RBSO
Revista Brasileira de Saúde Ocupacional
Brazilian Journal of Occupational Health
ISSN: 2317-6369 (online)

Research article

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**How to cite (Vancouver):**
Carmo BLR, Rosa RS, Barroso SP, Lobato WMS, Takeda KFF, Soares TN, Ramalho JGFP, Sousa YM, Valois RC. Overload, stress, and mental health of the nursing team in the surgical center: a qualitative study in a public referral hospital in Belém, Pará, Brazil. Rev Bras Saude Ocup [Internet]. 2026;51:e10. Available from: https://doi.org/10.1590/2317-6369/22125en2026v51e10



# Overload, stress, and mental health of the nursing team in the surgical center: a qualitative study in a public referral hospital in Belém, Pará, Brazil

## *Sobrecarga, estresse e saúde mental da equipe de enfermagem em centro cirúrgico: estudo qualitativo em um hospital público de referência em Belém, Pará, Brasil*

## Abstract

**Objective:** To investigate the relationship between mental distress and the work process of the nursing team working in a surgical center of a public referral hospital. **Methods:** This was a study with a qualitative approach, conducted in Belém, Pará, Brazil, from July to August 2024, involving 24 nursing professionals selected according to previously defined inclusion criteria. Data were collected through a sociodemographic questionnaire and semi-structured interviews. The data obtained was subjected to thematic analysis. **Results:** The analysis yielded two central categories: demands and incidents affecting routine; and sociocognitive and behavioral changes within the team. The findings highlighted the participants' perceptions and lived experiences. They indicated physical and psychological overload resulting from the complexity of care activities, pressure for immediate results, and weaknesses in interpersonal communication. These factors contributed substantially to occupational stress and mental strain among the professionals. **Conclusion:** Working in a surgical center presents a high potential for triggering psychological distress. The implementation of institutional support strategies, strengthening communication among teams, and prioritizing workers' mental health are necessary to ensure quality of care and the well-being of the nursing staff.

**Keywords:** Mental Health; Nursing Team; Surgical Center; Occupational Health.

## Resumo

**Objetivo:** Investigar a relação entre o sofrimento mental e o processo de trabalho da equipe de enfermagem atuante no centro cirúrgico de um hospital público de referência. **Métodos:** Pesquisa de abordagem qualitativa, desenvolvida em Belém, Pará, de julho a agosto de 2024, com 24 profissionais de enfermagem selecionados mediante critérios de inclusão previamente definidos. Os dados foram coletados por meio de questionário sociodemográfico e entrevistas semiestruturadas. O material obtido foi submetido à análise temática. **Resultados:** A análise levou a duas categorias centrais: demandas e intercorrências que afetam a rotina; alterações sociocognitivas comportamentais da equipe. Os achados evidenciaram a expressão das percepções e vivências dos participantes. Indicaram sobrecarga física e psicológica decorrente da complexidade das atividades assistenciais, da pressão por resultados imediatos, de fragilidades na comunicação interpessoal. Esses fatores contribuíram de forma relevante para o estresse ocupacional e o desgaste mental dos profissionais. **Conclusão:** O trabalho em centro cirúrgico apresenta elevado potencial de desencadeamento de sofrimento psíquico. Faz-se necessária a implementação de estratégias institucionais de apoio, fortalecimento da comunicação entre equipes e valorização da saúde mental dos trabalhadores, assegurando qualidade da assistência e bem-estar da equipe de enfermagem.

**Palavras-chave:** Saúde Mental; Equipe de Enfermagem; Centro Cirúrgico; Saúde do Trabalhador.

## Introduction

The Surgical Center (SC) is a critical environment with a standardized structure, where highly complex anesthetic procedures are performed, often associated with significant surgical and postoperative complications. By its very nature, it is a space that imposes multiple challenges on the healthcare team's work. Among these, the most notable are limited human resources, extreme fatigue, physical and mental exhaustion, and failures in the communication process. Such factors can directly impact workers' mental health and contribute to the emergence of stressful conditions[1].

Professionals working in this setting face additional challenges due to the sector's inherent characteristics. The SC is a closed environment, bounded by physical barriers, featuring high-tech equipment and multiple professional s in constant interaction. Within it, communication must occur effectively and continuously; otherwise, the likelihood of human error increases[2].

As guided by the International Council of Nurses, the mental health of nursing staff must be a constant focus of attention. The profession is considered high stress due to its daily exposure to situations of human suffering. This reality can trigger feelings of distress, anxiety, and depression[3].

