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Original Article

Missed nursing care in an intensive care unit

Omissão dos cuidados de enfermagem em unidade de terapia intensiva

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Ana Paula Moro Bertoni[1]
Glaucia Fagundes[1]
Bruno de Souza Luchtenberg[1]
Vitoria Rosa Amaral[1]
Josemar Batista[1]

[1]Centro Universitário Santa Cruz de Curitiba. Curitiba, PR, Brazil.

Corresponding author:
Josemar Batista
Rua Affife Mansur, 565 - Novo Mundo
CEP: 81050-180. Curitiba, PR, Brazil.
E-mail: josemar.batista@hotmail.com

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ABSTRACT

Objective: to examine the prevalence of missed nursing care in an intensive care unit, by professional category and work shift. **Methods:** this cross-sectional study was conducted in the critical care unit of a teaching hospital. The Missed Nursing Care Survey – Brazil was administered to 38 nursing professionals. Data were analyzed using both descriptive and inferential statistics; $p \leq 0.05$ was considered statistically significant. **Results:** the most frequently missed care activity was patient ambulation three times a day or as prescribed. Labor and material resources were the primary reasons for missed care, with no statistically significant differences between professional categories or work shifts. Participation in interdisciplinary team discussions differed between nurses and nursing technicians ($p = 0.027$). Lower rates of missed care were observed among daytime staff for four care activities ($p \leq 0.05$). **Conclusion:** a high prevalence of missed nursing care was identified, with differences in the types of care omitted between nurses and nursing technicians, as well as across work shifts. **Contributions to practice:** these findings support the planning of priority actions to be incorporated into the patient safety plan and highlight the need for further research on the impact of work shift length on missed nursing care.

Descriptors: Nursing Care; Intensive Care Units; Risk Management; Patient Safety; Quality of Health Care.

RESUMO

Objetivo: analisar a prevalência da omissão dos cuidados de enfermagem em unidade de terapia intensiva, segundo a categoria profissional e os turnos de trabalho. **Métodos:** estudo transversal, realizado em uma unidade crítica de um hospital de ensino, com aplicação do instrumento *Missed Nursing Care Survey* – Brasil, à 38 trabalhadores da enfermagem. Os dados foram analisados por estatística descritiva e inferencial; $p \leq 0,05$ indicou significância. **Resultados:** o cuidado mais omitido foi a deambulação do paciente três vezes ao dia ou conforme prescrito. Recursos laborais e materiais foram as principais razões para a omissão, sem diferença estatística entre categorias profissionais e turnos de trabalho. A participação em discussões com a equipe interdisciplinar apresentou diferença entre enfermeiros e técnicos de enfermagem ($p=0,027$). Constatou-se menor omissão da equipe de enfermagem do período diurno em quatro cuidados ($p \leq 0,05$). **Conclusão:** evidenciou-se elevada prevalência de omissão de cuidados de enfermagem, com diferenças nos itens omitidos entre enfermeiros e técnicos e entre os turnos de trabalho. **Contribuições para a prática:** os achados colaboram para planejar ações prioritárias que devem ser incorporadas na construção do plano de segurança do paciente e na necessidade de expandir pesquisas sobre o efeito das horas trabalhadas por turno na omissão da assistência de enfermagem.

Descritores: Cuidados de Enfermagem; Unidades de Terapia Intensiva; Gestão de Riscos; Segurança do Paciente; Qualidade da Assistência à Saúde.

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Introduction

The movement to promote patient safety — particularly discussions aimed at implementing strategies that ensure safe, high-quality care in healthcare services — is considered a relatively recent development. However, significant progress has been made in this area since the 1999 publication of the To Err is Human report by the Institute of Medicine[1]. These advances are primarily associated with the ongoing improvement of clinical risk management, which enables the identification of factors that contribute to incident occurrence and the concurrent implementation of corrective measures. The goal of these efforts is to address the various factors that impact patient safety, such as failures in service and nursing care management, including leadership, communication, and teamwork[2].

