





## Research Article

# Implementation of the Primary Nursing Care Model in a Hospital Service: A Quasi-Experimental Study

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**Background.** In recent years, the healthcare landscape has seen a paradigm shift towards patient-centeredness in the provision of nursing care. The Primary Nursing Care Model has aroused interest as an approach that prioritizes the individualization and continuity of care, as well as the involvement of the patient in decision-making about their health, which may impact professional satisfaction, as well as the quality and safety of nursing care. **Aim.** This study aimed to evaluate the effectiveness of implementing the Primary Nursing Care Model in a hospital service. **Methods.** This study employed a quasi-experimental, single-group design with pre- and postintervention evaluations. It involved a convenience sample of 48 nurses from an internal medicine department. Data collection took place between June and November 2023. The intervention consisted of the implementation of the Primary Nursing Care Model. A questionnaire was used to characterize the sociodemographics of the participants, followed by instruments that made it possible to assess missed care, professional nursing practice environments, safety culture, job satisfaction for nurses, and the perception of activities that contribute to the quality of care. **Results.** The implementation of the Primary Nursing Care Model showed positive results compared to preimplementation. There were statistically significant differences when applying the Wilcoxon test,  $p < 0.005$ , with a reduction in missed care, an enhancement of the professional nursing practice environment and safety culture in nursing practice, as well as nurses' job satisfaction and enhanced perception of the activities that contribute to the quality of care. **Conclusion.** The implementation of the Primary Nursing Care Model in a hospital setting has demonstrated valuable contributions, underscoring its potential to improve the quality of nursing care and promote patient-centered care approaches. Further research is recommended to explore its application in diverse healthcare settings.

## 1. Introduction

The evolution of quality of care is a continuous and dynamic process, influenced by changes in health policies, technological advances, and scientific knowledge, with the need to adapt to emerging challenges, emphasizing patient safety and satisfaction [1, 2].

Also in nursing, the current scenario, marked by innovation and digital transformation, requires rethinking the discipline and profession to maintain its essence. In this context, a more personalised and patient-centered approach becomes fundamental, recognising the uniqueness of each individual and their specific health needs [3]. Examining the organization of nurses' work is a pressing condition, aiming

to align care provision with patients' needs [4, 5]. Indeed, the complex and multifaceted dynamics of hospital services demand constant innovation in nursing practices to ensure excellence.

In this context, the paradigm shift in the organization of nurses' work moves beyond task-oriented logic to a patient-centered approach. This shift redefines the relationship between nursing professionals and patients, impacting not only the patients but also the institutions [6, 7]. From this perspective, nursing care is intentionally centered on the health/illness transitions experienced by clients, focusing not only on their health condition but also on their adaptive processes [8].

Given this paradigm, the implementation of the Primary Nursing Care Model in a hospital setting represents an innovative, patient-centered approach to nursing care. The Primary Nursing Care Model distinguishes itself in terms of continuity of care and the nurse-patient relationship, differing substantially from conventional methods, where the organization of nurses' work is heavily focused on care delivery during each shift [9]. It emerges as an approach that aims to meet the needs of patients, providing a closer and more continuous relationship between those involved in this process. This working method involves assigning a reference nurse to each patient, from the moment they are admitted to the hospital until they are discharged [10]. The reference nurse is responsible for identifying health needs, planning, executing, and supervising care, and then evaluating it. More specifically, this model of care organization is characterized by four elements, with the reference nurse being responsible for patient-centered decision-making; defining daily care strategies; ensuring that the care outlined is carried out in their absence by the associated nurses; and promoting patient-centered multidisciplinary communication [11].

On the other hand, for its successful implementation, the Primary Nursing Care Model implies three factors. All the nurses in the nursing team must be involved in decision-making, a decentralized decision-making pattern must be adopted, and the nursing team must be systematized in terms of reference nurses and associate nurses. [10].

This method of organising nurses' work seems to have significant potential to influence various aspects of patients, nursing practice and the hospital environment. The literature shows a positive impact on the quality and safety of nursing care, professional environments and professional satisfaction [6, 9, 12]. In Portugal, in addition to the incipient implementation of the Primary Nursing Care Model, no studies were found that evaluated the potential effectiveness of implementing this method.

