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Assessment of nursing professionals about the culture of safety: a study in a public hospital in Minas Gerais

Avaliação dos profissionais de enfermagem sobre a cultura de segurança: um estudo em um hospital público de Minas Gerais

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ABSTRACT

Introduction: The safety culture of an organization is a set of values, attitudes, skills and behaviors that determine the commitment to health and safety management. Diagnosing an institution's culture is an important strategy to point out opportunities for improvement. **Objective:** To know the evaluation of nursing professionals in a regional hospital about the patient safety culture. **Method:** To know the evaluation of nursing professionals in a regional hospital about the patient safety culture. A total of 203 nursing professionals involved in direct patient care participated. **Results:** The average percentage of positive responses for the 42 items that make up the 12 dimensions was 49%. No dimension can be considered strong, but the dimensions with the highest percentages of positive responses were: "organizational learning - continuous improvement" (68%), "teamwork within units" (65%) and "supervisor/boss expectations and actions promoting safety" (64%). **Conclusions:** The safety culture of the analyzed hospital proved to be fragile. The results obtained in this research corroborate with the national literature on how fragile and underdeveloped the patient safety culture in Brazilian hospitals is, still predominating punitive and culpability aspects, where the error is centered on the individual and not on the work process.

KEYWORDS: Organizational Culture; Quality of Health Care; Adverse Event; Nursing

RESUMO

Introdução: A cultura de segurança de uma organização é um conjunto de valores, atitudes, competências e comportamentos que determina o comprometimento com a gestão da saúde e da segurança. Diagnosticar a cultura de uma instituição é uma estratégia importante para apontar as oportunidades de melhoria. **Objetivo:** Conhecer a avaliação dos profissionais de enfermagem de um hospital regional sobre a cultura de segurança do paciente. **Método:** Estudo transversal e explicativo, com métodos quantitativos. O instrumento utilizado foi o questionário *Hospital Survey on Patient Safety Culture*, acrescido de questões para definição do perfil da população e para caracterização dos fatores que contribuíram para a ocorrência de eventos adversos, tendo como modelo as categorias de fatores contribuintes propostas pelo Sistema de Notificação de Eventos Adversos da Agência Nacional de Vigilância Sanitária. Participaram 203 profissionais de enfermagem envolvidos na assistência direta aos pacientes. **Resultados:** O percentual médio de respostas positivas para os 42 itens que compõem as 12 dimensões foi de 49%. Nenhuma dimensão pode ser considerada forte, mas as dimensões com percentuais de respostas positivas mais elevadas foram: "aprendizado organizacional – melhoria contínua" (68%), "trabalho em equipe dentro das unidades" (65%) e "expectativas do supervisor/chefe e ações promotoras da segurança" (64%). **Conclusões:** A cultura de segurança do hospital analisado mostrou-se fragilizada. Os resultados obtidos nesta

pesquisa corroboram com a literatura nacional sobre o quão frágil e pouco desenvolvida é a cultura de segurança do paciente nos hospitais brasileiros, na qual ainda predominam aspectos punitivos e de culpabilidade e o erro é centrado no indivíduo e não no processo de trabalho.

PALAVRAS-CHAVE: Cultura Organizacional; Qualidade dos Cuidados de Saúde; Evento Adverso; Enfermagem

INTRODUCTION

Discussions on failures associated with healthcare gained greater prominence after the publication in 2000 of the *Institute of Medicine's* report *To Err is Human*, in which the authors presented the impressive impact caused by adverse events resulting from failures in healthcare. Significant numbers of deaths resulting from care errors in the United States were published. Approximately 98,000 people die every year as a result of care failures, surpassing the number of deaths from traffic accidents, breast cancer or AIDS[1].