The nursing practice environment becomes conducive to high-quality care when professionals have control over their work setting, report job satisfaction, and maintain positive interprofessional relationships[3]. In contrast, the absence of these attributes greatly increases the likelihood of errors of omission, particularly those involving nursing care[4].

Errors of omission occur when the correct action is hindered or delayed, thereby increasing the risk of serious adverse events[2,5]. Conceptually, missed nursing care refers to the failure or delay in performing any necessary patient care, whether in part or in full[6]. It is estimated that between one and 22 nursing care activities may be missed during a patient's hospital stay[7]. The prevalence of missed care ranges from 6.8% to 98%, as reported in 28 studies conducted across 121 hospitals in 14 countries[8]. Although epidemiological data on this topic remain limited, evidence from intensive care settings in low- and middleincome countries shows that the prevalence of missed nursing care ranges from 15.2% to 86%[9].

Missed nursing care provided by nursing teams in intensive care units (ICUs) is influenced by factors inherent to the unit itself, as tasks and processes are complex and prone to error. The severity of patients — often subjected to multiple procedures and advanced technologies, frequently in the absence of standardized care protocols — combined with long working hours, stress, fatigue, interruptions and distractions, disruptive behaviors, and low staff qualifications[10–14], compromises patient safety and contributes to the failure to initiate or complete one or even multiple nursing care activities.

Failure to identify and resolve the causes of missed care can negatively affect patient protection and care quality, leading to increased rates of falls, infections, and medication errors. Consequently, longer hospital stays, higher hospital costs, and lower patient satisfaction with the nursing care provided are often reported[15].

Research investigating the frequency and underlying reasons for commonly missed nursing care activities is essential for recognizing the issue in critical care settings. Such studies aim to inform the development of corrective actions to reduce the predictors of errors of omission. Furthermore, they help advance discussions on the topic by promoting the adoption of innovative practices that safeguard patients during intensive care and support the development of a consistent and sustainable patient safety culture, as recommended by the Brazilian National Patient Safety Program[16].

Based on this, the following research question was posed: What is the prevalence of, and what are the reasons for, missed nursing care in an intensive care unit, by professional category and work shift?

This study aimed to examine the prevalence of missed nursing care in an intensive care unit, by professional category and work shift.

Methods

This cross-sectional study was conducted in the intensive care unit (ICU) of a public teaching hospital in Curitiba, Brazil. The unit has 16 beds, funded exclusively by the Brazilian Unified Health System, and provides care to both medical and surgical patients.

A non-probability, purposive sample was used,

consisting of all nursing professionals assigned to and actively working in the ICU at the time of data collection, totaling 62 staff members. Inclusion criteria were: being a nurse or nursing technician, working at least 30 hours per week, and having worked in the unit for at least one month. Professionals on leave due to vacation, medical reasons, or other types of absence were excluded, as were those not exclusively engaged in direct patient care and those who returned questionnaires with less than 50% of items completed. After applying these criteria, 38 professionals agreed to participate in the study, and no exclusions were necessary.

Data were collected between February and March 2022 in a room previously designated by the unit's management. Recruitment took place in the workplace, individually or in small groups, during the morning, afternoon, and night shifts to inform participants about the study's objectives and the estimated time of 15 minutes required to complete the data collection form. After clarifying any questions, participants received a sealed envelope containing two copies of the Informed Consent Form (ICF) and the translated, culturally adapted, and validated version of the Missed Nursing Care Survey (MISSCARE–Brazil)[17].

This self-administered questionnaire begins with questions on participants' demographic characteristics and work environment, followed by 56 items divided into two sections: (a) 28 items related to elements of missed nursing care, using a five-point Likert scale (1 = always performed to 5 = never performed); and (b) 28 items addressing the reasons for missed nursing care, grouped into five domains: labor resources, material resources, communication, ethical dimension, and institutional management/leadership style. Responses are rated on a four-point Likert scale, ranging from 1 (not a reason) to 4 (a significant reason)[17].

