Safety culture: Intensive Care Unit nurses' perceptions

Cultura de segurança: percepção dos enfermeiros de Unidades de Terapia Intensiva

Cultura de seguridad: percepción de los enfermeros de Unidades de Cuidados Intensivos

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Abstract

Objective: To measure patient safety culture from Intensive Care Unit nurses' perspective.

Methods: This is a cross-sectional descriptive study carried out with 65 nurses from Intensive Care Units of a tertiary public hospital, by completing the Hospital Survey on Patient Safety Culture questionnaire, using simple descriptive statistics for data analysis and following the Agency for Healthcare Research and Quality's guidelines.

Results: Of the total, 50% of nurses did not report any adverse events in the last 12 months; 50.8% of professionals assigned a fair score to patient safety in their work area/unit at the hospital; none of the dimensions had a rate of positive responses >75%, only isolated items such as C2 (Professionals are free to say when they see something that may negatively affect patient care), with 84.6%. Dimensions 6 (Nonpunitive responses to errors), 9 (Teamwork across hospital units) and 11 (Overall perceptions of safety) showed all items with an average percentage below (50%), and Dimension 6 (Nonpunitive responses to errors) was the weakest (22.5%).

Conclusion: This study showed a low rate of adverse event reporting and nurses' perception of a punitive culture on the part of their superiors. Gaps in the safety culture were evidenced, which need to be reassessed in order to seek strategies to improve and strengthen care, making care increasingly qualified and safe.

Resumo

Objetivo: Mensurar a cultura de segurança do paciente na perspectiva dos enfermeiros de Unidades de Terapia Intensiva.

Métodos: Estudo descritivo transversal desenvolvido com 65 enfermeiros assistenciais das Unidades de Terapia Intensiva de um hospital público terciário por meio do preenchimento do questionário *Hospital Survey on Patient Safety Culture*, utilizando a estatística descritiva simples para análise dos dados, seguindo as orientações da *Agency for Healthcare Research and Quality's.*

Resultados: Do total, 50% dos enfermeiros não realizaram nenhuma notificação de evento adverso nos últimos 12 meses; 50,8% dos profissionais atribuíram nota Regular à Segurança do Paciente na sua área/unidade de trabalho no hospital; nenhuma das Dimensões apresentou taxa de respostas positivas >75%, apenas itens isolados como o C2 ("Os profissionais têm liberdade para dizer ao ver algo que pode afetar negativamente o cuidado do paciente"), com 84,6%. As Dimensões 6 (Respostas não punitivas aos erros), 9 (Trabalho em equipe entre as unidades hospitalares) e 11 (Percepções gerais sobre segurança) apresentaram todos os itens com percentual médio abaixo de (50%); a Dimensão 6 ("Respostas não punitivas aos erros") foi a mais frágil (22,5%).

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Conflicts of interest: nothing to declare.

Conclusão: Este estudo evidenciou baixa taxa de notificação de eventos adversos e percepção dos enfermeiros de uma cultura punitiva por parte de seus superiores; evidenciaram-se lacunas na cultura de segurança que precisam ser reavaliadas para buscar estratégias de melhoria e fortalecimento do cuidado, tornando a assistência, cada vez mais, qualificada e segura.

Resumen

Objetivo: Medir la cultura de seguridad del paciente bajo la perspectiva de los enfermeros de Unidades de Cuidados Intensivos.

Métodos: Estudio descriptivo transversal llevado a cabo con 65 enfermeros asistenciales de las Unidades de Cuidados Intensivos de un hospital público terciario por medio del cuestionario *Hospital Survey on Patient Safety Culture*; se utilizó la estadística descriptiva simple para el análisis de los datos; y se siguieron las instrucciones de la *Agency for Healthcare Research and Quality.*

Resultados: Del total de los enfermeros, el 50 % no realizó ninguna notificación de evento adverso en los últimos 12 meses; el 50,8 % de los profesionales calificó como Regular la seguridad del paciente en su área/unidad de trabajo del hospital; ninguna de las dimensiones presentó índice de respuestas positivas >75 %, solo en ítems aislados como el C2 ("Los profesionales tienen libertad para decir si ven algo que puede afectar negativamente el cuidado del paciente"), con un 84,6 %. La dimensión 6 (Respuesta no punitiva a los errores), la dimensión 9 (Trabajo en equipo entre unidades) y la 11 (Percepción global de seguridad) presentaron un porcentaje promedio inferior a (50 %) en todos los ítems; la dimensión 6 (Respuesta no punitiva a los errores) fue la más frágil (22,5 %).