Thus, by implementing the Primary Nursing Care Model, the aim is to achieve significant improvements in reducing the omission of care, enhancing the safety and quality of care provided to clients, and improving the professional satisfaction of nurses. Additionally, providing crucial knowledge for nurses, nurse managers, and researchers is fundamental, especially in terms of implementing this methodology to continuously improve nursing care in a hospital environment.

The results obtained from this study could inform future practices in hospital services and serve as a basis for formulating policies aimed at the continuous improvement of nursing practices in Portugal. Therefore, the aim of this study was to evaluate the effectiveness of implementing the Primary Nursing Care Model in a hospital service.

## 2. Materials and Methods

**2.1. Design, Samples, and Settings.** This is a longitudinal, quasi-experimental, single-group study, of the pre- and postintervention type, anchored in the quantitative paradigm, using a nonprobabilistic, convenience sample. The extended guidelines of the Consolidated Standards of Reporting Trials (CONSORT) [13] were followed in order to clearly report the elements of the study.

The study took place in the Internal Medicine department of a hospital in northern Portugal, which has a capacity of 50 beds, an occupancy rate of 98.2%, and an average length of stay of 10.2 days. The nursing team consisted of 52 nurses, working in three shifts: morning, afternoon, and evening.

The sample was defined by the following inclusion criteria: being a nurse or specialist nurse and having worked in the Internal Medicine department for at least six months. Nurse managers and nurses with nonassistant roles were excluded.

The paired Student's *t*-test was used to calculate the sample size in order to compare the results of the instrument scores in the two evaluation periods. Assuming a significance level of 5%, a test power of 80%, and an effect size of 0.50 [14], the sample size calculation resulted in a minimum of 42 participants. The G\* Power 3.1.9.7 software was used to calculate the sample [15, 16].

**2.2. Measure.** The study variables were: independent variable "nurse's working method" and dependent variables "missed care," "professional practice environment," "safety culture," "job satisfaction," and "perceived quality of nursing care." A two-part self-completion questionnaire was used to measure the variables. The first part contains the socio-demographic and professional characterization of the participants and the second section contains five scales, translated and validated for the Portuguese context.

The MISSCARE scale is made up of two parts, A and B, and was adapted to Portuguese with and validated by Loureiro [17], showing a Cronbach's alpha of 0.86. Part A gives the possibility to understand the frequency with which nurses stop providing care, incorporating five dimensions: instrumental care; patient assessment; punctuality of response; training precautions; and feed efficiency. Part B allows participants to report their perception of the reason for the lack of care, made up of four domains: team communication; material resources; severity and patient flow; management and organization; and professional staffing.

The Scale for the Evaluation of Professional Nursing Practice Environments (SEE-Nursing Practice), which aims to evaluate professional nursing practice environments, was

built by Ribeiro et al. [18]. The expanded version has 93 items, divided into three subscales: structure, with a Cronbach's alpha of 0.952; process, with a Cronbach's alpha of 0.927; and outcome, with a Cronbach's alpha of 0.932. Ribeiro et al. [19] tested the validity and reliability of the reduced version of the ESS-Nursing Practice, obtaining 59 items, organized into the same three subscales. The structure subscale, with a Cronbach's alpha of 0.938, consisted of 29 items distributed in four dimensions: institutional policies and nurse involvement; people management and leadership in the service; organization and orientation for nursing practice in the service; and physical environment and conditions for nursing practice. The process subscale, with a Cronbach's alpha of 0.915, contains 19 items organized into three dimensions: autonomous practices in professional practice; collaborative practices and continuity of care; and strategies to guarantee the quality and safety of care. The outcome subscale, with a Cronbach's alpha of 0.911, has 11 items, organized into two dimensions: systematic evaluation of nursing care and indicators; and nurses' overload, accidents at work, and absenteeism.

