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Original article

# Patient safety culture assessment in a general hospital*

Avaliação da cultura de segurança do paciente em um hospital geral

Evaluación de la cultura de seguridad del paciente en un hospital general

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## Abstract

**Objective**: to assess patient safety culture (PSC) from the perspective of the multidisciplinary team working at a general hospital. **Method**: this a cross-sectional study with a quantitative approach, based on the application of the Brazilian electronic version of the Hospital Survey on Patient Safety Culture from the Agency for Healthcare Research and Quality. Data collection took place in August 2022 through *E-questionário de PSC*. **Results**: a total of 236 nursing professionals, doctors and multidisciplinary teams responded to the questionnaire. Of the 12 PSC dimensions assessed, seven stood out with percentages between 63.3% and 95%, considered strong, one with 50% positivity, indicating a growing dimension, and four with lower percentages, with 50% of positive answers identified as weak areas. **Conclusion**: it was possible to assess PSC in the hospital environment and perceive the strong, weak and growing dimensions. Progressing in this practice is challenging for teams looking for a reliable organization.
**Descriptors:** Patient Safety; Quality of Health Care; Hospitals; Nursing; Patient Care Team

## Resumo

**Objetivo**: avaliar cultura de segurança do paciente (CSP) na perspectiva da equipe multiprofissional atuante em um hospital geral. **Método**: estudo transversal com abordagem quantitativa, a partir da aplicação da versão eletrônica brasileira do instrumento *Hospital Survey on Patient Safety Culture* da *Agency for Healthcare Research and Quality*. A coleta de dados ocorreu em agosto de 2022 por meio do E-questionário de CSP. **Resultados**: responderam ao questionário 236 profissionais da enfermagem, médicos e equipe multiprofissional. Das 12 dimensões da CSP avaliadas, destacaram-se sete com percentual entre 63,3% e 95%, consideradas fortes, uma com 50% de positividade, indicando uma

dimensão em crescimento, e quatro com percentuais abaixo, com 50% de respostas positivas apontadas como áreas fracas. **Conclusão**: foi possível avaliar a CSP no ambiente hospitalar e perceber as dimensões fortes, fracas e aquelas em crescimento. Progredir nessa prática é desafiador para as equipes que buscam uma organização confiável.
**Descritores:** Segurança do Paciente; Qualidade da Assistência à Saúde; Hospitais; Enfermagem; Equipe de Assistência ao Paciente

## Resumen

**Objetivo:** evaluar la cultura de seguridad del paciente (CSP) desde la perspectiva del equipo multidisciplinario que trabaja en un hospital general. **Método:** estudio transversal, con enfoque cuantitativo, utilizando la versión electrónica brasileña del instrumento Hospital Survey on Patient Safety Culture del Agency for Healthcare Research and Quality. La recopilación de datos se realizó en agosto de 2022 mediante el cuestionario electrónico CSP. **Resultados:** respondieron al cuestionario 236 profesionales de enfermería, médicos y equipos multidisciplinares. De las 12 dimensiones del CSP evaluadas, siete destacaron con un porcentaje entre 63,3% y 95%, considerada fuerte, una con 50% de positividad, indicando una dimensión en crecimiento, y cuatro con porcentajes más bajos, con un 50% de respuestas positivas identificadas como áreas débiles. **Conclusión:** fue posible evaluar la PSC en el ambiente hospitalario y percibir las dimensiones fuertes, débiles y crecientes. Avanzar en esta práctica es un desafío para los equipos que buscan una organización confiable.
**Descriptores:** Seguridad del Paciente; Calidad de la Atención de Salud; Hospitales; Enfermería; Grupo de Atención al Paciente

## Introduction

Patient safety culture (PSC) is understood as a product of values, actions, conceptions, competencies and behavioral models of groups and individuals that determine management's commitment to a healthy and safe organization.[1] It is a fundamental element for the articulation of strategies that provide the implementation of safe practices and reduction of incidents, such as improving communication between team members,[2] also demonstrating the involvement, manner and skill of management in managing patient safety.[3]

A strengthened PSC is not only imperative to reducing patient harm, but is also essential to providing a safe work environment for healthcare professionals. This includes creating a psychologically safe work environment in which healthcare professionals can speak up about patient safety and other concerns without fear of negative repercussions.[2]

PSC, as it is an effect of practice and institutional identity in terms of attitudes and values, can appear in a manner opposite to that recommended for a safe environment in different administrative natures. PSC can be assessed as a process to measure the quality of assistance provided, management's commitment, perceptions of adverse events, teamwork, institutional

factors, feedback, effective communication and non-punishment of errors, which can be influenced according to existing culture.[4]

A hospital's safety culture can be assessed with instruments designed to measure the quality of patient safety, such as management and supervision, security systems, risk perceptions, teamwork, communication, feedback, reporting systems, workload, personal and psychological resources, and other organizational factors.[5]

Safety culture has been characterized as multidimensional. Its assessment in the hospital environment has been used as a management tool to be used by health managers in countries around the world,[5] and has been considered a critical object for adherence to safe practices in healthcare, in order to reduce unnecessary risks in healthcare services.[6]

Recently, the Brazilian National Health Regulatory Agency (ANVISA - *Agência Nacional de Vigilância Sanitária*) has been encouraging the carrying out of PSC assessments with the aim of boosting adherence to current regulations.[7] Thus, several Brazilian hospitals underwent PSC assessment to identify areas of potential and areas of weakness, with the aim of directing practices aimed at safe and quality care.[8-10] These studies[3-5,7-9] used the Hospital Survey on Patient Safety Culture (HSOPSC) as a data collection instrument.