In this context, psychological distress is an integral part of the nursing staff's daily routine. Professional practice in the SC is characterized by an environment of constant pressure. The complexity of care in this setting makes every procedure critical, since a single error can lead to serious consequences, such as disability or even death[4].

The relevance of this study is justified by the fact that the SC represents one of the hospital environments most susceptible to the physical and psychological burnout of nursing professionals, due to the high complexity of procedures, the need for continuous attention, and constant interpersonal and technical demands. These conditions foster the emergence of occupational stress, anxiety, and other mental disorders, which compromise the safety of the patients being cared for[5]. In this sense, understanding the relationship between mental distress and the work process in the SC is essential to inform strategies for prevention, the promotion of occupational health, and the strengthening of humanized care.

In light of the above, the present study aims to investigate the relationship between mental distress and the work process of the nursing team working in the SC of a referral hospital.

## Methods

### Study Design

This is a study with a qualitative approach, grounded in the theoretical–methodological framework of Content Analysis[6], conducted from July to August 2024 at a public hospital located in Belém, Pará, Brazil.

### Study Setting

The research was conducted at a public institution recognized as a referral center in the fields of nephrology, cardiology, and psychiatry. The hospital handles a high volume of surgical procedures, which results in continuous and intensified care demands on the nursing team, creating a relevant context for analyzing working conditions and their impacts on mental health.

The institution has a structured SC with seven surgical centers. Its staff includes nine nurses and thirty nursing technicians, responsible for providing direct patient care across different work shifts.

## Study participants

Inclusion criteria included mid-level professionals (nursing technicians) and higher-level professionals (nurses) who worked directly in the SC, were on the institution's staff, were over 18 years of age, and had at least one year of experience in the sector. All eligible professionals were invited to participate in the study, and those who expressed interest and met the established criteria were included.

Workers who were not part of the sector's nursing team, did not have an employment relationship with the institution, had a diagnosis of a mental disorder prior to working in the SC, or were on vacation or leave during data collection were excluded.

It should be noted that the sample did not include all eligible professionals in the sector, as data collection was halted upon reaching data saturation — the point at which further interviews no longer added relevant elements to the understanding of the phenomenon under investigation[7].

## Data Collection

The research was authorized by the institution, and all participants signed the Informed Consent Form before data collection began.

A questionnaire specifically designed for this study by the authors was used; it was not derived from a previously validated instrument. The instrument was structured in two parts: the first consisted of closed-ended questions aimed at the sociodemographic and professional characterization of the participants, including professional category (nurse or nursing technician), age, sex, length of service, employment status, and work schedule at the institution; and the second part, consisting of six open-ended, guiding questions aimed at identifying the professionals' perceptions regarding work in the SC and the factors impacting their mental health.

Data collection was conducted in person by three female undergraduate nursing students, members of the research team at the time of data collection (BLRC, RSR, and SPB), who had previously agreed on the objectives and conduct of the interviews to ensure a standardized approach. The interviews were individual, conducted in a private room on the institution's premises at a time indicated by the participants themselves as most convenient during their respective work shifts, ensuring privacy and minimizing external interference, with an average duration of approximately 20 minutes.

The interviews were audio-recorded for subsequent verbatim transcription, ensuring greater reliability of the statements. To preserve anonymity, each participant was identified by the letter P, followed by sequential numbering from 1 to 24, according to the order in which the interviews were conducted (P1, P2, P3, etc.).

## Data Analysis

The data collected in this study were analyzed using the Content Analysis technique, as proposed by Bardin[6]. This method enables the organization, interpretation, and systematization of information from the semi-structured interviews, allowing for the identification of thematic categories and recurring patterns in the participants' discourse. The application of this approach ensured methodological rigor in the study, facilitating a deeper understanding of the experiences, perceptions, and challenges faced by the nursing team at the SC, as well as the relationship between work demands and their impact on the mental health of the professionals.

## Ethical considerations

The study was approved by the Research Ethics Committee (CEP) of the Gaspar Vianna State Public Hospital Foundation, under Certificate of Submission for Ethical Review (CAAE) No. 80761424.5.0000.0016 and Opinion

No. 6,933,328, issued on July 5, 2024. Participation by the subjects was contingent upon signing the Informed Consent Form (ICF).

## Results and discussion

### Participant Profile

The sociodemographic and professional characteristics of the participants are presented in **Table 1**.