The Hospital Survey on Patient Safety Culture, translated and validated for the Portuguese population by Eiras et al. [20], and with a Cronbach's alpha of 0.91, makes it possible to assess the opinions of professionals in relation to patient safety, medical error and the notification of adverse events. It consists of 12 dimensions: teamwork; manager expectations and actions to promote patient safety; management support for patient safety; organizational learning—continuous improvement; general perceptions of patient safety; feedback and communication about the error; openness in communication; notification feedback; working between units; professional staffing; transitions; and nonpunitive response to error. It also includes two questions that allow you to assess patient safety for your area of work and indicate the total number of events you have reported in the last 12 months.

Another variable refers to “job satisfaction,” measured using the Job Satisfaction Assessment Scale for Nurses, constructed by Ferreira and Loureiro [21]. It aims to assess aspects of job satisfaction and consists of six dimensions: satisfaction in the relationship with the boss; satisfaction with benefits and rewards; satisfaction with the promotion; satisfaction with work context; satisfaction with communication; and satisfaction with team relations.

Finally, the Scale of Perception of Nursing Activities that Contribute to the Quality of Nursing Care (EPAECQC) [22] was integrated. It allows us to identify nurses' perceptions of the activities that contribute to the quality of care. It has a Cronbach's alpha of 0.940 and is grouped into seven dimensions: customer satisfaction; health promotion; prevention of complications; well-being and self-care; functional rehabilitation; organization of nursing care; and responsibility and rigor.

**2.3. Primary Nursing Care Model Implementation Procedure.** The implementation of the Primary Nursing Care Model consisted of three phases.

In the first phase, after obtaining authorisation for the study and consent from participants, a meeting was scheduled with the nurses for in-service training on the Primary Nursing Care Model. During this session, led by two of the study's researchers, the nurses were shown what characterises the Primary Nursing Care Model, its advantages for clients, professionals and the institution, and the significance of implementing it.

In the second phase, a subsequent training session was held to present the guidelines and timetable for implementing the Primary Nursing Care Model. In this session, the two researchers and the nurse manager organized the team, defining the reference nurses and their associates. The implementation lasted six months, with the researchers visiting the service every fortnight at prescheduled times with the nurse manager to address any issues related to the model's implementation.

In the third phase, the effectiveness of the Primary Nursing Care Model implementation was evaluated.

**2.4. Data Collection Procedure.** Following the implementing procedure of the Primary Nursing Care Model, and in line with the authorisation of the nurse director and the nurse manager of the service, data collection took place from June 1 to November 30, 2023.

Initially, two researchers visited the service and, together with the nurse manager, provided each nurse with the Informed Consent Form, the data collection instrument and two unmarked envelopes for separately placing the completed documents. The researchers collected the envelopes two weeks later. Each participant was asked to create a unique code, known only to them, to ensure their responses could be identified at both data collection points.

After six months of implementing the Primary Nursing Care Model, the same questionnaire from the initial phase was administered to the participants.

**2.5. Statistical Analysis.** The data were stored in Microsoft Excel® software. The Statistical Package for the Social Sciences (SPSS), version 29.0, was used to analyze the data, using descriptive and inferential statistics.

To compare the different domains of each scale, the Shapiro–Wilk and Lilliefors (Kolmogorov–Smirnov) tests were initially used to test the normality of the domains, all of which were rejected. The comparison was then made using the Wilcoxon test for paired samples, with a significance level of 5%.

**2.6. Ethical Considerations.** This research study was approved by the Board of Directors where the research was carried out, under opinion number 421-21. Participants were informed of the objectives and procedures of the research by signing the Informed Consent Form, thus showing their agreement to take part in all stages of the study. The Informed Consent and the completed questionnaire were placed and sealed in envelopes without any identification by the participants. It should also be noted that the anonymity

and confidentiality of the information were guaranteed by assigning an alphanumeric code to each participant in order to guarantee the rigor of the research at the pre- and postintervention stages.