Conclusión: Este estudio evidenció un bajo índice de notificación de eventos adversos y la percepción de los enfermeros de una cultura punitiva por parte de sus superiores. Se observaron vacíos en la cultura de seguridad que deberían ser reevaluados para buscar estrategias de mejora y fortalecimiento del cuidado, para que la atención sea cada vez más calificada y segura.

Introduction

Florence Nightingale, precursor of Modern Nursing, throughout her trajectory, with emphasis on her performance in the Crimean War, contributed in an innovative and revolutionary way so that the scientific community began to think about patient safety more attentively, based on her care for sick and wounded soldiers and perception of the importance of physical conditions, constant surveillance, hand hygiene and systematic processes to ensure safer care, aiming to avoid the occurrence of undesirable events.[1]

Studies on patient safety have gained strength and social visibility over the decades. In Brazil, in 2013, ANVISA Board Resolution (RDC - *Resolução da Diretoria Colegiada*) 36 was published, which establishes actions for patient safety in health services. Patient safety culture is broad, encompasses several aspects within a health institution and helps to identify failures and/or points to be improved so that safer care can be offered. It must have a nonpunitive character, making all employees involved and committed to improving service quality.[2]

The hospital is an institution very susceptible to the occurrence of incidents and adverse events, with a high level of complexity.[3-5] Inserted in the hospital environment, there is the Intensive Care Unit (ICU), which, according to RDC 7/2010, is a "critical area for the hospitalization of critically ill patients who require specialized professional on an ongoing basis, specific materials and technologies necessary for diagnosis, monitoring and therapy".[6]

When composing the specialized multidisciplinary team of ICUs, nurses must be trained to provide care for patients with serious clinical conditions and complex demands.[7] Thus, based on the development of critical-reflective reasoning and an expanded view of their practice, focusing not only on care aspects, but also on managerial and educational aspects, nurses play an indispensable role in maintaining and consolidating patient safety culture in the context of intensive care.[4] Thus, assessing patient safety culture within an institution is essential to identify weak points and outline strategies to improve care.

In this way, this study is justified by the fact that safety culture is a current and extremely relevant topic within the context of health. Demonstrating nurses' perception of the subject can promote an overview of organizational conditions of care safety for critical patients, providing subsidies for a better analysis and understanding of individual and collective behavior patterns that can influence and impact, positively or negatively, care, enabling the improvement of processes, flows, bundles, strengthening the focus on preventive measures, reporting of adverse events and permanent and continuing education.

That said, this study aims to measure patient safety culture from ICU nurses' perspective.

Methods

This is a descriptive cross-sectional study, developed in a high-complexity public hospital located in Salvador, Bahia, Brazil. The study scenario included five adult ICUs, totaling 79 beds for patients in the following specialties: cardiology, general surgery, vascular surgery, neurology, neurosurgery, gastroenterology, nephrology, among others.

Nonprobabilistic sampling was carried out for convenience, with the study participants being clinical nurses who had been working for more than six months in the institution's adult ICUs. Those who were occupying management positions were excluded. The total number of nurses from the five ICUs was 91, but 65 agreed to participate in the research.

Initially, meetings were held with ICU nursing coordinators to explain the study and obtain a list of professionals who worked in these units and who met the inclusion and exclusion criteria.

Subsequently, clinical nurses were approached during the work shift between June and September 2021, explaining about the study as well as its importance and relevance and its character of voluntary participation. After applying and signing the Informed Consent Form, they received, in an envelope, a printed copy of the Hospital Survey on Patient Safety Culture (HSOPSC) questionnaire and filled it out, delivering it to the researcher at the end.

The HSOPSC is an American self-report questionnaire, widely used internationally, developed in 2004 by the Agency for Healthcare Research and Quality (AHRQ), translated and validated for application in Brazil through nurse Claudia Tartaglia Reis's doctoral thesis.[8] This questionnaire uses a Likert-type scale in its questions and aims to assess patient safety culture, analyzing it from the perspective of any professional who works at the hospital, whether in the health area or not, analyzing three points point of view: about their own daily practice, the context of the unit/sector in which they are inserted and the hospital institution as a whole.

The HSOPSC is divided into nine sections: Your Unit/Work Area; Your Supervisor, Manager, or Clinical Leader; Communication; Frequency of Events Reported; Patient Safety Grade; Your Hospital; Number of Events Reported; Background Information; and Your Comments. It is still possible to assess 12 dimensions about patient safety culture from the application of this instrument, namely: 1. Supervisor/manager expectations & actions promoting safety; 2. Organizational learning-continuous improvement; 3. Teamwork within units; 4. Communication openness; 5. Feedback and communication about error; 6. Nonpunitive responses to errors; 7. Staffing; 8. Hospital management support for patient safety; 9. Teamwork across hospital units; 10. Hospital handoffs and transitions; 11. Overall perceptions of safety; and 12. Frequency of event reporting.