In response to Resolution 55.18 of the World Health Assembly in May 2002, which recommended that the World Health Organization (WHO) and member states pay the greatest possible attention to the problem of patient safety, in October 2004 the WHO launched the Global Alliance for Patient Safety, which raised awareness and political commitment to improving safety in care and supported member states in developing public policies and practices for patient safety[2]. As an offshoot in Brazil, the Ministry of Health established the National Patient Safety Program (PNSP) through Ordinance MS/GM No. 529 of April 1, 2013, with the general aim of contributing to the qualification of health care in all public and private health establishments in the country[3].

For the PSNP, safety culture is considered one of the principles of risk management. Therefore, recognizing its importance and impact on healthcare organizations is the basis for developing any type of safety program, with an emphasis on learning and organizational improvement[4].

An organization's safety culture is the result of individual and group values, attitudes, perceptions, competencies and behaviour patterns that define the commitment and capacity of health and safety management. Healthcare facilities with a strengthened safety culture are distinguished by communications based on mutual trust, common perceptions of the importance of safety and confidence in the effectiveness of preventive measures[5].

Safety culture is defined by RDC No. 36 of July 25, 2013, as a "[...] set of values, attitudes, skills and behaviors that determine commitment to health and safety management, replacing blame and punishment with the opportunity to learn from failures and improve health care"[6].

In favor of a culture of patient safety, hospitals have been incorporating actions with the aim of providing excellent care, reducing costs and ensuring patient satisfaction. In institutions where safety is established as a cultural process, there is greater professional awareness of the patient safety culture and an ethical commitment to risk management, both for the professional and the patient[7].

Health institutions that adopt punitive behaviors in the face of adverse events provoke distrust and fear in professionals, as well as encouraging the concealment of errors and mistakes[8].

As a management tool to overcome the harmful effects of a punitive culture, it has been proposed that healthcare organizations investigate their organizational culture in order to prospect for risks and the ability to learn from mistakes. Diagnosing the culture of a healthcare institution is essential to pinpoint opportunities for improvement and thus provide senior management with the information they need to make decisions in favor of the necessary changes. This way, with the establishment of a favorable organizational climate, the working class will enjoy better working conditions and the patient will receive safe, quality care[9].

In the review carried out by Reis et al.[10] on the evaluation of patient safety culture in hospitals in 21 countries, nursing staff represented the highest proportion of participants in the research, suggesting that this professional category is inclined to collaborate and get involved in patient safety research, as has been found in other contexts[10].

Still recent and in its infancy in Brazil, the assessment of safety culture in hospitals is a fundamentally important tool for diagnosing and working to promote safe, quality care for staff and patients[11]. Therefore, assessing the patient safety culture in a public hospital responsible for providing medium to highly complex care is essential for advancing the structural and organizational actions of professionals, as well as the flow of the service, with a view to improving overall performance.

Understanding organizational culture

In general, organizations and institutions have peculiar characteristics that define them and differentiate them from others, as well as having an influence on the group's behavior. Organizational culture plays a legitimizing role in expressing the values, habits, customs, practices, and beliefs of the people belonging to the organization. Each organization has its own culture and subcultures which, together, make up organizational psychology[12].

Organizational culture can be understood as a set of basic assumptions developed by a group of people while facing adversities

in external adaptation and internal integration. Because these assumptions have worked in a relatively acceptable way, they are recognized as valid and are passed on to new members as the correct way to perceive, think and feel about these problems. Therefore, organizational culture influences the way in which knowledge is obtained and transmitted to the group[13].

Understanding the complexity of organizational culture requires an understanding of the nature of human relations as a basis for identifying the attitudes towards change of the different groups that make up the organization, as well as the dynamics of the power relations that permeate it[13].

Since the Chernobyl nuclear accident in 1986, the term "safety culture" has gained greater notoriety. Considered the worst accident in the history of power generation, the Chernobyl accident was attributed to a "weak safety culture" according to the *International Atomic Energy Agency*[12].