### 3. Results

The participants who took part in the research (Table 1) were mostly female (85.7%), married or in a civil partnership (60.4%), with an average age of  $38.0 \pm 8.8$  years, with a minimum of 24 and a maximum of 62. The majorities were graduates (95.8%) and belonged to the professional category of nurse (89.6%). It should be noted that the length of time they had been working in the profession varied between 2 and 41 years, with an average of  $15.1 \pm 9.1$  years, and that the average length of time in the current service was  $10.2 \pm 10.7$  years, with minimum and maximum values of 1 and 41 years, respectively. The specialist nurses had been working for an average of  $3.3 \pm 1.3$  years.

In terms of the MISSCARE Scale, part A showed that in all the dimensions, the pre- and postintervention scores were significant ( $p < 0.05$ ) and with an average postintervention value that was always higher. In part B, the dimensions "Material resources," "Severity and flow of patients," and "Professional staffing" did not show a significant postintervention mean value compared to the preintervention one. On the other hand, in the "Team communication" and "Management and organization" dimensions, there was a significant mean difference between the pre- and postintervention scores, with a higher postintervention mean value (Table 2).

With regard to the Scale for the Environment Evaluation of Professional Nursing Practice (SEE-Nursing Practice), in all its components (structure, process, and outcome), the average difference between the pre- and postintervention scores for all dimensions was significant, with a higher average postintervention value (Table 3).

With regard to the Hospital Survey on Patient Safety Culture (Table 4), in all dimensions the average difference between the pre- and postintervention scores is significant, with a higher average postintervention value, with the exception of the dimensions "General perceptions of patient safety," "Openness in communication" and "Transitions," where the pre- and postintervention scores are not significant, with an average postintervention value equal to or lower than the preintervention value. It should also be noted that there were significant results regarding the degree of safety of the service and the number of adverse event notifications ( $p < 0.001$ ).

In the Evaluation of Job Satisfaction for Nurses (Table 5), it was found that the average difference between the pre- and postintervention scores was not significant for the "Satisfaction with Benefits and Rewards" and "Satisfaction with Promotion" dimensions, where the average postintervention value was lower than the preintervention value. All the other dimensions showed a significant mean difference pre- and postintervention, with a higher mean value postintervention.

TABLE 1: Sociodemographic and professional characterization of the participants.

Total	<i>n</i> = 48
Gender, <i>n</i> (%)	
Male	6 (14.3)
Female	42 (85.7)
Age (years)	
Mean ( $\pm$ SD)	38.0 (8.8)
Minimum; Q1; median; Q3; maximum	24; 31; 36; 43; 62
Marital status, <i>n</i> (%)	
Not married	17 (35.4)
Married/nonmarital partnership	29 (60.4)
Divorced	2 (4.2)
Education level, <i>n</i> (%)	
Graduation	46 (95.8)
Master's degree	2 (4.2)
Professional category, <i>n</i> (%)	
Nurse	43 (89.6)
Specialist nurse	5 (10.4)
Years in the profession	
Mean ( $\pm$ SD)	15.1 (9.1)
Minimum; Q1; median; Q3; maximum	2; 7.8; 13; 21; 41
Years in current service	
Mean ( $\pm$ SD)	10.2 (10.7)
Minimum; Q1; median; Q3; maximum	1; 3; 5; 19; 41
Years as specialist nurse	
Mean ( $\pm$ SD)	3.3 (1.3)
Minimum; Q1; median; Q3; maximum	2; 2.5; 3; 4; 5

Q1, first quartile; Q3, third quartile; SD, standard deviation.

In the context of the Perception of Nursing Activities that Contribute to Quality of Care (Table 6), it was possible to see in all dimensions that the average difference between the pre- and postintervention scores is significant, with a higher average postintervention value and a  $p < 0.001$ .

### 4. Discussion

The profile of the participants provides a representation of the reality of Portuguese nurses, and also shows findings that are in line with the evolution of nursing in Portugal. Data from the Order of Nurses show that the majority of nurses work in hospitals, are employees with an indefinite contract, and are distributed across the three nursing careers recognized in the country: nurse, specialist nurse, and nurse manager [23].