The data from each questionnaire were entered, using double data entry, into a Microsoft Excel® spreadsheet. Prior to processing and analysis, reverse scoring was applied to the response codes for items in Part A, as follows: (1 = 5), (2 = 4), (3 = 3), (4 = 2), and (5 = 1). For Part B, the scoring was reversed as follows: (1 = 4), (2 = 3), (3 = 2), and (4 = 1). Responses were dichotomized, with "occasionally not performed," "rarely performed," and "never performed" considered indicative of missed care, while "frequently performed" and "always performed" indicated care delivered. For the analysis of reasons for missed care, the options "a significant reason" and "a moderate reason" were considered justifications, whereas "a slight reason" and "not a reason" indicated no justification for the omission. Higher scores reflected higher levels of missed care and stronger reasons for non-performance[17].

For descriptive analysis, quantitative variables were reported as mean, median, and standard deviation (SD), while qualitative variables were presented as absolute (n) and relative (%) frequencies. The Cochran-Armitage trend test was used to assess associations between missed care items and professional category (nurse/nursing technician) and work shift (day/night). Mood's median test was applied to determine whether responses within the domains related to missed nursing care differed by professional category and work shift, given that the data did not follow a normal distribution in each group. Data processing was performed using R software, with support from a statistical consultant. The significance level was set at 5% ($p < 0.05$).

The study was approved by the Research Ethics Committee on Human Subjects of the Hospital Paranaense de Otorrinolaringologia (Certificate of Ethical Approval [CAAE] 51549321.9.0000.5529; approval number 5,001,103/2021) and by the co-participating institution, the *Hospital de Clínicas* of the Federal University of Paraná (approval number 5,180,811/2021; CAAE 51549321.9.3001.0096). To ensure anonymity, the researchers collected the returned envelopes and coded them with the letter "P" (for participant), followed by a number indicating the order of return.

Results

A total of 38 nursing professionals participated in the study, most of whom were nursing technicians

(n = 25; 65.8%). The mean age, years of professional experience, and time working in the unit were 37.4 (SD = 7.6), 10.7 (SD = 6.0), and 4.2 (SD = 4.3), respectively. The demographic and occupational characteristics of the nursing staff are presented in Table 1.

Table 1 – Demographic and occupational characteristics of the nursing staff (n = 38). Curitiba, PR, Brazil, 2022

Variables	n (%)
Sex	
Female	27 (71.1)
Male	11 (28.9)
Position/Role	
Nursing technician	25 (65.8)
Nurse	13 (34.2)
Educational attainment	
Completed high school	15 (39.5)
Completed higher education	8 (21.0)
Graduate certificate	11 (29.0)
Graduate degree (Master's/Doctorate)	4 (10.5)
Daily work hours (hours)	
6	24 (63.2)
12	14 (36.8)
Weekly work hours (hours)	
30	2 (5.3)
36	34 (89.4)
Missing	2 (5.3)
Work shift	
Day shift	24 (63.2)
Night shift	14 (36.8)

The average number of overtime hours worked in the previous three months was 4.0 (SD = 8.9). Regarding absenteeism during the same period, the professionals reported a mean of 3.5 (SD = 7.8) days absent. The average number of patients cared for during the last shift was 3.5 (SD = 2.5). Most professionals reported no intention to leave their current position (n = 35; 92.1%) and considered staffing levels adequate 50% of the time (n = 14; 36.8%). More than half of the participants reported being satisfied with their job, their profession, and their performance.

Regarding missed care, the highest frequencies were reported for "Ambulation of the patient three times a day or as prescribed" (66%), followed by "Discharge planning and teaching for the patient and/or family" (49%). Three care activities were not missed by the nursing staff (Table 2). Nurses reported significantly fewer omissions regarding participation in interdisciplinary team discussions about patient care compared to nursing technicians (p = 0.027). No statistically significant differences were observed for the other items.