The HSOPSC was developed by the Agency for Healthcare Research and Quality (AHRQ) in the United States of America (USA),[5] and validated for Brazil in the electronic version.[11-12] It is reliable and can be applied to all hospital teams and healthcare services, in addition to contributing and highlighting challenging issues about patient safety in hospitals, as well as to carry out national and international comparisons, which can influence patient care directly or indirectly.[3]

Considering that the discussion of PSC is not new in Brazil, it is necessary to understand it from the perspective of the multidisciplinary team to direct actions aimed at safe and quality care. It is believed that PSC is characterized in a necessary and primordial way, especially strategies aimed at the interpersonal relationships of individuals and the provision of care in all its complexity and subjectivity.

Given the assumptions listed, it is considered that PSC assessment is relevant to allow and encourage reflection regarding positive result perception as well as contributing to favorable health indicators, allowing to strengthen weak points based on scientific evidence on the topic, also providing decision-making and improving the care process. This study aimed to

assess PSC from the perspective of the multidisciplinary team working at a general hospital.

## Method

This is a cross-sectional study with a quantitative approach, carried out in a municipal hospital in the countryside of Ceará using the electronic Brazilian version of the AHRQ HSOPSC.[5] This questionnaire was cross-culturally adapted for Brazil in 2017 and updated in 2021 in an application format in the digital environment administered by ANVISA and the CNPq *QualiSaúde* Research Group of the *Universidade Federal do Rio Grande do Norte* (UFRN).[11-12]

It is an electronic system for valid, fast and reliable assessment of PSC in Brazilian hospitals.[11] The *E-questionário de Cultura de Segurança Hospitalar* is self-completed and does not require an interviewer, containing 42 questions on 12 dimensions of PSC. In this questionnaire, questions were added about respondents' socio-professional data and an additional session with indicator questions about good patient safety practices validated in the project "*Desenvolvimento e validação de indicadores de boas práticas de segurança do paciente - ISEP-Brasil*".[11] According to the authors of this electronic version, Safe Practices for Better Healthcare – 2010 (NQF) recommendations are followed.

The research was carried out at a small and medium-sized general municipal hospital that contains 113 active beds, being a reference for the region, with a medium and high complexity level. It occurred in all hospitalization units, such as medical clinic, surgical clinic, maternity ward, psychiatric unit, surgical center, Conventional Intermediate Care Unit (CoINCU), Type II Adult Intensive Care Unit, (type II adult ICU), in addition to outpatient service, pharmacy, intra-hospital and inter-hospital transport, Patient Safety Center and general management.

A total of 326 participants were invited. The sample was for convenience with those who met the research inclusion criteria, agreeing to participate through the Informed Consent Form (ICF). Nursing professionals, physiotherapists, nutritionists, pharmacists, psychologists, speech therapists, nutritionists, social workers, doctors, nursing technicians, radiology technicians, administrative assistants, pharmacy technicians, ambulance drivers and stretcher-bearers collaborated with the research. Participants were of secondary and higher education, linked to direct or indirect assistance or hospital management, and had a fixed and/or temporary contractual relationship.

Professionals with a minimum experience of six months at the hospital and a minimum

workload of 20 hours per week, considered sufficient for workers to be familiar with the institution, were included. Instruments with less than 70% completion were excluded, as the *E-questionário de Cultura de Segurança Hospitalar* creators contraindicate assessments with samples smaller than 10 professionals. Furthermore, answer percentages lower than 70% may have bias related to non-answer.[11-12]

Data collection took place between July and August 2022. The *E-questionário de Cultura de Segurança Hospitalar* was sent to professionals in electronic format via email. Initially, the hospital's human resources service was asked to provide the full names and email addresses of all care and management professionals with an active contract.

Wide publicity and on-site visits to the units were carried out to obtain as many answers as possible, in order to avoid selection bias related to non-answer. To encourage the participation of professionals who did not respond via email, the strategy of collecting data in person at the institution was adopted, using electronic devices (tablets and smartphones with Android 4.0 or higher operating system), providing a self-administered questionnaire for professionals.

Answers to the questionnaire met a Likert scale from 1 to 5, containing the options totally disagree, disagree, neither agree, nor disagree, agree, totally agree, never, almost never, sometimes, almost always and always. Data analyzes were automatically generated by the specific software for database analysis. In the case of reversed questions formulated in a negative way, answers on the Likert scale from 1 to 5 were reversed. Regarding the answers to the questions related to the ISEP-Brazil indicators, never, almost never, sometimes, almost always, always and not applicable/blank met the following scale.

The system allowed saving the information entered instantly. The instrument authors take into account the value parameters to consider whether the dimension is strong (<75%), fragile (>49.9%) and needs improvement (between 50%). Grouping also made it possible to export the data for more detailed analysis in other software locations, such as Excel, Statistical Package for the Social Sciences (SPSS) and Google® Drive.

Data analysis was carried out using the "*versão do E-Questionário HSOPS 1.0 + Perguntas ISEP-Brasil*" E-questionnaire database itself that, at the end of the research, provides a report with descriptive statistics.[11-14] And to create and organize the data, Microsoft Excel® was used. In total, the questionnaire has 62 questions and is divided into 7 sections.

This study is in line with the ethical recommendations for carrying out research involving human beings, in accordance with Resolution 466 of 2012 of the Brazilian National Health Council. The project received favorable opinion 5,416,338 from the Research Ethics Committee on May 18, 2022 All participants were invited verbally and in writing, and received information about the study and signed the ICF. Furthermore, the research met Circular Letter 1/2021-CONEP/SECNS/MoH recommendations, which provide for the General Data Protection Law 13,709/2018 in its articles 5, 7, 11 and 13 regarding data protection by the operator and access and use of data for academic purposes.

## Results

A total of 326 questionnaires were sent by email, with 236 professionals from the assessed hospital as study respondents. Thus, 21% (n=49) responded via email and 79% (n=187) responded via the app, with a return rate of 72.0%. The greater participation of female professionals (61.8%; n=146) stands out.