Regarding the implementation of the Primary Nursing Care Model, the intervention showed gains for professionals, clients, and the institution. These gains were reflected in substantial improvements in work organization, the quality and safety of care provided to clients, professional satisfaction, and the promotion of more favourable practice environments. To work effectively at the highest level of nursing practice, in line with the Quality Standards set by the Regulatory Body for the Profession [24], nurses need to quickly mobilise resources within the context of work organization. This requires promising professional practice environments with as few obstacles as possible [25, 26], highlighting the importance of using working methods that

TABLE 2: Comparison of pre- and postimplementation results of the primary nursing care model using the MISSCARE scale.

MISSCARE	Dimension	Preintervention Mean (SD)	Postintervention Mean (SD)	<i>p</i> value
Part A	Instrumental care	24 (4.1)	25.5 (3.2)	<b>0.043</b>
	Patient assessment	18 (4.3)	20 (3.2)	<b>0.012</b>
	Punctuality of response	16.7 (3.8)	18.4 (3.0)	<b>0.010</b>
	Training precautions	16.6 (2.2)	17.8 (2.1)	<b>0.001</b>
	Feed efficiency	9.5 (3.4)	12.3 (1.9)	<b>&lt;0.001</b>
Part B	Team communication	14.8 (5.8)	16.8 (4.3)	<b>0.005</b>
	Material resources	4.6 (1.6)	4.9 (1.6)	0.488
	Severity and patient flow	5.6 (1.6)	5.9 (1.2)	0.712
	Management and organization	7.4 (1.5)	8.2 (1.9)	<b>0.043</b>
	Professional staffing	2.8 (0.97)	2.8 (1.2)	0.589

TABLE 3: Comparison of pre- and postimplementation results of the primary nursing care model using the SEE-nursing practice.

SEE-nursing practice	Dimension	Preintervention Mean (SD)	Postintervention Mean (SD)	<i>p</i> value
Structure component	Institutional policies and nurse involvement	23.5 (5.4)	27.8 (5.8)	<b>&lt;0.001</b>
	People management and leadership in the service	21.4 (4.2)	24.7 (4.1)	<b>&lt;0.001</b>
	Organization and guidance for nursing practice in the service	17.8 (4.2)	24.1 (5.5)	<b>&lt;0.001</b>
	Physical environment and conditions for nursing practice	11 (3.1)	13.3 (3.2)	<b>&lt;0.001</b>
Process component	Autonomous practices in professional practice	25.6 (5.3)	32.7 (3.5)	<b>&lt;0.001</b>
	Collaborative practices and continuity of care	19.4 (3.9)	24.7 (2.9)	<b>&lt;0.001</b>
	Strategies for guaranteeing the quality and safety of care	13.2 (3.6)	18.5 (2.7)	<b>&lt;0.001</b>
Result component	Systematic evaluation of nursing care and indicators	16.5 (5.9)	24.4 (5.0)	<b>&lt;0.001</b>
	Overload, accidents at work, and absenteeism among nurses	5.7 (2.3)	8.8 (1.8)	<b>&lt;0.001</b>

TABLE 4: Comparison of pre- and postimplementation results of the primary nursing care model using the hospital survey on patient safety culture.

Dimension	Preintervention Mean (SD)	Postintervention Mean (SD)	<i>p</i> value
Teamwork	12.8 (2.1)	15.8 (2.2)	<b>&lt;0.001</b>
Manager expectations and actions to promote patient safety	12 (1.6)	13 (1.5)	<b>0.001</b>
Management support for patient safety	8.3 (1.4)	8.8 (0.88)	<b>0.020</b>
Organizational learning-continuous improvement	9.6 (1.5)	11 (1.6)	<b>&lt;0.001</b>
General perceptions of patient safety	12.5 (1.3)	12.5 (1.4)	0.865
Feedback and communication about the error	8.2 (2.1)	11.1 (2.8)	<b>&lt;0.001</b>
Openness in communication	9.7 (2.1)	9.7 (0.88)	0.520
Notification feedback	6.8 (3.2)	9.6 (2.9)	<b>0.001</b>
Working between units	11 (1.7)	11.9 (1.1)	<b>0.004</b>
Professional staffing	12.4 (1.4)	13.0 (1.4)	<b>0.019</b>
Transitions	10.4 (1.9)	9.8 (2.0)	0.061
Nonpunitive response to error	9.2 (1.9)	7.5 (2.1)	<b>&lt;0.001</b>
Level of service safety	2.8 (0.53)	3.5 (0.65)	<b>&lt;0.001</b>
Occurrence reports drawn up	1.6 (1.0)	2.8 (1.2)	<b>&lt;0.001</b>

TABLE 5: Comparison of pre- and postimplementation results of the primary nursing care model using the job satisfaction assessment scale for nurses.