Table 2 – Prevalence of missed nursing care elements (n = 38). Curitiba, PR, Brazil, 2022

Missed nursing care element	Team (%)		
	Morning/ Afternoon (n = 24)	Night (n = 14)	Total (n = 38)
Ambulating the patient three times per day or as prescribed	63	71	66
Discharge planning and teaching for the patient and/or family	33	77	49
Participating in interdisciplinary team discussions regarding patient care	37	64	47
Providing emotional support to the patient and/or family	25	42	32
Responding to requests for prescribed medications, when needed, within 15 minutes	26	29	27
Sitting the patient out of bed	16	39	25
Turning the patient every two hours	25	14	21
Performing oral hygiene	17	21	19
Providing instructions to patients and families about routines, procedures, and treatments	16	23	19
Responding to call lights within five minutes	19	14	17
Documenting complete information in the patient's chart, including all necessary data	17	14	16
Conducting focused reassessments according to patient condition	12	14	13
Providing meals to patients able to eat independently	0	29	11
Administering medications within 30 minutes of the scheduled time	8	14	11
Assessing the patient's condition each shift and identifying care needs	8	14	11
Managing venous access and infusions, according to institutional protocols	12	8	11

(the Table 2 continue in the next page...)

Missed nursing care element	Team (%)		
	Morning/ Afternoon (n = 24)	Night (n = 14)	Total (n = 38)
Performing perineal hygiene after patient elimination	8	7	8
Monitoring blood glucose levels	8	0	5
Administering or assisting with prescribed tube feeding	4	0	3
Evaluating the effectiveness of administered medications	4	0	3
Recording fluid balance	0	7	3
Caring for patients with pressure injuries or at risk for skin breakdown	0	7	3
Hydrating the patient, when appropriate, by offering oral fluids or administering them via feeding tube	0	7	3
Performing hand hygiene	4	0	3
Implementing preventive measures for patients at risk for falls	4	0	3
Measuring vital signs as prescribed	0	0	0
Bathing/hygiene and implementing preventive skin care for patients at risk for pressure injuries	0	0	0
Suctioning the airways	0	0	0

Regardless of professional category, the day shift nursing team reported significantly more frequent performance of the following care activities: providing meals to patients able to eat independently (p = 0.007); discharge planning and teaching for the patient and/or family (p = 0.044); sitting the patient out of bed (p = 0.020); and hydrating the patient, when appropriate, either by offering oral fluids or administering them via feeding tube (p = 0.022), compared to the night shift team.

Labor and material resources were identified as the main reasons perceived by the nursing staff for missed care (Figure 1).

