items on an evidence measurement scale with three points (yes, no, and not applicable). Each dimension points to the quality indicator, and the items refer to positivity rates or evidence of procedures in compliance with the quality standard.

The supervisor's record plan was developed according to Proctor's formative, normative, and restorative dimensions in order to identify the problem situation based on the results from the quality care audits and to define the ideal situation and the improvement actions to be implemented to meet quality standards.

The study took place in three phases, from September 2019 to December 2022.

The pre-implementation phase (PRESC) of clinical supervision (CS) occurred between September 2019 and March 2020, during which a total of 107 (n=107) audit records were made, distributed across the SIS (n=64) and MIS (n=43). The quality of care audits, using the checklist, were conducted by two external nurse auditors to ensure inter-observer reliability and to avoid bias in the observations. All data collection was done through direct observation of care delivery and analysis of clinical records made according to the dimensions and respective items.

In the implementation phase (ISC) of clinical supervision (CS) with permanent supervision of the teams, which took place between August 2020 and December 2021, a total of 264 (n=264) audit records were made, distributed across the SIS (n=128) and MIS (n=136). Simultaneously, each supervisor created at least one supervision record plan per nurse every month (with a ratio of one supervisor to two or three nurses), involving a total of 95 nurses (n=95), distributed between 54 nurses in the SIS (n=54) and 41 nurses in the MIS (n=41).

For the identification of supervising nurses, senior and expert nurses with evidence of professional skills, team leadership, and longer tenure in the institution were considered, resulting in 18 nurses in the SIS (n=18) and 12 nurses in the MIS (n=12).

In the post-implementation phase (POSSC) of clinical supervision (CS), which occurred between January 2022 and December 2022, a total of 172 (n=172) audit records were made, distributed across the SIS (n=107) and MIS (n=65). In this phase, the same methodology used in the pre-implementation phase (PRESC) was applied.

The study was approved by the ethics committee of the involved organization.

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS 27) software, employing both descriptive and inferential statistics (19). ANOVA (Analysis of Variance) for repeated measures was used to assess the significance of the evolution of the PRESC, ISC, and POSSC scores, with normality assumptions tested by the Kolmogorov-Smirnov test and sphericity tested using Mauchly's test for $\rho>0.05$. To analyze the interaction of clinical supervision (CS) on the dimensions and items of the audit checklist for the two independent populations, one in the surgical service and the other in the medical services the non-parametric Kruskal-Wallis test was used.

For data analysis, the quality classification criteria according to Haddad's model (17) were considered. The observed evidence was analyzed on a three-point scale (yes, no, and not applicable), and the corresponding positivity rate percentage was calculated. The evaluation of the results referred to the number of non-evidence (NE) observations, categorized by dimension and respective items. For the percentage calculation, evidence with NE measurements was not included in the non-compliance percentage but was considered as evaluated.

Next, the categorization corresponding to the quality indicator of nursing care (17) was performed, with the percentage calculation considering the following categories (QD), between ⩾90% and <100%; adequate quality (QA), between 81% and <90%; safe quality (QS), equal to 80%; minimum quality (QM), between ⩾71% and <80%, and not adequate quality (QNA), <70%. Based on this categorization, a correspondence was made using a Likert scale from 1 to 5 for the different indicators in QD (⩽5 and >4), QA (⩽4 and >3), QS (⩽3 and >2), QM (⩽2 and >1) and QNA (⩽1 and >0).

To assess whether clinical supervision (CS) significantly influenced the quality of care (items) in both services, the dependent variables were ordered without considering the groups. A Fischer's LSD test was applied to the orders (four dimensions), which, after transformation, were subjected to the non-parametric Kruskal-Wallis test for multiple comparison of the orders (19), with a p-value⩽0.05.