More recently, the focus on building a culture of safety has become part of the list of concerns of healthcare organizations. The publication of the report *To Err is Human* by the *Institute of Medicine* represents an important milestone in the history of patient safety. It highlighted the need to strengthen a culture of safety at an organizational level, as the main strategy in the process of improving patient safety in the hospital context. Since then, research confirming the importance of a culture of safety in improving patient safety has become increasingly important[13].

Based on the proposals disseminated by the WHO through the World Alliance for Patient Safety, as well as the experiences presented in the report *To Err is Human,* several countries have begun to pay greater attention to patient safety issues, developing national policies and programs, *guidelines*, consensus among other initiatives aimed at promoting a culture of patient safety to reduce adverse events and improve the quality of care[12].

For Sorra et al.[14], institutions with a positive safety culture are characterized by open communication between employees, mutual trust, and common perceptions about the value of safety and the importance of preventive actions[14]. Also in these organizations, when an adverse event occurs, there is transparency and fairness in dealing with it. Professionals feel motivated to report the failure and thus create the possibility of learning from it. A strengthened safety culture directs the behavior of healthcare professionals towards building a vision of safety as a high priority. For this reason, this culture model has been increasingly sought after by healthcare organizations[13].

In order to transform a culture of blame into a culture of safety, the organization must encourage learning from mistakes and, above all, recognize human fallibility. By identifying failures, it is possible to propose changes to institutional routines, mitigating the factors that contribute to unsafe care[13].

In this context of human fallibility, James Reason, professor of psychology at the University of Manchester, widely used the concept of human error in his studies, initially focused on aviation, later on large-scale industries and finally on healthcare institutions. The core of these studies is patient safety and the ability of healthcare institutions to adapt to the human and operational risks inherent in the work process, with the aim of establishing tools to deal with unsafe acts[15].

In the famous Swiss cheese model proposed by James Reason, patient harm is multifactorial. The active and latent failures in the barriers, characterized by the holes in the cheese, demonstrate the vulnerability of the system. When the failures go beyond all the barrier layers, harm is established. This shows us that an adverse event rarely occurs due to a single process failure, but from successive failures which, in the absence of strong barriers, accumulate. Preventing the event from recurring requires openness and willingness on the part of managers and professionals in healthcare institutions to identify errors and map their causes[15].

In general terms, the premise of James Reason's theory is that individuals make mistakes and that mistakes should therefore be expected. Errors are consequences, not causes. And although you can't change the human condition, you can change the conditions under which individuals work, creating safer systems[15].

Given the understanding of human fallibility, it becomes even more imperative and necessary to establish a culture of safety in health institutions. Culture is a factor that can affect all the system's processes and defenses, for better or for worse[15].

Safety culture in healthcare organizations has been considered a basic structural indicator[16]. Evaluating safety culture can have the following objectives: diagnosing safety culture, raising awareness among professionals on the subject, evaluating the interventions implemented for patient safety over time, comparing the results with those of other institutions, as well as verifying compliance with legislation. Questionnaires that combine the dimensions of safety culture predominate as an evaluation tool. This type of research has been considered more effective because it requires less financial investment and guarantees the anonymity of participants compared to qualitative approaches[15].

In 2019, the Brazilian National Health Surveillance Agency (Anvisa) encouraged Brazilian hospitals to assess their safety culture. In partnership with the Qualisaúde Research Group of the National Council for Scientific and Technological Development (CNPq) at the Federal University of Rio Grande do Norte (UFRN), the version translated and adapted for Brazil from the *Hospital Survey on Patient Safety Culture (*HSOPSC) of the *Agency for Healthcare Research and* Quality (AHRQ) of the United States (USA) was made available digitally. In 2021, this movement was repeated, with the aim of expanding the number of participating institutions. Now, in addition to Anvisa, the

state, municipal and district coordinators of the Safety Centers will manage the tool, by sphere of management, making it possible to issue reports with aggregated data (state, district, municipal, and regional)[17].