Regarding the type of unit/specialty, 20.5% (n=48) were from the medical clinic unit. As for the category of professional members, 70.6% (n= 69) were nursing professionals (nursing technicians and nurses), numbers that reflect the greater proportion of these professionals present in hospitals. Regarding the length working at the hospital, 181 responded, with 65.1% (n=138) having been working at the hospital for less than a year. And regarding work in the unit, 179 responded and 57.7% (n=124) stated that they had been in the current unit for less than a year. Regarding the length working in the current specialty/profession, 34.2% (n=76) have been in the position for less than a year and 23.4% (n=52) have worked in the profession for six to ten years. Regarding working hours, 75% (n=168) worked 40 hours or more, and 91% (n=216) were directly involved in patient care (Table 1).

Regarding patient safety perception, for respondents in the work environment, 62.9% (n=147) considered it good. Regarding the number of reported adverse events by respondents, it presents statistics for the number of reported patient safety events. Statistics include the average percentage of answers to each report frequency. Also, 70.7% (n=167) did not report any event, while 12.7% (n=30) reported one or two cases and 9.3% (n=22) reported three to five cases.

It is important to clarify that the electronic E-questionário de Cultura de Segurança

Hospitalar authors gave participants the option of "leaving blank or not responding" if they did not want to respond, thus providing the total answer data in Tables 1 to 4 may differ from the total number of respondents in each assessment.

**Table 1 -** General characteristics of the research sample with a view to assessing hospital safety culture using *E-questionário de Cultura de Segurança Hospitalar*. Sobral, Ceará, Brazil, 2022

| Variables | Nº | % |
|---|---|---|
| **Service/unit N=236** | | |
| Clinical medicine | 48 | 20.5 |
| Surgery | 39 | 16.1 |
| Obstetrics | 36 | 15.2 |
| Intensive Care Unit (any type) | 28 | 11.6 |
| Others | 26 | 11.6 |
| Psychiatry/mental health | 24 | 9.4 |
| Various hospital units/no specific unit | 19 | 8.5 |
| Radiology | 9 | 4.0 |
| Pharmacy | 6 | 2.7 |
| Pediatrics | 1 | 0.4 |
| **Percentage of participants by profession N=236** | | |
| Nursing technician | 129 | 54.0 |
| Nurse | 39 | 15.6 |
| Others | 18 | 8.0 |
| Clinical staff doctor | 16 | 7.1 |
| Technician (e.g., ECG, laboratory, radiology, pharmacy) | 12 | 5.4 |
| Physiotherapist, occupational therapist or speech therapist | 8 | 3.6 |
| Administrative assistant/secretary | 4 | 1.8 |
| Social worker | 4 | 1.8 |
| Psychologist | 2 | 0.9 |
| Nutritionist | 2 | 0.9 |
| Pharmaceutical | 2 | 0.9 |
| **Job tenure at this hospital (N=181)** | | |
| Less than 1 year | 138 | 65.1 |
| From 2 to 5 years | 24 | 11.3 |
| From 6 to 10 years | 14 | 6.6 |
| From 11 to 15 years | 1 | 0.5 |
| From 16 to 20 years | 1 | 0.5 |
| 21 years or more | 3 | 1.4 |
| **Length working in the current area/unit (N=179)** | | |
| Less than 1 year | 124 | 57.7 |
| From 2 to 5 years | 27 | 12.6 |
| From 6 to 10 years | 21 | 9.8 |
| From 11 to 15 years | 3 | 1.4 |
| From 16 to 20 years | 1 | 0.5 |
| 21 years or more | 3 | 1.4 |
| **Length working in current specialty/profession (N=192)** | | |
| Less than 1 year | 76 | 34.2 |
| From 2 to 5 years | 45 | 20.3 |
| From 6 to 10 years | 52 | 23.4 |

| | | |
|---|---|---|
| From 11 to 15 years | 9 | 4.1 |
| From 16 to 20 years | 2 | 0.9 |
| 21 years or more | 8 | 3.6 |
| **Number of hours worked per week (n=224)** | | |
| Up to 20 hours | 17 | 7.6 |
| From 21 to 39 hours | 39 | 17.4 |
| 40 or more hours | 168 | 75.0 |
| **Interaction or direct contact with patients (N=233)** | | |
| YES, I usually have direct contact or interaction with patients | 216 | 91.0 |
| NO, I do NOT usually have direct contact or interaction with patients | 20 | 9.0 |
| **Patient safety perception in the work environment N=236** | | |
| Good | 147 | 62.9 |
| Great | 68 | 28.1 |
| Poor | 2 | 0.5 |
| Fair | 19 | 8.6 |
| **Number of reported adverse events N=236** | | |
| No report | 167 | 70.7 |
| 1 to 2 cases | 30 | 12.7 |
| From 3 to 5 cases | 22 | 9.3 |
| From 6 to 10 cases | 11 | 4.7 |
| From 11 to 20 cases | 4 | 1.7 |
| More than 21 cases | 2 | 0.8 |

**Source:** *E-questionário de Cultura de Segurança Hospitalar*.qualisaude.telessaude.ufrn.br/indicadores/avaliação/3061/2022.

The PSC indicators calculated based on the answers to the questionnaires are presented. The mean percentage of positive answers for each of the 12 dimensions and their items are included. They are listed in their respective safety culture dimensions (or composite indicators) in the order in which they appear in the questionnaire as well as the mean percentage of positive answers in the total number of participants.

The *E-questionário de Cultura de Segurança Hospitalar* presents composite measures in order from the highest mean positive answer percentage to the lowest. In these composite measures, those dimensions that present better item averages stand out. Of the 12 dimensions of PSC assessed, seven stood out with a percentage ranging from 63.3% to 95%, considered strong, one dimension with 50% positivity indicating a growing dimension and four with percentages below, with 50% positive answers considered as weak areas (Table 1).