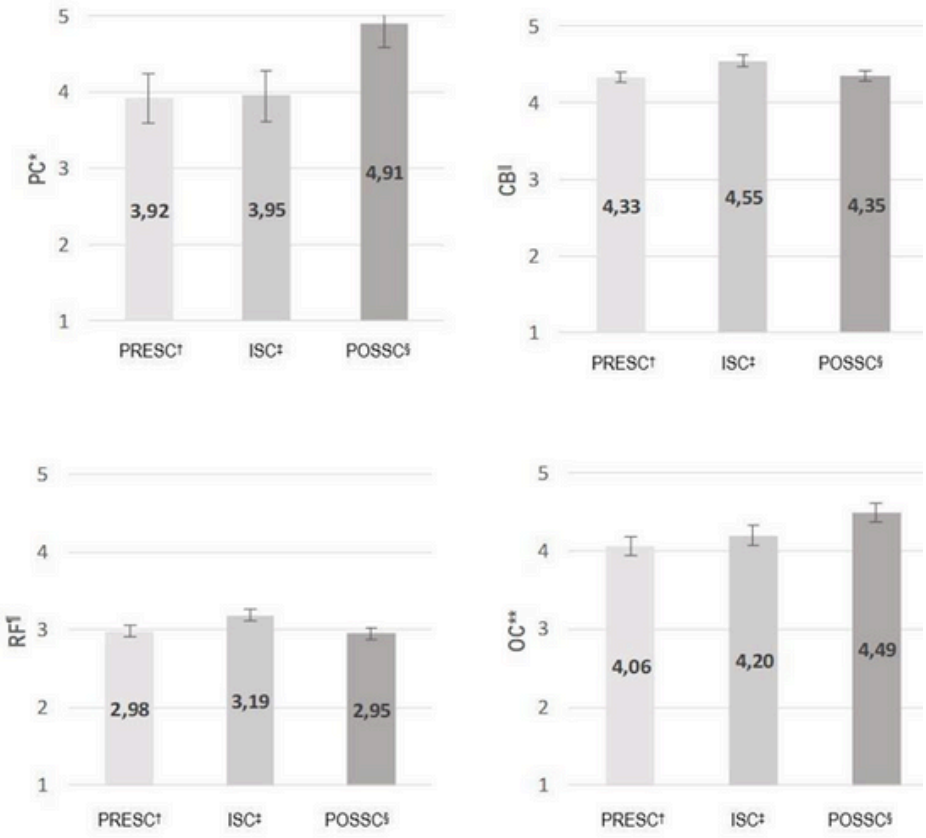
Results

The nursing teams in the services consisted of 95 nurses (n=95) distributed as follows: 54 in the SIS (n=54) and 41 in the MIS (n=41). In the MIS, three (7.3%) were novice nurses; 26 (63.4%) were nurses; five (12.2%) were senior nurses, and seven (17.1%) were expert nurses. In this team, 21 (51.2%) of the nurses had been in service for less than five years; 14 (34.1%) between five and 15 years, and six (14.6%) for more than 16 years. In the SIS, of the 54 nurses, six (11.1%) were novice nurses; 30 (55.5%) were nurses; seven (13.0%) were senior nurses, and 11 (20.4%) were expert nurses. Of these, 24 (44.4%) had been in service for less than five years; 24 (44.4%) between five and 15 years, and six (11.2%) for more than 16 years.

For the analysis of the significance of the evolution of the dimension scores, a repeated measures ANOVA was used. The test assumptions, including normality and sphericity of the variance-covariance matrix, were analyzed with the Kolmogorov-Smirnov test (n ⩾ 30) and Mauchly's test in both services. In the MIS, normal distribution (p>0.05) was found in all three phases for the CB dimension, and null variances-covariances (sphericity) were found for the CB (w=0.878; x2(2)=1.300; ρ=0.522), RF (w=0.844; x2(2)=1.697; ρ=0.428) and OC (w=0.947; x2(2)=6.816; ρ=0.546) dimensions with QA. In the SIS, normal distribution was found in the PC and OC dimensions in all phases, in the CB dimension in the PRESC and POSSC phases, and in the RF dimension in the PRESC and ISC phases. As for null variances-covariances (sphericity), they were found in the PC dimension (w=0.888; x2(2)=1.185; ρ=0.553), in the CB dimension (w=0,829; x2(2)=1.881; ρ=0.390), in the RF dimension (w=0.662; x2(2)=4.124; ρ=0.127) and in the OC dimension (w=0.639; x2(2)=4,486; ρ=0.106) with QD.

Multiple comparisons were made using contrasts, with the PRESC measurement as the reference. As shown in Figure 1, the effect of clinical supervision (CS) on the average score of records by dimensions and items in the MIS revealed an interaction with (F(1,11) =9866.3; ρ<0.001,η2ρ=0.999; π=1) in PC dimension which evolved from QA to QD, with an increase in scores in the ISC ($\bar{x}$=3.95) and POSSC($\bar{x}$=4.01) phases . The CB dimension, with an interaction of (F(1,11)=7392.1; ρ<0.001,η2ρ=776.6; π=1), maintained QD across all three phases, with an increase in the average score in the ISC ($\bar{x}$=4.55) and a decrease in the POSSC($\bar{x}$=4.35).

The RF dimension, with an interaction of (F(1,11)=1608.5; ρ<0.001,η2ρ=0.993; π=1), evolved from QNA to QA, with an increase in the score in the ISC ($\bar{x}$=3.19) and a decrease from QA to QNA in the POSSC($\bar{x}$=2.95). Finally, in the OC dimension, there was an interaction of (F(1,11)=3212.1; ρ<0.001,η2ρ=0.997; π=1) with QD, with an increase in the score in the ISC($\bar{x}$=4.20) and in the POSSC($\bar{x}$=4.49).