In the analysis and interpretation of HSOPSC data for this study, we followed the guidelines established by the AHRQ Manual: the "strong areas of patient safety" are those whose items "strongly agree" or "agree" for the positively formulated questions obtain > 75% of responses or items "disagree" and "strongly disagree" for questions formulated negatively obtain >75% of responses. The "weak/critical areas of patient safety" are those that obtain <50% in items "disagree" and "strongly disagree" in questions formulated positively and <50% in items "agree" and "strongly agree" for questions formulated negatively. The "neutral areas" have an average percentage of positive responses between 50 and 75%.

The database was organized in the Excel program. Simple descriptive statistics (proportions and measures of central tendency), mean and standard deviation were used for variables with normal distribution.

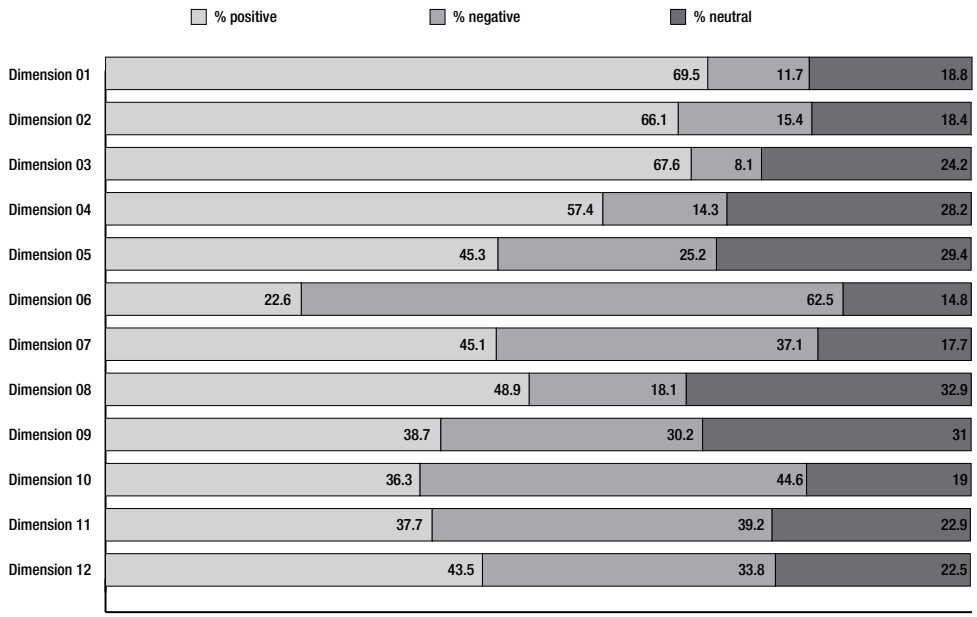
This research complied with Resolutions 466/2012 and 580/2018 of the Brazilian National Health Council. The study was approved by the local Research Ethics Committee (CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 46316421.7.0000.5028 and Opinion 4.726.033).

Results

Of the 65 participants, 78.5% were female, with a mean age of 37.2 ± 7.7 years. Regarding the lev-

el of education, 79.7% claimed to have a graduate degree at the specialization level. The average time working in the profession was seven years. In the last 12 months, 50% of respondents did not report, and 16 nurses reported one or two times; the others reported, on average, ten times. Figure 1 shows the average percentage of positive, negative and neutral responses for each of the analyzed dimensions.

Dimensions 6 (Nonpunitive responses to errors), 9 (Teamwork across hospital units) and 11 (Overall perceptions of safety) showed all items with an average percentage below (50%). According to Figure 2, on the "Patient Safety Grade" session, assessing it in the context of their work area/unit, it was observed that most nurses (50.8%) perceive safety culture, in their working unit, as fair.



Source: own elaboration.

Dimension 1. Supervisor/manager expectations & actions promoting safety. Dimension 2. Organizational learning-continuous improvement. Dimension 3. Teamwork across hospital units. Dimension 4. Communication openness. Dimension 5. Feedback and communication about error. Dimesion 6. Nonpunitive responses to errors. Dimension 7. Staffing. Dimension 8. Hospital management support for patient safety. Dimension 9. Teamwork within units. Dimension 10. Hospital handoffs and transitions. Dimension 11. Overall perceptions of safety. Dimension 12. Frequency of event reporting.