**Table 2 –** Percentage of positive answer according to each item that makes up the questionnaire (original version). Sobral, Ceará, Brazil, 2022

| Dimensions and items | % positive answers |
|---|---|
| **1. Frequency of events reported** | **79.5** |
| 1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported? | 80.9 |

| | | |
|---|---|---|
| 2. | When a mistake is made, but has no potential to harm the patient, how often is this reported? | 77.5 |
| 3. | When a mistake is made that could harm the patient, but does not, how often is this reported? | 80.2 |
| **2. Overall perceptions of patient safety** | | **37.8** |
| 4. | Patient safety is never sacrificed to get more work done | 64.9 |
| 5. | Our procedures and systems are good at preventing errors from happening | 8.5 |
| 6. | It is just by chance that more serious mistakes don't happen around here | 21.4 |
| 7. | We have patient safety problems in this unit | 56.6 |
| **3. Supervisor/manager expectations and actions promoting patient safety** | | **89.7** |
| 8. | My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures | 82.6 |
| 9. | My supervisor/manager seriously considers staff suggestions for improving patient safety | 83.5 |
| 10. | Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts | 94.9 |
| 11. | My supervisor/manager overlooks patient safety problems that happen over and over | 97.9 |
| **4. Organizational learning—continuous improvement** | | **81.0** |
| 12. | We are actively doing things to improve patient safety | 96.2 |
| 13. | Mistakes have led to positive changes here | 85.2 |
| 14. | After we make changes to improve patient safety, we evaluate their effectiveness | 61.8 |
| **5. Teamwork across units** | | **66.3** |
| 15. | There is good cooperation among hospital units that need to work together | 60.4 |
| 16. | Hospital units work well together to provide the best care for patients | 66.8 |
| 17. | Hospital units do not coordinate well with each other | 75.0 |
| 18. | It is often unpleasant to work with staff from other hospital units | 63.1 |
| **6. Communication openness** | **42.2** | **42.3** |
| 19. | Staff will freely speak up if they see something that may negatively affect patient care | 52.3 |
| 20. | Staff feel free to question the decisions or actions of those with more authority | 42.5 |
| 21. | Staff are afraid to ask questions when something does not seem right | 31.9 |
| **7. Feedback and communication about error** | | **76.7** |
| 22. | We are given feedback about changes put into place based on event reports | 63.4 |
| 23. | We are informed about errors that happen in this unit | 74.2 |
| 24. | In this unit, we discuss ways to prevent errors from happening again | |
| **8. Nonpunitive response to error** | **18.8** | **18.4** |
| 25. | Staff feel like their mistakes are held against them | 17.0 |
| 26. | When an event is reported, it feels like the person is being written up, not the problem | 25.8 |
| 27. | Staff worry that mistakes they make are kept in their personnel file | 12.6 |
| **9. Staffing** | | **76.5** |
| 28. | We have enough staff to handle the workload | 58.4 |
| 29. | Staff in this unit work longer hours than is best for patient care | 74.8 |
| 30. | We use more agency/temporary staff than is best for patient care | 79.8 |
| 31. | We work in "crisis mode" trying to do too much, too quickly | 93.2 |
| **10. Management support for patient safety** | | **95.4** |
| 32. | Hospital management provides a work climate that promotes patient safety | 96.1 |
| 33. | The actions of hospital management show that patient safety is a top priority | 97.0 |
| 34. | Hospital management seems interested in patient safety only after an adverse event happens | 93.1 |
| **11. Teamwork within units** | | **47.3** |

| | |
|---|---|
| 35. People support one another in this unit | 41.1 |
| 36. When a lot of work needs to be done quickly, we work together as a team to get the work done | 47.4 |
| 37. In this unit, people treat each other with respect | 46.5 |
| 38. When one area in this unit gets really busy, others help out | 54.3 |
| **12. Handoffs and transitions** | **50.0** |
| 39. Things "fall between the cracks" when transferring patients from one unit to another | 36.0 |
| 40. Important patient care information is often lost during shift changes | 50.2 |
| 41. Problems often occur in the exchange of information across hospital units | 55.9 |
| 42. Shift changes are problematic for patients in this hospital | 61.0 |

**Source:** *E-questionário de Cultura de Segurança Hospitalar*.qualisaude.telessaude.ufrn.br/indicadores/avaliação/3061/2022.

Regarding indicators on good patient safety practices validated in the ISEP-Brazil project (Table 4), it is observed that the best rates of positive answers on good safety practices were 74.1% (n=232) for "During discharge, do patients receive verbal and written instructions regarding continuity of care at home and outpatient follow-up?", 72.5% (n=233) for "Is information that affects the patient's diagnosis communicated clearly and quickly to all professionals involved in patient care?" and 64.7% (n=232) for "Before making a new prescription, do you review the list of medications the patient is taking?" and "All changes in medication are communicated clearly and quickly to all professionals involved in patient care".

However, in Table 3, it is identified that not all professionals answered the questions, which indicates that they may not have observed the questions more clearly, as they ended up answering questions (48, 49 and 50) that do not fit with its actions "answer if you are a medical professional" and "answer if the unit offers chemotherapy treatment" and "care for terminally ill patients"; the latter are not the profile of the hospital assessed.