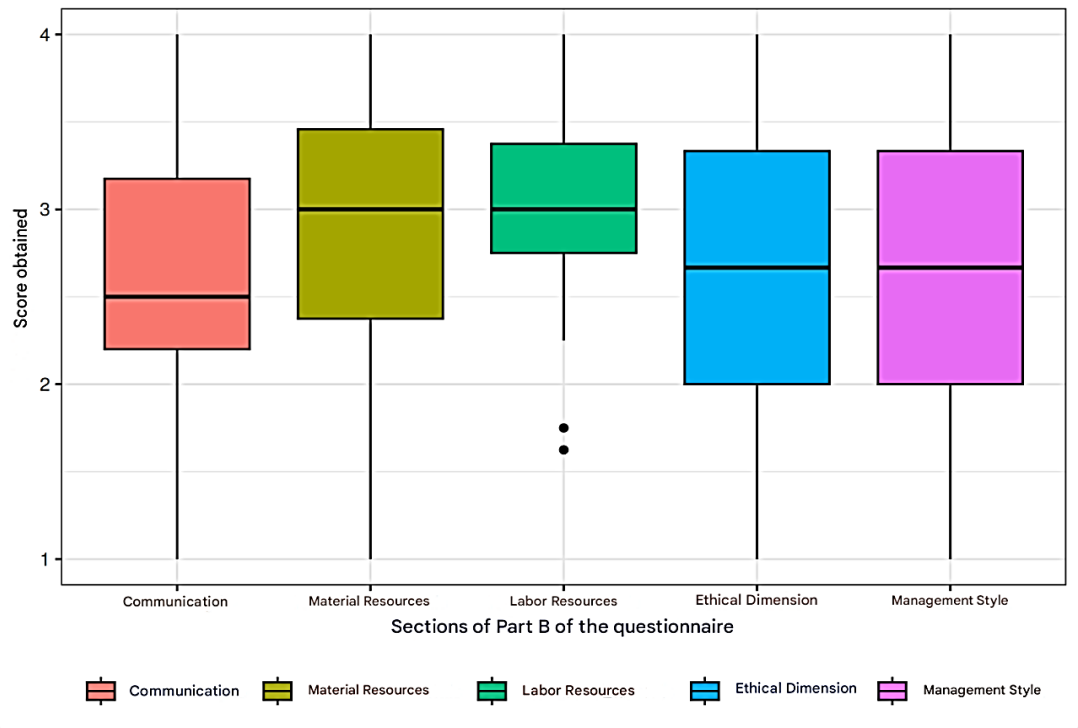

Figure 1 – Distribution of median scores across domains related to missed nursing care. Curitiba, PR, Brazil, 2022

Table 3 shows that the mean scores for the domains related to missed nursing care were similar between nurses and nursing technicians, with no statistically significant differences between the professional categories (p > 0.05).

Although not statistically significant (p > 0.05), the night shift nursing staff more frequently reported the influence of three domains on missed care: material resources, labor resources, and management style (Figure 2).

Table 3 – Comparison between nurses and nursing technicians regarding the domains related to missed care. Curitiba, PR, Brazil, 2022

Domains	Nurses (n = 13)	Nursing technicians (n = 25)	Nursing team (n = 38)	p-value†
	Mean (SD*)	Mean (SD*)	Mean (SD*)	
Labor resources	3.0 (0.6)	3.0 (0.5)	3.0 (0.5)	0.580
Material resources	2.9 (0.8)	2.8 (0.7)	2.9 (0.8)	0.928
Communication	2.6 (0.7)	2.6 (0.7)	2.6 (0.7)	0.580
Ethics	2.6 (0.9	2.7 (1.0)	2.6 (0.9)	0.852
Management style	2.5 (0.8)	2.7 (0.9)	2.7 (0.8)	0.314