Anvisa assures that in order to promote a culture of patient safety in the health system, it is necessary to value safety, work as a team, be open to communication, and maintain continuous learning in the face of failures and risks, all in line with the national patient safety policy[17].

Understanding the importance and benefits of establishing a robust and strengthened patient safety culture, and that assessing the prevailing culture in the institution is the initial step in identifying opportunities for improvement and structuring guidelines, we believe that the data obtained in this research will broaden the perspective and knowledge on this subject in the institution studied and will support managers in their decision-making.

The aim of this study was to find out what nursing professionals at a regional hospital think about the culture of patient safety.

METHOD

The setting for this research is a public general hospital that is highly relevant to the population of the Extended Northwest Region of Minas Gerais. Located in Patos de Minas, it is a reference for medium to high complexity care for the 33 municipalities, with 120 operational beds and 833 employees, 350 of whom are nursing professionals directly involved in patient care. Administered by the Minas Gerais State Hospital Foundation (FHEMIG), which is linked to the Minas Gerais State Health Secretariat (SES), it is one of the largest public hospital managers in the country and covers various specialties of hospital services provided to the community.

This is a cross-sectional, explanatory study using quantitative methods. A cross-sectional study is one in which "[...] exposure to the factor or cause is present to the effect at the same moment or time interval analyzed [...]"[18], and an explanatory study is one in which the researcher seeks to deepen the understanding of reality by explaining the whys of phenomena and their causes[19]. From this perspective, the aim is to gain an in-depth understanding and explanation of nursing professionals' assessment of the safety culture.

The population was made up of nursing professionals involved in direct patient care. The minimum sample size was 184 participants, according to the statistical calculation with 95% reliability and a 5% margin of error.

The sample was selected for convenience, with the questionnaire being applied digitally and in hard copy, after signing the Informed Consent Form (ICF). Data collection began in January 2020 and ended in June of the same year, with the participation of 203 professionals, representing 58% of the eligible sample.

The study was approved by the Research Ethics Committees (CAAE) of the Federal University of Uberlândia (No. 22595219.3.0000.5152) and FHEMIG (No. 22595219.3.3002.5119). All participants in the research were guaranteed anonymity.

The theoretical framework was obtained from a bibliographic survey of articles in the databases of the Coordination for the Improvement of Higher Education Personnel (CAPES), Google Scholar, and the Virtual Health Library (VHL), using the descriptors "adverse event", "nursing" and "organizational culture".

The *cohort* period of the bibliographic sample was defined on the basis of the publication of the patient safety framework *I* in 2000, in which the authors Kohn, Corrigan and Donaldson highlighted the impressive impact caused by adverse events resulting from failures in healthcare[1].

The instrument used was the HSOPSC questionnaire, which is widely applied in its country of origin, the United States, and in 95 other countries, translated and validated into 43 languages. In Brazil, it was adapted and validated by Reis et al.[20] and is available in the public domain[20]. This survey instrument was developed and validated by the AHRQ. The choice of this instrument was based on its free availability, its extensive use in various countries in different cultural contexts and the psychometric properties of this questionnaire.

This instrument is structured around 12 dimensions of patient safety culture. Seven of them deal with aspects within the work sector, three within the hospital and two with outcome variables, namely: 1) teamwork between units; 2) supervisor/boss expectations and actions promoting safety; 3) organizational learning - continuous improvement; 4) support from hospital management for patient safety; 5) general perception of safety; 6) feedback of information and communication about errors; 7) open communication; 8) frequency of reporting events; 9) teamwork within units; 10) adequacy of professionals; 11) change of duty and transfers; and 12) non-punitive responses to errors.

The answers to the items were coded using a 5-point Likert scale of agreement (totally disagree, disagree, neither agree nor disagree, agree, and totally agree) or frequency (never, almost never, sometimes, almost always, and always). In analyzing and interpreting the data, the AHRQ guidelines were followed, in which the dimensions and items are evaluated according to the percentage of positive responses. Items and dimensions with 75% positive responses are considered strengths, while those below 50% are considered weaknesses[14].