**Table 3 –** Good practice indicators (ISEP-Brazil Project). Other questions in E-questionário de Cultura de Segurança Hospitalar. Sobral, Ceará, Brazil, 2022

| Questions | Number of answers[1] | Percentage of positive answers[2] | Without answers [3] |
|---|---|---|---|
| 43. When receiving verbal prescriptions about treatment, or any other care and procedure to be carried out with the patient, does the listening professional repeat the order? | 231 | 41.6 | 5 |
| 44. When receiving verbal prescriptions about the treatment, care or procedure to be carried out with the patient, do the receiving professionals write down the order in the corresponding clinical document? | 232 | 49.6 | 4 |
| 45. Before making a new prescription, do you review the list of medications the patient is taking? | 232 | 49.6 | 4 |

| | | | |
|---|---|---|---|
| 46. All changes in medication are communicated clearly and quickly to all professionals involved in patient care | 232 | 64.7 | 4 |
| 47. Is information that affects the patient's diagnosis communicated clearly and quickly to all professionals involved in patient care? | 233 | 72.5 | 3 |
| 48. Before signing the informed consent, is the patient or his representative asked to repeat what he understands about the possible risks of undergoing or refusing the examination, surgery or treatment involved? (Answer if you are a medical professional) | 228 | 16.2 | 8 |
| 49. In patients who are likely to be terminally ill, are their preferences regarding life-sustaining measures asked in advance? (Answer only if your unit treats probably terminal patients) | 228 | 8.3 | 8 |
| 50. Do professionals receive verbal prescriptions related to chemotherapy? (Answer only if your unit offers chemotherapy treatment) | 223 | 2.2 | 13 |
| 51. During discharge, do patients receive verbal and written instructions regarding continuity of care at home and outpatient follow-up? | 232 | 74.1 | 4 |

**Source:** *E-questionário de Cultura de Segurança Hospitalar*.qualisaude.telessaude.ufrn.br/indicadores/avaliação/3061/2022.

[1]Total answers entered by participants

[2]Relationship between the number of positive answers and the total number of answers entered

[3]Numbers of respondents who did not respond

Positive answers are understood as those in which professionals agreed with good safety behaviors or attitudes and those in which professionals disagreed with bad safety behaviors or attitudes. Of the 12 PSC dimensions assessed, "Frequency of events reported" (79.5%), "Supervisor/manager expectations and actions promoting patient safety" (89.7%), "Organizational learning—continuous improvement" (81.0%), "Teamwork across units" (66.3%), "Feedback and communication about error" (76.7%), "Staffing" (76.5%) and "Management support for patient safety" (95.4%) stood out. Thus, seven dimensions obtained a percentage of 63.3% to 95%, considered strong, one with 50% positivity, indicating a growing dimension and four with percentages below, 50% of positive answers considered as weak areas (Table 4).

**Table 4 -** Patient safety culture results according to each of the 12 dimensions (original version). Sobral, Ceará, Brazil, 2022

| Dimensions | % positive answers |
|---|---|
| 1. Frequency of events reported | 79.5 |
| 2. Overall perception of safety | 37.8 |
| 3. Supervisor/manager expectations and actions promoting patient safety | 89.7 |
| 4. Organizational learning-continuous improvement | 81.0 |
| 5. Teamwork within units | 66.3 |
| 6. Openness to communication | 42.2 |

| | |
|---|---|
| 7. Feedback and communication about errors | 76.7 |
| 8. Nonpunitive response to error | 18.8 |
| 9. Staffing | 76.5 |
| 10. Management support for patient safety | 95.4 |
| 11. Teamwork across unit | 47.3 |
| 12. Handoffs and transitions | 51 |

**Source:** *E-questionário de Cultura de Segurança Hospitalar*.qualisaude.telessaude.ufrn.br/indicadores/avaliação/3061/2022.

In relation to the highlights of the safety culture dimensions weaknesses and strengths according to respondents, three dimensions were considered fragile: "Nonpunitive response to error" (18.5%); "Overall perceptions of patient safety" (37.8%); and "Communication openness" (42.3%). The three dimensions considered strong were: "Management support for patient safety" (95.1%); "Supervisor/manager expectations and actions promoting patient safety" (89.7%); and "Organizational learning—continuous improvement" (81.1%).

## Discussion

This study achieved a total of 236 completed questionnaires out of the 326 sent to participants, obtaining an answer rate of 72%. Other studies that assessed PSC in hospital environments and used the HSOPSC Brazilian version had similar results.[8-9] The translated and validated version of HSOPSC enables excellent reliability in both data collection and analysis, contributing to safety culture assessment in Brazilian hospitals with different management models.[12]

Among the research participants, there was a predominance of women and nursing professionals, mostly technicians. The nursing team constitutes the largest number of professionals in the hospital environment.[6] Furthermore, this category is considered a profession culturally represented by women.[8] Other analyzes point to the same profile of participants who aimed to assess safety culture and presented nursing as the largest workforce.[8,12,14]

As for respondents' experience, it ranged between one year and two years. Similar studies present results that ranged from one to five years. The long time working at the institution allows for greater quality in patient safety measures.[15-16] As for work in the sector/unit, it also varied between one and five years. Equivalent research observed the same variation, highlighting that the period of work in the unit cannot be considered with professionals' job tenure for adaptation.[8] As for weekly working hours, there was variation between 30 and 44 hours. Long working hours can influence unsafe care and be exhausting for

professionals.[12,17-18]

In analyzing the results, in the PSC dimensions general perception from the point of view of respondents in the work environment, it was considered good by most of them. This conception of the healthcare team points to a culture of safety with potential for growth. Other research presented similar data and considered patients' overall perceptions of patient safety as fragile and growing.[19-20]

Regarding the number of adverse events reported, the majority of professionals (70.7%) reported not having reported any events, and other professionals reported once or twice. Other authors present data with the same profile,[8] while others link the low reporting adherence to the punitive culture.[21-22] These data contradict the percentages present in Table 4 in the "Frequency of events reported" dimension, since they indicate this as a strong dimension with 80% positivity. This assumes that professionals' perceptions may be more positive regarding adverse events than the practice of reporting them. Other studies[19,23] report that facts like these may be linked to the fear that professionals have to communicate about errors, as they understand that their errors can be used against them.