Figure 1. Average percentage of positive, neutral and negative responses for each dimension

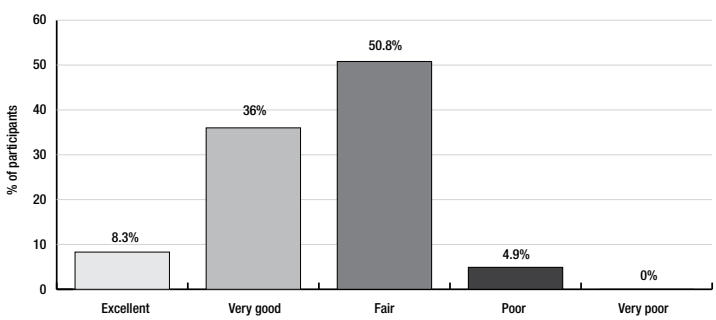


Figure 2. Patient safety note assigned by nurses from Intensive Care Units to their area of work

Dimensions 1, 2, 3 and 4 presented isolated items with a percentage greater than 75% of positive responses, evidencing favorable points for patient safety culture, as shown in Table 1.

Table 1. Items with an average percentage of positive responses >75%, classified as "strong"

Dimension	Item	%
01. Supervisor/manager expectations & actions promoting safety	B3. Whenever pressure builds up, my supervisor/boss wants us to work faster, even if it means taking shortcuts	79.4
02. Organizational learning-continuous improvement	A6. We are actively doing things to improve patient safety	78.4
03. Teamwork within units	A3. When a lot of work needs to be done quickly, we work together as a team to get the work done	75.3
04. Communication openness	C2. Staff will freely speak up if they see something that may negatively affect patient care	84.6

Discussion

This study has limitations related to the reduced number of participants, in addition to its performance in a single study center. However, it should be noted that the research was carried out in the largest public hospital in northeastern Brazil, which has 79 adult intensive care beds. The research in question showed gaps related to patient safety culture within the ICUs of the analyzed institution, contributing to obtaining an overview on the subject, highlighting points of weakness and some positive aspects, being of great value for the analysis of managers and administrators in order to adjust processes and flows and, together with the care team, seek strategies to disseminate and solidify safety culture in critical patients.

From the analysis of the data obtained by the study, it was evident that, in relation to adverse event reporting, half of the nurses reported that they had not reported any in the last 12 months, a situation similar to that of other studies.[9,10] Reporting is the key point for strengthening patient safety, as they enable situational analysis and recognition of possible existing gaps that led to a certain outcome. In this way, it also generates a critical-reflective process for managers about the need for adjustments and improvements in order to make care increasingly safe and harm-free, helping to better manage risks, as demonstrated in an international study.[11]

Another point mentioned by professionals was the fear that the information contained in adverse event reporting would be used against them, a fact demonstrated in the fragility represented by Dimension 6 ("Nonpunitive responses to errors"), in which all items were considered fragile, obtaining the lowest average score among the dimensions. A similar result occurred in recent studies, showing that this is a critical point in the context of several health institutions.[10,12]

In a literature review that analyzed health professionals' perception about punitive culture in the ICU environment, all studies analyzed by the authors, including international publications, showed fragility of dimension 6, a fact that only reinforces how ingrained this type of behavior is still on the part of managers and leaders within health institutions, a situation that contributes to the decrease in the reporting of adverse events, obliterating the opportunity to learn from errors.[13]

Dimension 11 (Overall perceptions of safety) also had an average percentage of positive responses <50%, being classified as fragile, and brings some gaps perceived by professionals. Taking into account the low rate of adverse event reporting, it is evident, from the analysis of the data collected by this research, that professionals recognize that there are errors, gaps and fragile points and that these could result in even more serious consequences, but they do not report.

This situation compromises the survey of vulnerabilities, structural failures and processes that negatively impact patient safety. In order to obtain improvements in the system, it is fundamental to understand what is wrong in order to seek appropriate solutions and improvements. Regarding the theme, according to a bibliographical research, "Nursing professionals' stance will occur according to the institutional culture (...)", therefore, if reporting is rooted as a habit, this process can occur in a way spontaneous and more frequent.[14]

Nurses perceived a vulnerability in the cooperation between the various units within the hospital, a fact evidenced in Dimension 9 (Teamwork across hospital units), which was considered fragile, a similar situation was also observed in another

study.[12] Considering that safety culture concerns professionals' perception in relation not only to their unit, but to the hospital as a whole, it is essential that there is cooperation and good communication within units as well.