**Table 1** Profile of nursing professionals working in the surgical center of a public hospital, Belém, Pará, 2024

| Variable | (n = 24) |
|---|---|
| **Profession** | |
| Nurses | 8 |
| Nursing technicians | 16 |
| **Age (years)** | |
| 30–40 | 11 |
| 41–51 | 13 |
| **Gender** | |
| Female | 20 |
| Male | 4 |
| **Years of professional experience in nursing (years)** | |
| 1–10 | 11 |
| 11–20 | 9 |
| 21–40 | 4 |
| **Employment relationships** | |
| More than one employment relationship | 12 |
| Only one employment relationship | 12 |
| **Work hours** | |
| Up to 6 hours | 9 |
| More than 6 hours up to 12 hours | 10 |
| More than 12 hours up to 18 hours | 5 |

**Source:** Prepared by the authors based on the data collected.

Twenty-four nursing professionals participated in the study, distributed across the morning, afternoon, and night shifts. Of the 24 participants, eight were registered nurses and 16 were nursing technicians. Most were in the 41–51 age group (13), were female (20), and worked more than 6 hours per day (15). Regarding professional experience, 13 had been working in the field for a long time (between 11 and 40 years). Regarding the number of employment relationships, there was a balance between those who had only one job (12) and those who held more than one (12). (**Table 1**)

This profile reveals a predominantly female, experienced team subjected to long workdays, as well as, in part, multiple employment relationships. Such characteristics may intensify the physical and emotional demands of the surgical environment, contributing to occupational burnout and psychological distress identified in the study's analytical categories.

The qualitative analysis of the statements enabled the construction of two thematic categories: (1) Demands and complications affecting the routine of nursing care in the surgical center and (2) Sociocognitive and behavioral changes in the surgical center nursing team.

## Category 1: Demands and Complications Affecting the Routine of Nursing Care in the Surgical Center

As described by Holanda and Sousa[8], the SC is a highly complex environment in which nursing professionals must work with a high degree of rigor and caution, given the sector's dynamics, which demand constant attention and technical precision. The nursing team bears a great deal of responsibility for patient care, which makes it particularly susceptible to occupational stress. Various demands present in this context can contribute to mental illness or negatively impact employees' professional lives.

Providing patient care, both directly and indirectly, requires meticulous attention, demanding that professionals possess adequate training to minimize the occurrence of errors. However, given the inherent complexity of the SC environment, the occurrence of complications is almost inevitable. The need for agility and efficiency imposed by the sector generates high demands and constant pressure, involving heightened attention, team coordination, continuous patient care, and speed in performing procedures, as emphasized by Goras *et al.*[9].

> *P12: We have already experienced various patient-related complications, behavior-related complications, and equipment-related complications. The demands are complex and delicate.*

> *P3: We have already experienced various complications... We have to stay calm; these everyday situations tend to overwhelm the team, as they are frequently on high alert to assist the patient in the best possible way.*

Recurring complications in the daily routine of the SC require professionals to remain in a constant state of alert, prepared to act quickly and safely. According to Gulen and Yildiz[10], situations involving a high degree of concern, along with the need to prepare for critical events, intensify the professional's workload. Consequently, continuous vigilance generates a persistent state of stress, increasing the likelihood of occupational fatigue and the occurrence of errors during patient care.

> *P18: [...] But it's really the pressure from the medical team — if we don't control ourselves, if we lack knowledge, we need to have knowledge —that really takes a toll […].*

> *P15: The stress doctors face due to demands — it ends up requiring a bit more mentally from us, because there must be no errors during surgery or instrument handling. Concern, because we must stay very alert, and that demands a lot from us [...].*

Despite the demands for high efficiency faced by the nursing team during their work activities, unforeseen events arise related to the sector or the staff members themselves. It becomes necessary to manage different approaches and attitudes toward procedures, such as preparing the surgical center and the patient, to ensure the quality of care provided to both the patient and the team, considering the essential role of nursing in the organization of the SC[11].

While carrying out these multiple demands, the nursing team faces situations that can have a negative impact on their mental health, manifesting as stress, anxiety, fatigue, and emotional exhaustion. The data collected in this study show that such situations are frequent and result from factors such as pressure for immediate results, the complexity of care routines, unpredictable complications, and challenges in interpersonal communication. This

scenario reinforces the need for institutional strategies that promote psychological support, prioritize the well-being of professionals, and mitigate stressors in the workplace.

In addition to the work demands in the SC, the presence of multiple employment relationships and the double workday emerge as significant factors contributing to overload, especially among female professionals. Many of these professionals also assume domestic and family responsibilities, accumulating tasks that contribute to physical and emotional exhaustion, increasing levels of stress and chronic fatigue. Studies indicate that the overlap of professional and family responsibilities increases vulnerability to psychosocial disorders, compromising mental health and the quality of care provided[12,13].