The variables collected were statistically described. The HSOPSC items were grouped into the 12 dimensions and those with negative responses were reversed. The proportion of positive responses to each item was calculated; the numerator was the total number of positive responses, and the denominator was the total number of respondents.

In order to define the profile of the population and characterize the factors that contributed to the occurrence of adverse

events, other questions were added in addition to the HSOPSC, using as a model the categories of contributing factors proposed by Anvisa's Adverse Event Reporting System (Notivisa).

The data obtained from the questionnaire was entered into an electronic database in Microsoft Excel for analysis in terms of absolute numbers, percentages, mean and median. Using Past 4.03 *software*, the correlation between the variables was assessed using Pearson's R test, and a coefficient of 0.8 to 1.0 would indicate a strong relationship between the variables, as will be seen below.

RESULTS AND DISCUSSION

As explained in the methodology, of the 350 nursing professionals eligible to take part in this study, 203 (58%) responded to the survey. All of them, in their position/function, had interaction or direct contact with patients. Although questionnaires are widely used in research, their use can have limitations. It was noted that the length of the instrument used in this study, which required the participant to spend a considerable amount of time answering it, discouraged some professionals from taking part. In a similar study carried out with health professionals using the AHRQ HSOPSC instrument and the Second Victim Experience and Support Tool (SVEST), the survey response rate was even lower, at 31% (n = 305) of the elective sample[21].

Table 1 shows the sociodemographic characteristics of the respondents. The sample was predominantly female (85%), which can be explained by the fact that nursing is a profession that is culturally practiced mostly by women[13]. Regarding the age of the participants, the average was 40.8 years, and the median was 40 years, with the youngest being 20 years and the oldest 66 years. Regarding professional category, 74% were nursing technicians, 25% nurses and 1% nursing assistants.

Table 1. Characteristics of the population in relation to gender, age, professional category, academic background, type of link, and sector of assignement. Patos de Minas (MG), 2019.

Variable	Category	n (%)
Gender	Female	171 (85)
	Male	31 (15)
Age	20-30 years	15 (7)
	31-40 years	91 (46)
	41-50 years	59 (30)
	> 51 years	34 (17)
Professional category	Nursing assistant	2 (1)
	Nursing Technician	149 (74)
	Nurse	51 (25)
Academic background	Incomplete primary education	1 (1)
	Incomplete high school	1 (1)
	Complete high school	75 (38)
	Incomplete higher education	30 (15)
	Complete higher education	32 (16)
	Postgraduate studies (specialization level)	57 (29)
	Postgraduate degree (master's or doctorate)	2 (1)
Type of link	Effective	163 (81)
	Contract	38 (19)
Sector of assignment	Outpatient	5 (2)
	Surgery	58 (29)
	Clinical (non-surgical)	18 (89)
	Various hospital units/No specific unit	9 (4)
	Obstetrics	35 (17)
	Pediatrics	8 (4)
	Emergency sector	18 (9)
	Intensive care unit	52 (26)

Source: Prepared by the authors, 2022.

The predominant level of education was complete high school, with 38% of the professionals, followed by postgraduate studies (specialization), with 29%. Despite the fact that most of them held middle-level positions, many had higher education qualifications. This same profile was found in a similar study[7] in a public hospital, where the majority of nursing technicians had higher education.

The average length of time working in the current position/specialty is 14 years, with the shortest being 1 year and the longest 47 years. The majority, 81% (n = 163) of the professionals are permanent employees and 82% (n = 149) work exclusively at this institution.

The results showed that the majority of professionals have been working at the institution for between 6 and 10 years (43%) and have been working in their current sector for between 1 and 5 years (37%). With regard to weekly working hours, 51% of the participants work between 40 and 59 hours at the hospital, followed by 42% who work between 20 and 39 hours. The low turnover is based on the public nature of the institution, in which the majority of contracts are permanent. The length of time working at the institution is an important indicator of the continuity of routines[13].