As for the percentage of positive or negative answers in each item that makes up the 12 dimensions, it is characterized as an assertive reaction in relation to PSC and allowed the assessment of strong and weak areas, in which strong scores above 75% and weak scores below 50% of safety culture are observed, as culture is considered a characteristic of a group or hospital, not an individual. For systematic review authors, some specific items in the questionnaire may, in some way, interfere with the positive answer rate for each of the dimensions, as they are personal questions and depend on professionals' point of view.[24]

In relation to the percentages for each dimension, it is observed that "Frequency of events reported", "Supervisor/manager expectations and actions promoting patient safety", "Organizational learning—continuous improvement", "Feedback and communication about error", "Staffing" and "Management support for patient safety" dimensions presented more positive average percentages for safety culture, all with a percentage equal to or greater than 76%.

A study that also assessed safety culture in a hospital unit obtained results similar to this one regarding the "Supervisor/manager expectations and actions promoting patient safety", "Organizational learning—continuous improvement" and "Management support for patient

safety" dimensions, in which respondents understand and recognize that management actions, continuous learning, actions aimed at patient safety on the part of leaders are paths that contribute to greater patient safety.[23]

Furthermore, in relation to management support, which presented the highest positive score, respondents indicate that there is concern about patient safety, manifested both in expectations and actions and in management's supportive behavior for a work climate that promotes safety. Similar materials analyzed obtained positive scores for this dimension, considering leaders as important and indispensable actors to make an organization trustworthy with a fair PSC.[23,25] On the other hand, other similar scientific works recommend the commitment of top management to support the development of PSC, as they are essential when combined with the use of communication tools, technology and the encouragement of educational practices, which are essential for reducing errors.[26-27]

Regarding the "Feedback and communication about error" dimension, it was demonstrated that there is concern among respondents regarding feedback on events that are reported, especially with communication about errors that occur within the unit they work in. For the author,[25] who studied healthcare professionals' perception about PSC in a hospital unit, it was possible to observe that teams can be participative when they observe the performance of others, as they allow them to offer assistance and feedback when necessary, correcting errors and moving forward for learning.

The "Staffing" dimension assesses whether professionals are prepared to deal with their workload and whether working hours are adequate to offer the best patient care.[15] This research presented a positive score for this dimension. However, others that were analyzed, which also assessed safety culture in hospital environments, did not obtain positive results for this dimension. For them, adequate sizing is essential for assistance and these results must be carefully examined by managers, as a negative scenario exposes patient safety to risk.[8,24-25]

This research also presented weak and/or negative data and as an area for improvement for the "Overall perceptions of patient safety", "Communication openness", "Nonpunitive response to error", "Teamwork within units", "Handoffs and transitions" dimensions.

In the "Overall perceptions of patient safety" dimension, there are characteristics of weaknesses in the assessment of existing systems and procedures in the health institution to

prevent errors and the absence of patient safety problems in the hospital. Other authors recognized this dimension as fragile and highlighted the need to introduce strategies, control mechanisms, monitor actions with a focus on quality of care as well as the responsibility of everyone involved and achieve a better patient safety perception.[28] A "fair" culture collaborates and encourages healthcare teams, which, in turn, strengthens the perspective of overall perceptions of patient safety.[25]

In the "Nonpunitive response to error" dimension, the lowest score was presented, perhaps due to the fact that teams feel that their mistakes could be used against them.[8,25] Recognizing the hospital environment as a complex context, reporting an error can be decisive for a satisfactory outcome, in which there should not be a culture of non-punishment for errors, but rather work on measures to prevent their occurrence and failures, in order to improve safety culture management.[8,16,22]

The "Problems in shift changes and transitions between units/services" dimension addresses issues within the hospital organization,12 and according to respondents, it is clear that the influence of changing shifts/shifts on patient safety is negative. Other studies also recognize it as negative and consider it worrying because it is an item that works on communication.[28-30] Changing shifts is a delicate moment in team practice, as it is the moment when the most relevant information regarding patient care is passed on and allows for continuity.[28] It is at this moment that it is possible to observe the condition of preparing strategies that can prevent possible failures that could negatively impact patient safety.

Regarding the "Teamwork between units" dimension, which aims to assess whether hospital units cooperate and coordinate with each other to provide high quality care to patients, it also presented areas for improvement. It is noteworthy that some units of the assessed hospital were recently opened, which is why this dimension is fragile, with a percentage below 75%, given that relationships between the teams of some units are still in the consolidation phase. A study that also assessed hospital safety culture obtained similar results, and links this fragility to people, concepts, relationship patterns and time, and that in some environments an organizational culture persists that allows changes and innovations and in others it does not.[30]

The "Communication openness" dimension aims to assess whether the hospital team speaks freely about errors that may affect the patient and feels comfortable questioning the team with greater authority, and also presented a negative or fragile result, in which

professionals find it difficult to communicate and question certain decisions made by management or senior management. Some authors consider "organizational silence" and healthcare professionals' resistance to demonstrate their perceptions, conceptions, ideas or understanding about what actually occurs in their work environment as barriers.[30]

Regarding the ISPE/Brazil good practice indicators, it was possible to observe a higher percentage of positive answers, i.e., 64.7% to 74.1% of respondents said "always": "Before making a new prescription, do you review the list of medications the patient is taking?"; "All changes in medication are communicated clearly and quickly to all professionals involved in patient care"; "Is information that affects the patient's diagnosis communicated clearly and quickly to all professionals involved in patient care?"; and "During discharge, do patients receive verbal and written instructions regarding continuity of care at home and outpatient follow-up?". For the authors, these four indicators of good practice contribute to facilitating the transfer of information and clear communication, in addition to being related to good practices on organizational aspects related to patient safety as well as safety culture promotion.[13-14]

It is noteworthy that not all participants wanted to respond to some of the indicators, as they preferred to leave them blank, and in other cases, the indicators specified the type of professional who should respond (Answer if you are a medical professional) or whether the hospital would serve a clientele with specific comorbidities (Answer only if your unit treats probably terminal patients and Answer only if your unit offers chemotherapy treatment), highlighting the bias in the percentage of positive answers.