Since it is common for patients, during their hospitalization period, to move within different sectors of the same institution, conducts and information have to be very cohesive and clear so that there is the possibility of ensuring linearity to care, guaranteeing safety throughout the process as well as addressed in this integrative literature review, which highlights that transfer of care is a "(...) sequential, successive and uninterrupted process (...)". These authors also list some challenges for this teamwork across hospital units, namely: distractions and interruptions in the teams that will transfer and that will receive patients and the long time to carry out a transfer within units, for instance.[15]

When asked about the grade they attributed to patient safety at the hospital where they work, most said it would be fair. A similar result was evidenced in other studies.[16-18] This data reinforces the others found in which none of the dimensions presented an average percentage of positive responses >75%, corroborating the perception that there are weaknesses and strengths regarding patient safety within institutions.

None of the dimensions presented an average total percentage of responses to be considered as strong; however, some items stood out in isolation such as B3 (Whenever pressure builds up, my supervisor/boss wants us to work faster, even if it means taking shortcuts), which belongs to Dimension 1 in which almost 80% of participants disagreed or completely disagreed with this item, being a positive response, showing that nurses notice support and understanding from management in critical situations in which there is an increase in demand and workload volume of work/activities: an attitude that is essential for the exercise of group work, which seeks to optimize time and resources, however, without losing quality and without compromising safety in the process, demonstrating the exercise of comprehensive leadership in this regard, as well as highlighted in another study.[19-21]

Another highlighted item was A6 (We are actively doing things to improve patient safety), inserted in Dimension 2, which obtained a percentage >75% of positive responses, demonstrating the relevance that, despite having an overall perception of safety as fair in the institution, nurses are always looking to improve their reality, seeking strategies aimed at improving assistance and care, making them increasingly safe and harm-free. These studies highlighted the relevance of nursing for patient safety promotion and for maintaining the climate and safety culture, highlighting the importance of evidence-based practice and ethical behavior.[20,21]

Item A3 (When a lot of work needs to be done quickly, we work together as a team to get the work done), contained in Dimension 3, was presented as strong and highlighted nurses' positive perception about working together within the units where they work, showing cooperation and support among professionals to perform and complete tasks, especially in times of increased demand for activities. A similar situation was observed in another study.[22] A study carried out in neonatal ICUs of public hospitals highlighted that this team action influences safety culture, highlighting the importance of harmony between all team members so that care remains safe and of quality.[16]

In a systematic literature review with meta-analysis, carried out by Camacho-Rodríguez et al. in 2022[23] about the patient safety overview in Latin America, the authors corroborate the aforementioned, reinforcing the premise of the importance of a cohesive team to improving patient safety, thus reducing risks and contributing to improvements in care.

Although there is a view of punishment when reporting adverse events, in item C2 (Staff will freely speak up if they see something that may negatively affect patient care) of Dimension 4, an open channel for communication was evidenced as positive area. From the perspective of an integrative literature review study,[24] the relevance of adequate communicability among ICU professionals is demonstrated, since, through this dialogue about failures, potentially dangerous situations and perceived risks, it is possible to devise strategies to the development of safer systems and processes.

A study carried out at a teaching hospital in Egypt[25] demonstrated the opposite situation, presenting as fragile communication openness between professionals and their superiors. Given the different perspectives presented, attention to this topic across hospital institutions is necessary, as communication is a fundamental tool for strengthening patient safety culture.

The limitation of this study is related to the inclusion of only clinical nurses as research participants, since it is recommended that safety culture be assessed from the perspective of all employees of an institution or unit, whether or not they are clinical. However, this professional category was chosen because it is closer to patients, providing direct care and spending the most time in ICUs, experiencing this environment in its completeness and details, with a greater possibility of identifying weaknesses and strengths.

Conclusion

This study made it possible to carry out a survey on patient safety culture through the perception of nurses who work in ICUs, showing a low rate of adverse event reporting and a perception of a punitive culture on the part of superiors. Some isolated items were considered positive, such as cooperation between the team within the unit and an open channel for communication. That said, it is pertinent that there is greater interaction between clinical nurses, coordination and management of hospitals so that improvement and improvement strategies are thought out, with the improvement of permanent and continuing education, in addition to carrying out new studies on the subject, with a view to obtaining increasingly safe and quality care.

Collaborations

Campos LPS, Assis YIS, Carneiro-Oliveira MM, Picanço CM, Souza ACF, Souza AS and Faustino TN contributed to the study design, data analysis and interpretation, article writing, relevant critical review of the intellectual content and approval of the final version to be published.

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