The survey was designed to reach the largest number of participants, but some sectors showed lower participation. The surgery sectors accounted for the largest absolute number of participants, with 58 respondents. In terms of representativeness, the neonatal intensive care sector stood out, with 99% participation in relation to the total number of staff in the sector. No sector was left without participation.

The average percentage of positive responses for the 42 items that make up the 12 dimensions of safety culture for nursing was 49%. No dimension can be considered strong according to the guidelines of the HSOPSC authors, i.e., it had a positive response percentage above 75%[14]. However, the dimensions with the highest percentages of positive responses were “organizational learning - continuous improvement” (68%), “teamwork within units” (65%), and “ supervisor/boss expectations and actions promoting safety” (64%). The results suggest that nurses perceive that the work carried out within the sectors is collaborative, respectful and mutually supportive. As for the continuing education process, it takes place satisfactorily, always improving work processes.

In a review of 33 articles on the evaluation of patient safety culture using the HSOPSC in 21 countries, a result identical to that found in this research was demonstrated, since the dimensions that proved to be the strongest were “teamwork within units” and “organizational learning - continuous improvement”[10].

On the other hand, the weakest dimensions identified in this study, i.e., with a percentage of positive responses of less than 50%, were: “non-punitive responses to errors” (19%), “teamwork between units” (41%), “change of duty/transfers” (42%), “adequacy of professionals” (42%) and “general perception of patient safety” (42%). These results indicate that the punitive culture is very present in the institution and that interventions to change the paradigm should be promoted in relation to work processes between teams from different sectors, communication when changing shifts and transferring patients, nursing sizing and the way professionals perceive patient safety in the hospital. Reis et al.[10] found a similar result in their wide-ranging review of articles that applied the HSOPSC. In this review, the least developed dimensions were: “non-punitive response to error”, “transfers and transitions”, and “teamwork between units”[10].

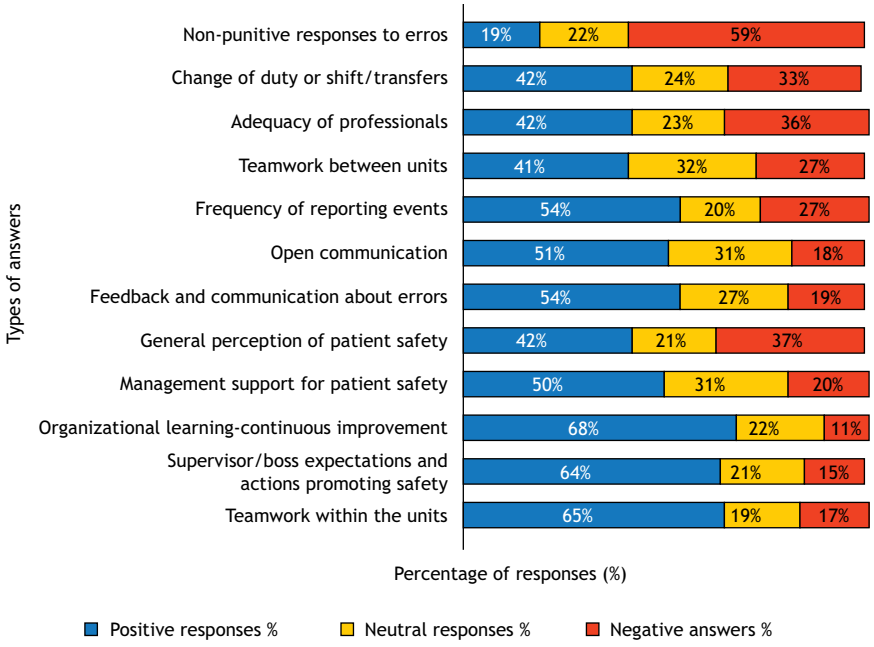
The figure shows the percentage of positive, neutral and negative responses for each dimension. It can be seen that the percentage of neutral responses in the dimensions was more stable, ranging from 19% to 32%. Positive and negative responses, on the other hand, varied widely, with positive responses ranging from 19% to 68% and negative responses from 11% to 59%.