> *P5: [...] Unnecessary and excessive demands [...] Indifference, in every sense — indifference toward patients, indifference among teammates, and a lack of communication.*

> *P14: […] A lack of commitment can lead to emotional and physical overload [...].*

In this context, it is observed that nursing professionals exhibit clear signs of burnout, resulting not only from work overloads but also from interpersonal interactions within the team. Disagreements arising from conflicting views, competing demands, and workplace requirements significantly contribute to the intensification of occupational stress, which can compromise the quality of care provided to patients and affect the well-being of professionals[14].

These findings may be related to the guidelines of NR-1, which provides for the identification and mitigation of psychosocial risks in the workplace, including overload, pressure to achieve results, demands for high attention, and interpersonal conflicts. Continuous exposure to these conditions in the SC creates a scenario of risk to mental health, making it necessary for institutions to promote prevention strategies, psychological support, and work organization that comply with the standard's recommendations[15,16].

> *P8: The constant strain from situations that arise on the job: routine tasks that aren't given the attention they deserve, when we're performing surgeries alone — which are major procedures — and need help, when everyone is trying to get the patient into the surgical center, and there's only one technician in the room to handle everything […]. These are exhausting situations that leave us extremely stressed […].*

In the SC, certain procedures require immediate execution due to potential risks to the patient's life. However, obstacles may arise that compromise the timely performance of these activities, such as staff shortages, surgery delays, communication failures, and a lack of organization regarding demands from other departments. In this context, integration among the different departments and efficient management of care routines by the nursing team become essential to minimize the physical and mental strain on professionals[17].

> *P9: When the workflow breaks down: staff absences, surgery delays, and team disagreements [...] Sometimes there is agreement, but someone always comes along with a disagreement.*

> *P16: […] The demands from other departments on us [...] if there's a delay over there, there's a delay here too — that sometimes stresses me out.*

Nursing plays a central role in the functioning and organization of the SC, assuming crucial responsibilities for coordinating activities, patient safety, and continuity of care. However, this strategic position exposes professionals to conditions that contribute to physical and mental exhaustion, resulting from the intense dynamics of the service, constant demands, and the grueling routines characteristic of this work environment. This context demands constant attention, rapid decision-making, and the ability to adapt to complications — factors that, cumulatively, increase the risk of occupational stress, chronic fatigue, and impaired psychological well-being[18].

## Category 2: Sociocognitive and behavioral changes in the surgical center nursing team

In the SC environment, critical situations occur frequently, demanding intense psychological and physical attention from nursing professionals. Such demands may be associated with the emergence of symptoms that cause sociocognitive and behavioral changes, directly impacting the team's performance and well-being[19].

The data collected in this study indicate that these changes are frequently triggered by the continuous demands and complexity of daily activities in the sector, highlighting the need for institutional strategies aimed at mitigating occupational stress and preserving the mental health of professionals.

Among the changes observed, poor sleep quality stands out, especially among professionals working night shifts in the SC. The lack of adequate rest results in cognitive overload, compromising attention, concentration, and decision-making abilities — factors essential for patient safety and the efficiency of activities. This sleep deprivation significantly contributes to the deterioration of healthcare professionals' mental health, increasing levels of stress, fatigue, and vulnerability to errors.

Studies indicate that drowsiness and reduced alertness approximately double the likelihood of errors occurring during patient care, reinforcing the need for institutional strategies that promote better rest conditions and adaptation to shift work[20].

> *P13: Sleep harms mental health because we don't have adequate space... We can't rest, so this affects mental health; we know that sleep is harmful.*

It is observed that effective communication among nursing professionals in the SC is an essential element for ensuring the safe conduct of procedures and reducing discrepancies during care delivery. Clarity in information transmission, coordination among team members, and alignment of tasks directly contribute to patient safety and work efficiency.

However, the research highlights the existence of gaps in interpersonal relationships, which can manifest as communication failures, conflicts, or misunderstandings among professionals. Such communication deficits have the potential to generate adverse events, compromise the quality of care, and overburden professionals, negatively impacting mental health. Thus, the absence of adequate communication processes becomes a significant factor in occupational stress, contributing to mental health issues among the nursing team and highlighting the need for institutional strategies aimed at improving communication and strengthening teamwork[21].