Dimension	Preintervention Mean (SD)	Postintervention Mean (SD)	<i>p</i> value
Satisfaction in the relationship with the boss	11.3 (2.8)	12.6 (2.1)	<b>0.042</b>
Satisfaction with benefits and rewards	22.4 (2.9)	21.4 (3.2)	0.078
Satisfaction with the promotion	12.9 (1.7)	12.7 (1.6)	0.610
Satisfaction with work context	11.3 (2.0)	12.2 (1.9)	<b>0.012</b>
Satisfaction with communication	15.6 (4.2)	18.3 (6.7)	<b>0.030</b>
Satisfaction with team relations	6.8 (2.1)	7.7 (1.4)	<b>0.013</b>

TABLE 6: Comparison of pre- and postimplementation results of the primary nursing care model using the scale perception of nursing activities that contribute to nursing care quality.

Dimension	Preintervention Mean (SD)	Postintervention Mean (SD)	<i>p</i> value
Customer satisfaction	9.5 (0.97)	10.7 (0.82)	<0.001
Health promotion	8.6 (1.3)	10.1 (1.1)	<0.001
Prevention of complications	9.3 (1.4)	10.8 (0.63)	<0.001
Well-being and self-care	12.2 (1.7)	14.5 (0.85)	<0.001
Functional rehabilitation	11.7 (2.4)	14.6 (1.2)	<0.001
Organization of nursing care	5.3 (1.1)	5.8 (0.86)	<0.001
Responsibility and rigor	18.9 (2.8)	21.4 (2.3)	<0.001

align with the needs of the institution, professionals, and patients.

The implementation of the Primary Nursing Care Model showed a significant impact on all dimensions of MISSCARE Part A, namely instrumental care, patient assessment, punctuality of response, care for empowerment, and efficiency in feeding. In this respect, it can be seen that the quality of care can promote safe and effective practice, and the philosophy of patient-centered care, and therefore quality, promotes the development of appropriate relationships between nurses and patients. An international systematic review on care methods in intensive care units found that the adoption of the Primary Nursing Care Model emphasized the decisive role of nurses in providing differentiated and personalised nursing care. It also showed that this work methodology increases the satisfaction of the patient's needs, with positive repercussions on reducing institutional costs [12, 27].

In part B of the MISSCARE, the dimensions "Material resources," "Patient severity and flow," and "Professional staff" did not show significant differences in average values after the intervention, likely due to no changes in the service at these levels. However, the dimensions "Team communication" and "Management and organization" showed significantly higher averages after the implementation of the Primary Nursing Care Model. This aligns with the results of a systematic review that analysed the correlation between leadership styles and nurses' job satisfaction, reinforcing that healthcare organisations are social systems where human resources are paramount. Leadership plays a fundamental role in affecting the outcomes of professionals, patients, and work environments. In this challenging context, leaders need to promote technical and professional competencies, and work to improve staff satisfaction [12, 27, 28]. Our study showed that communication, management, and organization are sensitive to the working method adopted by nurses, and the intervention successfully improved these aspects. The involvement of the nurse manager in all phases of the implementation of the Primary Nursing Care Model was crucial for achieving these results.

Regarding the SEE-Nursing Practice, the mean difference between the pre- and postintervention scores for all dimensions was significant in all its components. The construction of the SEE-Nursing Practice was guided by the model proposed by Donabedian, which considers different components of quality, with structure, process and outcome being the three determining elements in assessing

professional nursing practice environments favourable to quality care [18]. The improvement in the score of the "Organisation and guidance for nursing practice in the service" dimension reveals the importance of clearly defining these guidelines for the team, which was effectively done prior to implementing the Primary Nursing Care Model. It was also found that the implementation of the Primary Nursing Care Model is favourable to nursing care, contributing to more autonomous practices and organized and safe working environments.