*SD: standard deviation; †Mood's median test

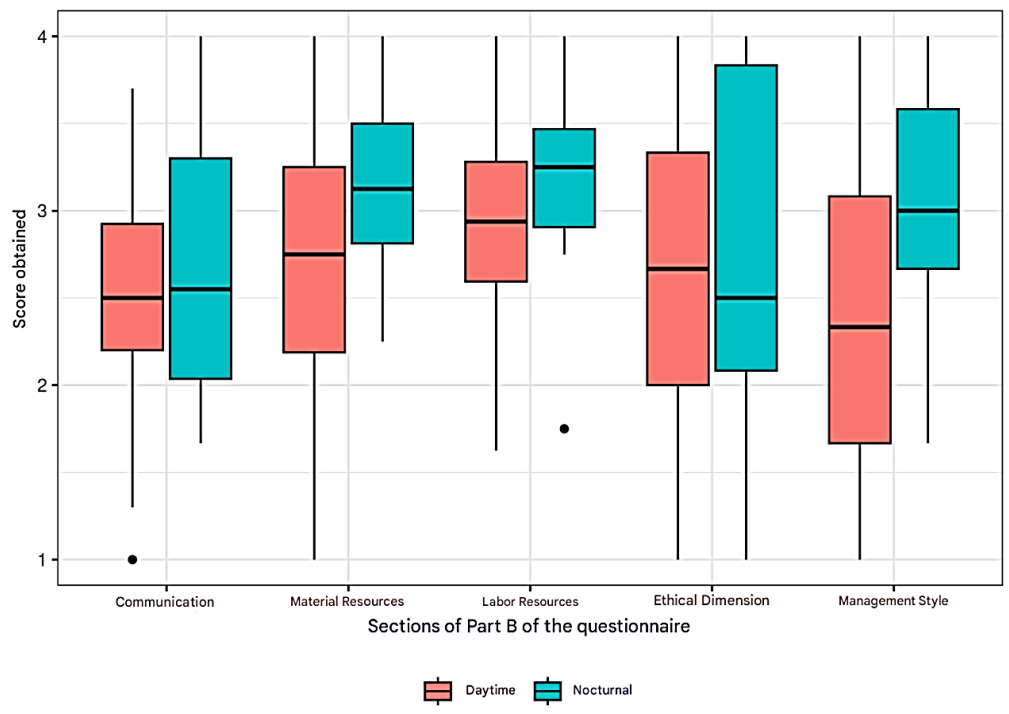

Figure 2 – Distribution of median scores across missed nursing care domains by work shift. Curitiba, PR, Brazil, 2022

Discussion

The results revealed the main elements of nursing care that were partially or entirely missed, as reported by a nursing team with sufficient professional and unit experience to understand the various factors contributing to the omission of care for critically ill patients. A high prevalence of missed care was observed in aspects related to physical needs, such as ambulation and repositioning, as well as in the nursing staff's participation in interdisciplinary discussions, discharge planning and education, and emotional support for patients and their families.

These findings are consistent with another study conducted in three ICUs, which identified the items "Ambulate patient three times per day or as ordered" and "Discharge planning and teaching for the patient and/or family" among the most frequently missed care activities, with prevalence rates of 93% and 66%, respectively[18]. The items most frequently omitted by nurses were related to mobilization, feeding, and ambulation[19].

Although many authors classify ambulation as intermediate-priority care[18], it is important to consider that this study was conducted in a critical care unit serving severely ill patients, most of whom were unable to ambulate due to medical or surgical conditions. Thus, the omission of this care should be interpreted with caution in the investigated sample and further explored in future studies.

Regarding the item "Participation in interdisciplinary team discussions about patient care," the proportion of missed care was significantly higher among nursing technicians. Historically, intensive care nurses often take part in multidisciplinary rounds — interactive and deliberative meetings among healthcare professionals aimed at discussing patients' needs to ensure better care practices[20-21].

On the other hand, this finding highlights the fragmentation of care across professional categories, the existence of hierarchical relationships, and the remnants of classical administrative models still present in nursing services, which tend to exclude technical staff from discussions about patient care. This often occurs due to culturally established practices that assign these workers exclusively to basic, routine, and task-centered care based on institutional and social role definitions. The lack of participation by nursing technicians in interdisciplinary discussions contributes to worsening issues related to communication and teamwork, which are widely recognized as structural factors leading to the delay or omission of nursing care[22].

It was also noted that missed care was more frequent during the night shift, similar to findings from another study, which reported that night-shift nursing workers are more prone to occupational fatigue and, consequently, to higher rates of missed care compared to day-shift staff[23].

Moreover, nurses report that night shifts still tend to have inadequate nurse staffing levels, a situation justified by the outdated assumption that care demands are lower during the night shift compared to the day shift[24]. Therefore, policymakers, researchers, and managers need to discuss the frequency and length of night shifts, as well as the predictive factors of missed nursing care across different work shifts, since these elements directly affect both workers' health and the safety and quality of nursing care.

In addition, based on the perceptions of nurses and nursing technicians in this study, significant differences were identified in some aspects of nursing care between the day and night shifts. Day-shift workers reported a lower prevalence of missed care regarding the following: providing meals to patients able to eat independently, discharge planning and teaching for the patient and/or family, sitting the patient out of bed, and hydrating the patient, when appropriate, either by offering oral fluids or administering them via feeding tube.

Despite the similarity in the nursing workflow in ICUs over a 24-hour period, the workload is clearly more intense for day-shift staff[25]. In the context of the unit investigated, some of these nursing tasks occur

more frequently during the day. For instance, guidance provided to family members is more likely to take place during visiting hours, which are predominantly scheduled in the afternoon — partially explaining the discrepancies in missed care between shifts.