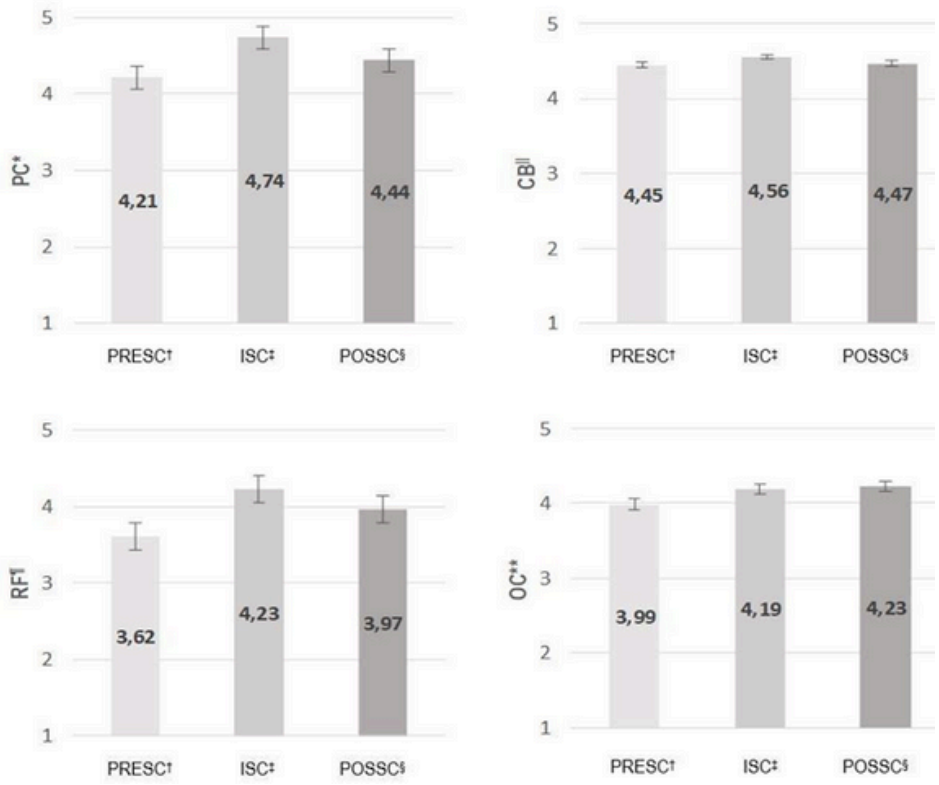
**PC = Prevention of Complications; † PRESC = Pre-Implementation of Clinical Supervision; ‡ ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; ||CB = Comfort and Well-being in Self-care; †PRESC = Pre-Implementation of Clinical Supervision; ‡ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; ¶RF = Functional Readaptation; †PRESC = Pre-Implementation of Clinical Supervision; ‡ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; **OC = Care Organization; †PRESC = Pre-Implementation of Clinical Supervision; ‡ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision
Source: Author

Figura 1- Score médio dos registros de auditorias por dimensões e fases de implementação da supervisão clínica no serviço de medicina (n=244). Lisboa, Portugal, entre 2019 e 2022
Fonte: Autores

The results showed that the overall average quality indicator in the SIS increased from 3.82 to 3.97 during the implementation of supervision and continued to rise after the implementation of supervision to a score of 4.1.

As shown in Figure 2, the effect of clinical supervision (CS) on the average score of audit records by dimensions and items revealed an interaction in the PC dimension with (F(1,11)=3134.9; ρ<0.001,η2ρ=0.997; π=1) and scores in QD across the three phases, with

an increase in the average score in the ISC(x̄=4.74) and a decrease in the POSSC(x̄=4.01For the CB dimension with interaction, the result was (F(1,11)=9056.2; ρ<0.001,η2ρ=0.999; π=1) in QD across all three phases, with an increase in the average score in the ISC(x̄=4.56) and a decrease in the POSSC(x̄=4.47In the RF dimension, an interaction was observed with (F(1,11)=1612.6; ρ<0.001,η2ρ=0.993; π=1), which evolved from QA to QD, with an increase in the average score in the ISC(x̄=4.23) and a decrease back to QA in the POSSC(x̄=3.97For the OC dimension with interaction, the result was (F(1,11)=6570.7; ρ<0.001,η2ρ=0.998; π=1) and an evolution from QA to QD, with an increase in the average score in both the ISC(x̄=4.19) e POSSC(x̄=4.23).