In this context, given the importance of professional practice environments in guaranteeing the quality of nursing care and, at the same time, the well-being of nurses, it is necessary to evaluate them in order to identify weaknesses and propose strategies to improve their quality, as proposed with the implementation of the Primary Nursing Care Model. The significant improvements obtained from the intervention reinforce the importance of investing in the qualification of nurses' professional practices, with the aim of improving health outcomes and safer care [29].

The findings of the Hospital Survey on Patient Safety Culture showed an impact on all dimensions, with emphasis on teamwork, feedback, and communication about the error and reporting of adverse events. This demonstrates the contribution of the Primary Nursing Care Model in expanding the patient safety culture within institutions. Studies that seek to understand the environmental influence on patient safety show that strategies for ongoing professional training and promotion, sufficient material resources, and a safe working environment favour improving the quality of healthcare [29, 30]. These factors also positively impact the reduction of medication administration errors, lower absenteeism and turnover rates [31], fewer adverse events [30], and a lower proportion of missed nursing care [30, 32, 33], which was effectively verified in this study through the application of MISSCARE.

In Nurses' Professional Satisfaction Assessment Scale, four of the six dimensions showed a significantly higher mean difference after the intervention, with an emphasis on improving communication and relations with the team and the manager. The literature shows that communication, interprofessional relationships, participatory management, and organizational support affect the performance of nursing professionals, patient care outcomes, and job satisfaction [34, 35]. Satisfaction is also influenced by the expectations and experiences of individual workers.

Regarding the Perception of Nursing Activities that Contribute to the Quality of Nursing Care, the average of all dimensions was higher after the intervention. This indicates that the working method used by the nurses contributes to higher quality standards in care provision [24]. In fact, the perception of nursing activities is enhanced, since nurses play a more active role in assessing, planning and carrying out care, helping to improve their perception as direct contributors to the quality of care [36, 37].

The combined results of this study reinforce the contribution of organising nursing professionals' work to improving the quality and safety of care provided in a hospital setting, increasing professional satisfaction, and qualifying professional practice environments [38]. With the intervention based on the implementation of the Primary Nursing Care Model, it was possible to verify that using an appropriate working method allows nurses to feel more satisfied, involved in patient safety, better organise and manage nursing care, and promote more favourable practice environments.

Considering the individuality of each hospital establishment, the limitations of this research include the choice of a single hospital as the setting for the application of the Primary Nursing Care Model, which may limit the generalizability of the results beyond the specific context. It is plausible to assume that the adoption of the Primary Nursing Care Model over a period of more than six months could reveal additional findings that could not be discerned in our study. Therefore, it is recommended that the inclusion of more hospital institutions be considered in future research, as well as extending the implementation time of the intervention, in order to contribute to new findings.

## 5. Conclusions

The implementation of the Primary Nursing Care Model in a hospital service has revealed significant improvements in nursing care, the satisfaction of both health professionals and patients, and the quality and safety of care, leading to more effective, efficient, and compassionate health systems.

This method of organising nurses' work has had a positive impact on improving the quality and safety of nursing care, enhancing health professionals satisfaction, and promoting more positive practice environments.

The Primary Nursing Care Model shows the potential to ensure greater continuity of care, reduce omitted care, enable personalised interventions, and improve communication between patients, nurses, and the multidisciplinary team. These elements are fundamental to achieving better clinical outcomes and providing a more humanised experience for patients.

The findings of this study provide a solid basis for future research and initiatives for large-scale implementation of this method of working for nurses, promoting a positive change in the provision of nursing care in hospital environments.

## Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## Authors' Contributions

J. M., M. M., L. L., and O. M. designed the study. J. M., A. C., S. C., and S. F. contributed to data collection. J. M., L. L., M., and O. M. performed data analysis. J. M., M., L. L., and O. M. supervised the study. J. M., M. M., L. L., C. G. R., and O. M. wrote the manuscript. All authors performed critical revisions for important intellectual content.

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