It is worth noting that the decision to delay or omit nursing care is influenced by internal factors, including group norms that encompass informal rules and accepted behaviors within the team. The values, perceptions, and attitudes of nursing staff play a significant role in determining which nursing actions will be prioritized[26]. This underscores the importance of incorporating ongoing assessments of patient safety culture into institutional strategic planning, with the aim of identifying areas of vulnerability that require consistent attention from nursing leadership. Ultimately, these efforts seek to reduce the existence of subcultures among peers, across work shifts, and within professional categories related to organizational safety.

In this study, the least frequently missed care activities were related to clinical assessment of the patient — possibly due to the professional training of the staff, particularly nursing technicians. This finding is also linked to the characteristics of the unit's workflow and the severity of the patients' conditions, which demand continuous monitoring to support therapeutic decision-making. These circumstances indicate that actions aimed at assessing and stabilizing critically ill patients are prioritized, while other nursing tasks are considered secondary and often perceived as less relevant [27].

The prioritization of nursing care is a multifaceted process influenced by training and professional practice, as well as institutional factors[26]. Therefore, it is essential to recognize that this clinical prioritization may hinder the delivery of comprehensive nursing care[9] and foster less safe practices, as nursing teams tend to assign lower importance to elements that promote patient safety, such as interprofessional communication and the planning/guidance of care for patients and families.

Regarding the reasons perceived by the nursing staff for missed care, workforce and material resources were the most frequently mentioned, with no significant differences in professional training or work shifts. These findings are consistent with a Brazilian study that identified these domains as influencing missed nursing care[28]. Likewise, the results align with a study conducted in a Swedish university hospital, in which the most frequently cited reasons were insufficient human resources, urgent situations, and increased patient demand and/or acuity[19].

Scientific evidence indicates that nursing professionals with adequate access to material resources in their workplace are less likely to report missed care. The lack of essential supplies, equipment, and medications may result in delays or omissions of critical nursing tasks, thereby compromising the continuity and safety of patient care[29]. Thus, it is important to address issues related to the generalist training of nurses and the professional development of nursing leadership, including the management of materials and human resources, as well as the advancement of ethical and moral competence. These strategies are essential to overcoming gaps in clinical nursing practice that may compromise the comprehensive delivery of care[30].

Study limitations

The use of a convenience sample composed of a small number of participants is a notable limitation of this study, as it restricts the generalizability of the findings. Another limitation is that the study was conducted in a single ICU, which prevents a broader understanding of the topic within the investigated hospital. Additionally, participants may have limited their responses to socially desirable answers, which is a common limitation in research using self-reported surveys.

Contributions to practice

Identifying the main missed care items and the reasons perceived by the nursing staff in caring for critically ill patients helps prioritize actions to be planned by healthcare managers during the development of the patient safety plan, aiming to promote continuous improvements in care processes. This, in turn, contributes to reducing predictive factors that increase the likelihood of omitting essential nursing care aimed at protecting patients from incidents resulting from unsafe or low-performance interventions.

Another contribution of this study is the need to further investigate the effects of work hours per shift on missed nursing care, with emphasis on night-shift professionals. The goal is to determine a compatible and adequate workload that enables the delivery of comprehensive care aligned with quality principles.

Conclusion

Missed nursing care was prevalent in areas related to mobilization, participation in interdisciplinary discussions, and patient and family education and emotional support. Moreover, such omissions were perceived differently between nurses and nursing technicians, as well as across work shifts. Overall, despite the differences in professional training, responsibilities, and roles between the groups, the nursing staff demonstrated shortcomings in workforce and material resources that hinder the adequate delivery of care in critical care settings. This scenario highlights the need to strengthen institutional continuing education efforts to mitigate omission-related errors and advance the culture of organizational safety.

Authors' contributions

Conceptualization and study design; data analysis and interpretation; drafting or critical revision of the manuscript for important intellectual content; final approval of the version to be published; agreement to be accountable for all aspects of the manuscript to ensure that any questions related to its accuracy or integrity are appropriately investigated and resolved: Bertoni APM, Fagundes G, Luchtenberg BS, Amaral VR, Batista J.

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