*PC = Prevention of Complications; †PRESC = Pre-Implementation of Clinical Supervision; ‡ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; ||CB = Comfort and Well-being in Self-care; †PRESC = Pre-Implementation of Clinical Supervision; ‡ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; ¶RF = Functional Readaptation; † PRESC = Pre-Implementation of Clinical Supervision; ‡ ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision; **OC = Care Organization; † PRESC = Pre-Implementation of Clinical Supervision; ‡ ISC = Implementation of Clinical Supervision; §POSSC = Post-Implementation of Clinical Supervision.
Source: Author

Figure 2 - Average score of audit records by dimensions and phase of clinical supervision implementation in the surgical service (n=299). Lisbon, Portugal, between 2019 and 2022

The results confirmed that the overall average quality indicator in the SIS increased from 4.06 to 4.43 during the implementation of supervision, and decreased after the implementation of supervision to a score of 4.27. For the interaction of clinical supervision (CS) on the items and dimensions, only the results for items with QM and QNA were presented, as these were considered critical and in need of immediate intervention (Table 1). Statistically significant items in the MIS included PC1, CB14, CB15, RF5, RF7, and OC12, and

in the SIS, the statistically significant items included PC1, PC9, CB5, RF9, OC1, OC4, OC5, and OC12.

For the interaction of clinical supervision (CS) on the items and dimensions, only the results for items with QM and QNA were presented, as these were considered critical and in need of immediate intervention (Table 1). Statistically significant items in the MIS included PC1, CB14, CB15, RF5, RF7, and OC12, and in the SIS, the statistically significant items included PC1, PC9, CB5, RF9, OC1, OC4, OC5, and OC12.

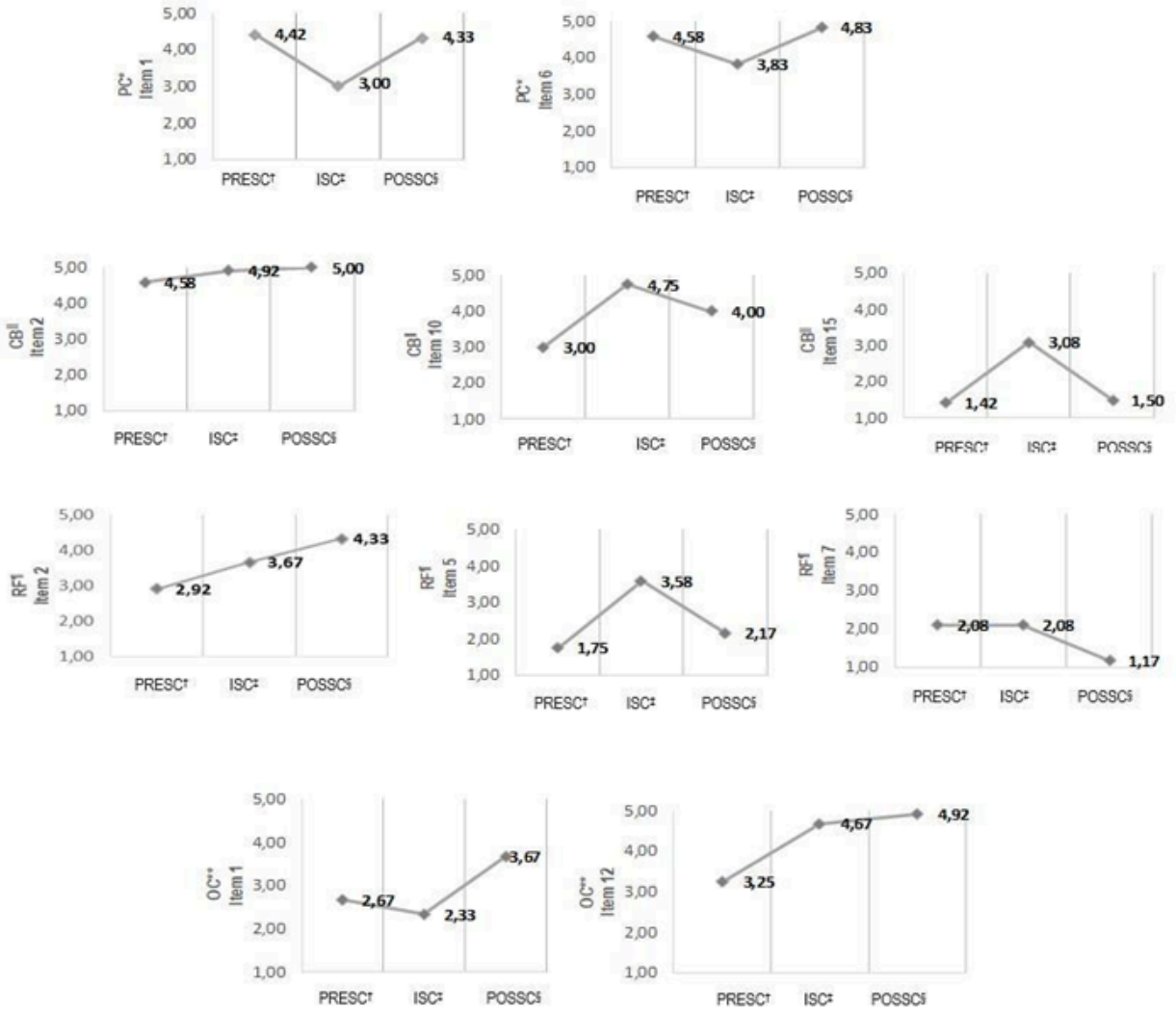
Tabela 1- Resultado do teste Kruskal-Wallis para a interação da supervisão clínica sobre os itens por dimensão e serviço. Lisboa, Portugal, entre 2019 e 2022.