> *P2: The lack of communication, because sometimes there's a surgical procedure scheduled, and then the surgery gets canceled, and they schedule another one. The supplies are already prepared for that surgery, and then they ask for different supplies to perform another procedure. This ends up complicating our situation, but everything gets right in the end.*

The psychological impact observed among nursing professionals stems from a process of illness that is often subtle and barely noticeable in the short term, making it difficult to identify. Behaviors such as persistent stress, frequent irritability, and communication breakdowns reflect continuous overload and contribute to the development of mental illness. This condition stems from constant exposure to stressors specific to the sector, characterized by cumulative psychological wear and tear that affects not only the well-being of professionals but also the quality of care provided to patients[5].

> *P3: […] When I get stressed, they say... sometimes it's the routine, sometimes we're just so busy that we end up getting stressed.*

The study by Madrid, Kotekewis, and Glanzner[22] shows that psychosocial risks in the workplace have been intensifying, leading to increased occupational stress and emotional exhaustion among nursing professionals. The

participants demonstrated an awareness of the importance of mental health, adopting strategies for emotional self-regulation to cope with the psychological pressures inherent in their work demands.

> *P12: Even with the problems, we must maintain our composure; we can't let the team know we're stressed. Of course, there are moments when we break down, but we break down like this, just you, or somewhere with a colleague, but among the team, you have to maintain your composure as a calm professional; otherwise, you'll end up passing it on to them, and then the processes and the work won't get done.*

> *P12: [...] Right now it's a structural issue, because we're going through several renovations, so we end up not being able to concentrate. Noise causes stress, on top of the stress from work.*

It is noteworthy that the reports from SC nursing professionals highlight significant behavioral changes associated with psychosocial and physical stressors present in the workplace. These factors include constant pressure for immediate results, highly complex care routines, simultaneous demands, frequent complications, and weaknesses in interpersonal communication. Such conditions can result not only in temporary or prolonged absence from work, but also in difficulties in interaction and cooperation among team members, compromising the efficiency of collective work.

Furthermore, continuous exposure to these stressful situations contributes to the development of mental distress, which may manifest as anxiety, irritability, chronic fatigue, demotivation, and other signs of psychological burnout, highlighting the need for institutional strategies that promote the mental health and well-being of healthcare professionals[23].

## Final considerations

The findings of this study show that the work performed by the nursing team in the SC is characterized by high levels of stress and exhaustion, resulting from the constant pursuit of patient safety and the humanization of care. Interpersonal adversities, combined with the complexity of care routines and the pressure for immediate results, increase the risk of mental illness, manifesting as chronic stress, activity overload, simultaneous demands, and frequent complications, compromising both the physical and psychological well-being of professionals and the quality of care provided.

Furthermore, it is observed that poor communication among teams, the need to coordinate multiple processes, and continuous exposure to critical situations create a high-risk scenario for mental health. This context highlights that institutional strategies aimed at promoting occupational health and emotional support are essential, including stress prevention programs, training in conflict management, and professional recognition initiatives that acknowledge the complexity of the work performed.

Furthermore, reflection on the impact of the work environment on professionals' well-being points to the importance of a holistic approach that considers not only the technical aspects of care but also the psychosocial and organizational dimensions of the service. Within the SC, safe nursing practices are paramount. Therefore, the implementation of worker support policies and the creation of humanized work environments are essential. Finally, the findings of this study reinforce the need for greater awareness of the importance of mental health in the SC's daily routine, encouraging managers, professionals, and institutions to adopt effective measures that preserve the well-being of the team and strengthen the quality of care provided.

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**Information on academic work:** Article based on the Final Project by authors Brenda Lanai Reis do Carmo, Rafaela dos Santos Rosa, and Suziani Pinheiro Barroso, titled "*Saúde Mental da Equipe de Enfermagem no Centro Cirúrgico: Fatores Estressores* (Mental Health of the Nursing Team in the Surgical Center: Stressors)", presented in 2024 to the Nursing Program at the University of the Amazon.

**Authors' Contributions:** Carmo BLR, Rosa RS, Barroso SP, Lobato WMS, Takeda KFF, Soares TN, Ramalho JGFP, Sousa YM, and Valois RC contributed to the study design; data collection, analysis, and interpretation; and the drafting and critical revision of the manuscript. The authors approved the final version and assume full public responsibility for the work performed and the published content.

**Data availability:** The dataset supporting this study is not publicly available because it contains information that compromises the privacy of the study participants.

**Statement on the use of Artificial Intelligence:** The authors declare that no artificial intelligence tools were used.

**Funding:** The authors declare that the study was not subsidized.

**Competing interests:** The authors declare that there are no competing interests.

**Presentation at a scientific event:** The authors report that the study was not presented at a scientific event.

**Received:** September 17, 2025
**Reviewed:** November 6, 2025
**Accepted:** November 14, 2025

**Responsible editors:**
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