In general, positive answers did not obtain the desirable values to be considered "good practices". The results show that they had a frequency of "always" lower than 72%, showing an undesirable face validity, providing a warning sign for future research. The authors consider that process indicators are relevant when there is a relative frequency of compliance of 95% confidence, i.e., when all participants consider "always" as a positive aspect.[13-14]

As a limitation of this study, we can consider the low adherence of the medical team who, even after numerous attempts to send the instrument and search for them on-site, expressed a lack of time, did not accept to participate or did not reject the request due to via email, being considered a refusal. Still as a restriction, there is access to participants at night and on weekends, difficulty in greater population adherence due to the length of the questionnaire as well as some questions that are difficult to understand.

It is believed that this research will contribute to both the nursing area and the multidisciplinary team, by enabling a general analysis of hospital safety culture perception, encouraging other institutions to have a different view of patient safety issues in the search for effective methodologies to improve the quality of care and safe care and only then become a reliable organization.

## Conclusion

From this study, it was possible to assess PSC in the hospital environment by the multidisciplinary team and perceive the positive and negative points. Of the 12 dimensions assessed, seven dimensions with a percentage of positive answers considered strong and one of the dimensions obtained a neutral perceptual rating stood out, indicating a growing dimension.

As for the other four dimensions, they were considered as weak areas that require more attention and sensitivity from the teams, through quick meetings to work on on-site actions, creating systems for reporting adverse events without a culture of punishing errors. The present study also revealed that management must reflect, together with the teams, on the configuration of an essential tool to promote safe care that can reinforce teamwork and contribute to feedback and communication about error.

Furthermore, it is concluded that progressing in this practice is challenging for the institution, as, based on current research, it is believed that the implementation of tools that can work on communication with teams on a daily basis, with the aim of knowing weaknesses and strengths, can improve PSC, in order to structure and lead to a reliable organization, realizing a new PSC assessment.

## References

1. International Nuclear Safety Advisory Group. The Chernobyl accident: updating of INSAG-1 [Internet]. Vienna: International Atomic Energy Agency; 1992 [cited 2023 Aug 02]. Available from: https://www-pub.iaea.org/MTCD/publications/PDF/Pub913e_web.pdf

2. Organização Mundial de Saúde (OMS). Plano de ação global para a segurança do paciente 2021-2030: em busca da eliminação dos danos evitáveis nos cuidados de saúde. Genebra (CH): OMS; 2021.

3. FiLiZ E, YeşiLdal M. Turkish adaptation and validation of revised Hospital Survey on Patient Safety Culture (TR – HSOPSC 2.0). BMC Nurs. 2022 Nov 25;21(1):325. doi: 10.1186/s12912-022-01112-9

4. Granel-Giménez N, Palmieri PA, Watson-Badia CE, Gómez-Ibáñez R, Leyva-Moral JM, Bernabeu-Tamayo MD. Patient safety culture in European hospitals: a comparative mixed methods study. Int J Environ Res Public Health. 2022;19(2):939. doi: 10.3390/ijerph19020939

5. Westat R, Sorra J, Gray L, Streagle S, Famolaro T, Yount N, et al. Hospital survey on patient safety culture: user's guide [Internet]. Rockville (MD): Agency for Healthcare Research and Quality; 2018 Jul [cited 2023 Feb 08]. Available from: https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patientsafetyculture/hospital/userguide/hospitalusersguide.pdf

6. Ministério da Saúde (BR). Agência Nacional de Vigilância Sanitária (ANVISA). Avaliação nacional da cultura de segurança do paciente em hospitais 2021 [Internet]. Brasília (DF): Agência Nacional de Vigilância Sanitária; 2022 [acesso em 2023 fev 08]. Disponível em: https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes/relatorio-avaliacao-da-cultura-de-seguranca-2021.pdf

7. Ministério da Saúde (BR). Agência Nacional de Vigilância Sanitária (ANVISA). Plano Integrado para a Gestão Sanitária da Segurança do Paciente em Serviços de Saúde [Internet]. Brasília (DF): Agência Nacional de Vigilância Sanitária; 2021 [acesso em 2023 fev 08]. Disponível em: https://www.gov.br/anvisa/pt-br/assuntos/servicosdesaude/seguranca-do-paciente/plano-integrado

8. Serrano ACFF, Santos DF, Matos SS, Goveia VR, Mendoza IYQ, Lessa AC. Avaliação da cultura de segurança do paciente em um hospital filantrópico [Internet]. REME Rev Min Enferm. 2019 [acesso em 2023 fev 08];23:e-1183. Disponível em: https://pesquisa.bvsalud.org/enfermeria/resource/pt/biblio-1008332

9. Massaroli A, Rodrigues MEC, Kooke K, Pitilin EB, Haag FB, Araújo JS. Avaliação da cultura de segurança do paciente em um hospital do Sul do Brasil. Cienc Enferm [Internet]. 2021 fev 01 [acesso em 2023 nov 13];27. Disponível em: https://www.scielo.cl/scielo.php?pid=S0717-95532021000100207&script=sci_arttext

10. Prieto MMN, Fonseca REP, Zem-Mascarenhas SH. Assessment of patient safety culture in Brazilian hospitals through HSOPSC: a scoping review. 2021;74(6). doi: 10.1590/0034-7167-2020-1315

11. Ministério da Saúde (BR). Agência Nacional de Vigilância Sanitária (ANVISA). E-Questionário de cultura de segurança hospitalar. QUALISAÚDE: sobre o sistema [Internet]. Brasília (DF): ANVISA; 2020 [acesso em 2023 fev 09]. Disponível em: https://csp.qualisaude.telessaude.ufrn.br/portal/sobre/