Dimension	Item	Medical Inpatient Service		Surgical Inpatient Service	
		Kw h*	ρ†	Kw h*	ρ†
PC‡	Item 1	8.819	0.012	6.364	0.042
PC‡	Item 9	------	------	6.084	0.048
CB§	Item 5	------	------	6.353	0.042
CB§	Item 14	6.353	0.042	------	------
CB§	Item 15	10.419	0.005	------	------
RF‖	Item 5	6.770	0.034	------	------
RF‖	Item 7	9.900	0.007	------	------
RF‖	Item 9	------	------	6.770	0.034
OC¶	Item 1	------	------	6.010	0.050
OC¶	Item 4	------	------	8.732	0.013
OC¶	Item 5	------	------	6.179	0.046
OC¶	Item 12	8.769	0.012	3.939	0.029

Kw h = Kruskal-Wallis test; †ρ =Significant value When ρ<0.05; ‡PC = Prevention of Complications; *Kw h = Kruskal-Wallis Test; †ρ = Significant value When ρ<0.05; §CB = Comfort and Well-being in Self-care; *Kw h = Kruskal-Wallis Test; †ρ = Significant value whenρ<0.05; ‖RF = Functional Readaptation ; *Kw h = Kruskal-Wallis Test; †ρ = Significant value When ρ<0.05; ¶OC = Care Organization
Source: Author

Regarding the multiple comparison of means of the orders for the effect of clinical supervision (CS) by dimension and items, as shown in Figure 3, it was observed in the MIS that, for the PC dimension, the items PC1 from PRESC to ISC(ρ=0.006) and from PRESC to POSSC(ρ=0.009) and PC6 from ISC to POSSC(ρ=0.022). In the CB dimension, the items CB2 from PRESC to POSSC (ρ=0.044), CB10 from PRESC to ISC (ρ=0.015), CB15 from PRESC to ISC (ρ=0.002), and from ISC to POSSC POSSC(ρ=0.004).

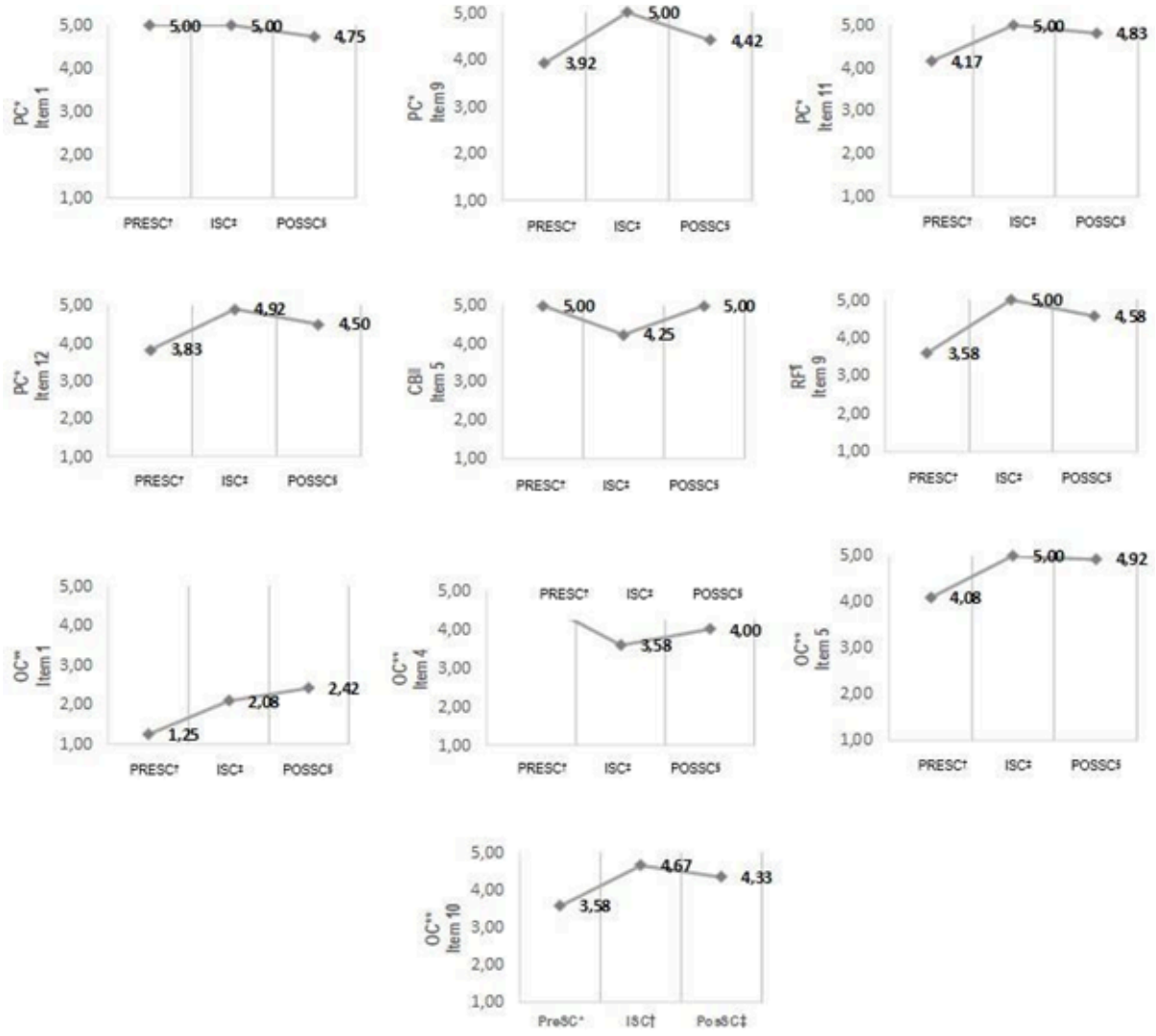
In the RF dimension, the items RF2 from PRESC to POSSC (ρ=0.025), RF5 from PRESC to ISC (ρ=0.008) and from ISC to POSSC (ρ=0.036), RF7 from PRESC to POSSC (ρ=0.038) and from ISC to POSSC (ρ=0.038). In the OC dimension, the items OC1 from PRESC to POSSC (ρ=0.044) and OC12 from PRESC to POSSC (ρ=0.001).



*Prevention of Complications; † Pre-Implementation of Clinical Supervision; ‡ Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; ||Comfort and Well-being in Self-care; † Pre-Implementation of Clinical Supervision; ‡ Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; ¶Functional Readaptation; †Pre-Implementation of Clinical Supervision; ‡Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; Care Organization; † Pre-Implementation of Clinical Supervision; ‡ Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision

Figure 3 - Multiple comparison of mean ranks for the effect of clinical supervision implementation in the medical service. Lisbon, Portugal, between 2019 and 2022.
Source: Author

In the SIS, as shown in Figure 4, the effect of clinical supervision (CS) was statistically significant in the PC dimension for the items PC1 from PRESC to ISC (ρ=0.025) and from ISC to POSSC (ρ=0.025), PC9 from PRESC to ISC (ρ=0.028), PC11 from PRESC to ISC (ρ=0.032), and PC12 from PRESC to ISC (ρ=0.041). In the CB dimension, the item CB5 from PRESC to ISC (ρ=0.047) and from ISC to POSSC (ρ=0.047); in the RF dimension, the item RF9 from PRESC to ISC (ρ=0.012); and in the OC dimension, the items OC1 from PRESC to POSSC (ρ=0.012), OC4 from PRESC to ISC (ρ=0.008), OC5 from PRESC to ISC (ρ=0.016) and from PRESC to POSSC (ρ=0.027), and OC10 from PRESC to ISC (ρ=0.050).



**Prevention of Complications; † Pre-Implementation of Clinical Supervision; ‡ Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; ||Comfort and Well-being in Self-care; † Pre-Implementation of Clinical Supervision; ‡ Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; ¶Functional Readaptation; †Pre-Implementation of Clinical Supervision; ‡Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision; Care Organization; †Pre-Implementation of Clinical Supervision; ‡Implementation of Clinical Supervision; §Post-Implementation of Clinical Supervision

Figure 4 - Multiple comparison of mean ranks for the effect of clinical supervision implementation in the surgical service. Lisbon, Portugal, between 2019 and 2022.
Source: Author

Discussion

According to the research results, when comparing positivity rates and quality of care indicators, changes were observed in both inpatient services during the ISC and POSSC phases, leading us to infer that supervision based on Proctor's model [16], the model of knowledge and competencies from Benner [21], and associated with quality audits of practices allowed intervention according to the needs of the teams and contexts. It increased quality indicators and fostered the change and reorientation of nursing care practices. This was also verified in the study on the quality of indicators in the nursing process and in the study on the need to apply the competency model in improving the quality of care [21-22].