12. Andrade LEL, Melo LOM, Silva IG, Souza RM, Lima ALB, Freitas MR, et al, et al. Adaptação e validação do Hospital Survey on Patient Safety Culture em versão brasileira eletrônica. Epidemiol Serv Saúde [Internet]. 2020 [acesso em 2023 jan 23];26(3):455-68. Disponível em: https://www.scielo.br/j/ress/a/WWrcjrQH3r5LvwRKV3VbPSy/?lang=pt

13. Gama ZAS, Saturno-Hernández PJ, Ribeiro DNC, Freitas MR, Medeiros PJ, Batista AM, et al. Desenvolvimento e validação de indicadores de boas práticas de segurança do paciente: projeto ISEP-Brasil. Cad Saúde Pública. 2016;32(9):e00026215. doi: 10.1590/0102-311X00026215

14. Gama Z, Saturno-Hernández P, Batista A, Barreto A, Lira B, Medeiros C, et al. Mensuração de boas práticas de segurança do paciente [Internet]. Natal (RN): Ed. UFRN; 2018 [acesso em 2023 jan 23]. Disponível em: https://repositorio.ufrn.br/handle/123456789/25874

15. Melo E, Balsanelli AP, Neves VR, Bohomol E. Patient safety culture according to nursing professionals of an accredited hospital. Rev Gaúcha Enferm [Internet]. 2020;41:e20190288. doi: 10.1590/1983-1447.2020.20190288

16. Aouicha W, Tlili MA, Sahli J, Mtiraoui A, Ajmi T, Latiri HS, et al. Patient safety culture as perceived by operating room professionals: a mixed-methods study. BMC Health Serv Res. 2022 Jun 20;22(1). doi: 10.1186/s12913-022-08175-z

17. Oliveira EM, Andolhe R, Padilha KG. Cultura de segurança do paciente e incidentes registrados durante

as passagens de plantão de enfermagem em unidades de terapia intensiva. Rev Bras Ter Intensiva. 2022 jul;34(3):386-92. doi: 10.5935/0103-507X.20220446-pt

18. Viana KE, Matsuda LM, Ferreira AMD, Reis GAX, Souza VS, Marcon SS. Patient safety culture from the perspective of nursing professionals. Texto Contexto Enferm. 2021 Jan 01;30. doi: 10.1590/1980-265x-tce-2020-0219

19. Tavares LT, Silva GSS, Macêdo LLS, Guimarães MAP, Albergaria TFS, Pinto EP. Evaluation of patient safety culture in the pediatric intensive therapy unit in a public hospital. Rev Pesq Cuid Fundam. 2021 maio 31;13:974-81. doi: 10.9789/2175-5361.rpcfo.v13.9739

20. Rocha RC, Abreu IM, Carvalho REFL, Rocha SS, Madeira MZA, Avelino FVSD. Cultura de segurança do paciente em centros cirúrgicos: perspectivas da enfermagem. Rev Esc Enferm USP . 2021;55:e03774. doi: 10.1590/S1980-220X2020034003774

21. Ribeiro AC, Nogueira PC, Tronchin DMR, Rossato V, Serpa LF. Patient safety culture: perception of nurses in a cardiopneumology reference center. Texto Contexto Enferm. 2019 jan 01;28. doi: 10.1590/1980-265x-tce-2018-0118

22. Madalozzo MM, Lucas JIP, Kanan LA, Marcon SRA, Souza AS, Michelin FT, et al. Cultura de segurança do paciente em um hospital acreditado de alta complexidade. Res Soc Dev. 2021 Jun 11;10(6):e55510616113. doi: 10.33448/rsd-v10i6.16113

23. Camacho-Rodríguez DE, Carrasquilla-Baza DA, Dominguez-Cancino KA, Palmieri PA. Patient safety culture in Latin American hospitals: a systematic review with meta-analysis. 2022;19(21):14380. doi: 10.3390/ijerph192114380

24. Arboit EL, Bellini G, Schütz CR, Moraes MCS, Barcellos RA. Patient safety culture in the multiprofessional perspective. Res Soc Dev. 2020 mar 31;9(5):e125953088. doi: 10.33448/rsd-v9i5.3088

25. Façanha TRS. Percepções de profissionais de saúde em uma instituição hospitalar: um enfoque bioético sobre cultura de segurança do paciente [Internet]. Brasília (DF): UNB; 2019 [acesso em 2023 jan 08]. Disponível em: http://repositorio.unb.br/handle/10482/35219

26. Raimondi DC, Bernal SCZ, Matsuda LM. Patient safety culture from the perspective of workers and primary health care teams. 2019; 53:42-2. doi: 10.11606/s1518-8787.2019053000788

27. Carmo JMA, Mendoza IYQ, Goveia VR, Souza KV, Manzo BF, Guimarães GL. Culture of patient safety in hospital units of gynecology and obstetrics: a cross-sectional study. Rev Bras Enferm. 2020;73(5): e20190576. doi: 10.1590/0034-7167-2019-0576

28. Pedroni VS, Gouveia HG, Vieira LB, Wegner W, Oliveira AC, Santos MC, et al. Patient safety culture in the maternal-child area of a university hospital. Rev Gaúcha Enferm. 2020 Jan 1;41(spe):e20190171. doi: 10.1590/1983-1447.2020.20190171

29. Magalhães EV, Paiva FO, Alves MES, Almeida MC. Cultura de seguridad del paciente entre los profesionales de enfermería en un hospital filantrópico de Minas Gerais. Rev Cuid. 2021 set 10;12(3). doi: 10.15649/cuidarte.1990

30. Sanchis DZ, Haddad MCFL, Girotto E, Silva AMR. Patient safety culture: perception of nursing professionals in high complexity institutions. Rev Bras Enferm. 2020;73(5):e20190174. doi: 10.1590/0034-7167-2019-0174

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