The research confirmed that the evidence and sharing of audit results contributed to the adherence to and internalization of practice, and the supervision of nurses promoted skill development [2], which was corroborated by studies stating that team involvement in monitoring methods and shared decision-making contributed to understanding, a sense of belonging, and motivation among nurses in adopting new behaviors with an impact on both personal and professional levels [22,23]. According to the results, the integration of engagement leadership through team training and supervision for reflective practice allowed for the understanding of procedures and quality standards, enhancing interpersonal relationships, critical thinking, and coping strategies to define, implement, plan, and demonstrate improvement actions with awareness of care practices. This was also concluded in the study evaluating the relationship between leadership and teams, which stated that, by identifying the characteristics, competencies, and limitations of professionals, it was possible to proactively define training according to individual and team need [24-25].

The research also showed a higher score value in the ISC phase compared to the PRESC phase, with a slight decrease in the POSSC phase. This led us to reflect that, while supervision was a continuous process of supporting the acquisition of competencies in improving the quality and integrity of care through training, moments of interaction, and knowledge sharing, it induced critical thinking and reflection among the supervised nurses, focused on learning with skill development and with an impact on the individual, professional, and organizational levels, as described in the study related to team training for behavior change in improving practices [13-14,21]. It was also demonstrated that the service with the team having more tenure in the service and with a higher number of senior and expert nurses showed higher scores, a fact that we relate to the effective competence and capacity of the supervisors in guiding and fully supporting the teams, in the evidence of practice evaluation, and in the improvement plans of the supervised individuals throughout the care cycle. This aligns with the professional practice regulations of the Portuguese Nurses' Association [20] and Benner's competency model [21], which linked professional competence with the ability to perform integrated actions within a context according to situations, validated by knowledge and skills, and refined over time.

The fact that the supervision model was incorporated into the services of the study allowed for the respect of team characteristics and the development of supervision strategies suited to the context and patients [26-27]. This was corroborated by the study on nurse support supervision in healthcare, which concluded that supervision is essential for teaching or supporting nurses in care practice, as well as in ensuring the transfer of knowledge and

skills[28], in compliance with the nursing professional practice regulations of the Portuguese Nurses' Association [20]. Similarly, in the study that evaluated the impact of implementing a supervision model on nurses' emotional intelligence capabilities, it was concluded that the development of self-motivation, emotional management, self-awareness, empathy, and peer relationship management is reflected in practice [26].

Analyzing the quality scores and the effect of clinical supervision (CS) on the dimensions and items, it was observed, in the PC dimension, an increase in the standardization of practices in interventions and diagnoses, which contributed to avoiding or minimizing potential problems. We associate this with the supervisor who, through communication, knowledge, and the ability to interact via training focused on competencies and critical thinking, led the supervised individuals toward change in their thinking and actions in care practice. This aligns with the conclusions of studies related to the relationships between supervisors and the supervised, respecting their characteristics and needs [3,15,21], adding that, for validation and discussion in decision-making, supervision and individual training of the supervised are essential [14,29-30].

Regarding the scores in the CB dimension, we related them to the developed supervision model, which allowed the supervised individuals to maximize patient well-being. This was reinforced by studies that indicated the need for direct and continuous supervision models in the monitoring and empowerment of teams for quality practices [30]. This learning gain in maintaining the quality of the teams in the study was based on training for reflective practice grounded in evidence and the sharing of knowledge, enhanced by continuous feedback, as stated in the study that pointed out that the training of the supervised individuals with personal and professional skill development had an impact on care practice [3]. Other studies also mentioned that empowering the team's competencies in incorporating values into care practice was reflected by the accumulation of knowledge and the ability to deepen understanding, combined with experience [22,14]). Moreover, the relationship of trust and respect for the personal, professional, and ethical characteristics established between supervisors and the supervised in the study fostered the development of experiences, competencies, and corrective interventions in response to the identified needs of the patient and the care practice context, as described in the studies[22,28].

This led us to consider that the supervised individuals in the study adapted and acquired competencies related to other care practices. This was also reinforced by the study that revealed that the acquisition of competencies is directly linked to professional experience and continuous adaptation to new knowledge, practices, and standards [25-28].

In the RF dimension, or transition of care, communication between peers was the basis for preparing safe discharge, with the formulation and execution of the care plan, without neglecting the involvement of the patient and family in the continuity of the adaptation process according to their needs.

In the research, it was observed that there was an interaction of clinical supervision (CS) in items related to information about resources, which we associated with the perception of the importance and skill gain of the teams in teaching, instructing, and training the patient for readaptation. This aligned with the study that evaluated the importance of team training and awareness in safe discharge planning and the effectiveness of nursing interventions in communication and teaching with the involvement of the patient and family.

práticas[30]. Este ganho de aprendizagens na manutenção da qualidade das equipes do estudo teve por base o treino da reflexão sobre a prática fundamentada na evidência e na partilha de saberes incrementado pelo feedback contínuo, como afirmou o estudo que apontou que a formação dos supervisionados com ganho de competências pessoais e profissionais teve impacto na prática dos cuidados[3].

The study concluded that discharge planning ensured continuity of care [23,30]. It was also demonstrated in the research that the supervision strategies developed in promoting the quality and continuity of care, through informative programs and training, empowered the patient and family, as confirmed by the study mapping supervision strategies used by nurses in promoting the quality of care provided by caregivers. The study concluded that the implementation of supervision strategies can empower the caregiver to provide higher quality care [27].

Regarding the OC dimension, team supervision was based on the framework of organizational record-keeping and standardized language, which maximized the effectiveness, clarity, and systematization of care records and the qualification of interventions for decision-making. This led us to affirm that the teams recognized the importance of systematic and consistent records in the continuity of care, which enhanced the adequacy of the care plan. This was also concluded in the study on team involvement in building protocols, procedures, and continuous monitoring programs, which led to behavior changes with an impact on non-compliance outcomes in practice [29,30]. On the other hand, the existence of a system of systematic records according to needs and interventions allowed for reflection on sensitive results when associated with CS, which enabled communication between peers about practices, as concluded in the study, which considered monitoring records in compliance with quality standards associated with CS to be essential [13].

It is also worth noting that the maintenance of quality in items related to initial assessment and planning of interventions, in light of diagnostic variations, reinforced the importance of the normative and restorative aspects of the supervisors, who guided the monitoring, follow-up, and integrated reflection of the clinical practice of the supervised individuals. This aligns with studies that found that the competencies and motivation of teams change through the existence of restorative and normative aspects, as sources of support and reorientation of practice in compliance with the established organizational standards [3,22,28].

The capacity of the supervisors in the study to communicate and critically reflect on practice according to needs also effectively implemented the supervision process through shared responsibility between supervisor and supervisee in a constructive and empathetic manner. This aligned with studies indicating that expectations and acceptance of guidance for reflecting on care practice were facilitated by shared responsibility in evaluating practices, defining improvement actions, and the relationship with supervisors [4,21,30].

In the process of care organization associated with the CS model in the study, it enhanced knowledge and ensured quality care, which aligned with studies that revealed the importance of implementing CS based on Proctor's model and improving competencies in repositive and cross-cutting communication, as it increased adherence to records and the identification of interventions for decision-making, with an impact on outcomes [22,30].

As limitations of the study, we consider the scarce literature on the influence of direct or indirect clinical supervision of teams using positivity rates and quality indicators categorized by dimensions derived from national or international reference standards. We suggest as future research studies on the perception of supervised nurses regarding the effective gain of personal and professional competencies with an influence on the quality of care practices.

Conclusion

The conduct of the study allowed for the comparison of positivity rates and quality of care indicators in medical and surgical inpatient services before, during, and after the implementation of clinical supervision of nursing teams, revealing a direct relationship between the implementation of clinical supervision and the improvement of positivity rates and quality indicators. It became evident that the incorporation of a clinical supervision culture, through the follow-up and monitoring of practices, empowered and reoriented the teams in the implementation of continuous improvement plans with a direct impact on the patient, which contributed to the creation of organizational value based on quality care practices, with skill development of the teams. This enhanced the translation of knowledge between peers and the recognition of the quality of nursing practice with an impact on the patient.

We believe that the research contributed to the advancement of nursing knowledge, regarding the importance of integrating supervision models in medical and surgical inpatient services to improve and maintain quality care indicators and enhance professionals' competencies. This could serve as an incentive for future research in other healthcare areas.

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Author Contributions

Sergio, MSSBB. participated in: Conception and design of the research, data collection, analysis and interpretation of data, statistical analysis, writing of the manuscript and critical review of the manuscript for important intellectual content. Carvalho, ALRF. participated in: Conception and design of the research and critical review of the manuscript for important intellectual content. Pinto, CMCB. participated in: Conception and design of the research and critical review of the manuscript for important intellectual content.

Conflict of Interest

The authors certify that they have no conflicts of interest regarding this manuscript.

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