The evaluation of the responses to the items in the dimensions carried out in two hospitals showed similar findings to those of this survey. The average percentage of positive responses was 52%. The most strengthened dimensions were the same as those found here and their maximum results were 72%. The similarity was maintained in relation to the weakest dimensions identified and their positive percentages: “non-punitive responses to errors” (21%), “adequacy of professionals” (42%), “teamwork between units” (44%), and “support from patient safety management” (50%)[13].

As recommended by the authors of the HSOPSC instrument, no dimension was considered strengthened, i.e., had a percentage of positive responses above 75%[14]. However, some component items of the dimensions achieved percentages compatible with strengthened safety culture characteristics: “we are actively doing things to improve patient safety” (87%), “when there is a lot of work to be done quickly, we work together as a team to complete it properly” (76%) and “in this unit people treat each other with respect” (75%). The item that assessed the concern that errors, mistakes or failures by nursing professionals are recorded in their functional records (74%) was the most problematic and shows an urgent need for intervention to improve this scenario.

Similar studies carried out in Brazilian hospitals using the HSOPSC also found only weakened dimensions with percentages of positive responses below 75%[7,13,22,23,24,25]. The weakest dimension pointed out by most of these studies was the “non-punitive response to errors”, highlighting the national predominance of hospitals with a compromised and underdeveloped safety culture.

Analyzing the “frequency of reporting events” dimension, the percentage of positive responses was 54%. The majority of participants (51%) reported not having made any adverse event notifications in the last 12 months and 23% had made one to two notifications. Of the 96 professionals who had reported at



Source: Prepared by the authors, 2022.

Figure. Percentage of positive, neutral, and negative responses to the dimensions of safety culture. Patos de Minas (MG), 2019.

least one adverse event in the last 12 months, 44 were nurses, 50 nursing technicians and two nursing assistants. Of those who didn't, seven were nurses who had worked at the hospital for more than six years and 92 were nursing technicians. This data demonstrates the fragile culture of reporting events and the imperative custom that nurses are responsible for formally reporting adverse events.

The underreporting shown in the results obtained in this study can be explained by the fact that the majority of respondents (74%) said they were concerned about their errors, mistakes or failures being recorded in their functional records. This problem was also analyzed in an integrative review of national publications, which showed that the main causes of adverse event underreporting were: fear or apprehension of reporting; notification focused only on more serious events; lack of knowledge on the subject or how to report; and centralization of notification in the professional nurse[26].

Another factor that compromises adherence to reporting is that only 27% of participants believe that when an adverse event occurs, the focus given by the institution is on the problem and not on the individual involved. The literature emphasizes that punitive conduct on the part of health institutions, in response to the occurrence of an adverse event, causes distrust and fear among employees, as well as encouraging the concealment of errors and mistakes made[8].

The correlation analysis between the dimensions was carried out using Pearson's R coefficient and showed results ranging from 0.22 to 0.99, i.e., weak to strong correlations. The dimensions with the strongest correlations were: "open communication x management support for patient safety"; "teamwork between units x teamwork within units"; "open communication x teamwork between units"; "frequency of reporting events x feedback of information and communication about errors"; "frequency of reporting events x adequacy of professionals"; "frequency of reporting events x management support for patient safety"; "non-punitive responses to errors x open communication" (negative); "non-punitive responses to errors x management support for patient safety" (negative) and "open communication x frequency of reporting events".

These results show that the dimension "frequency of event reports" was strongly related to the dimensions "open communication", "feedback", "management support for patient safety" and "adequacy of professionals". This confirms the understanding that the success of the adverse event reporting process is related to the way in which the institution establishes the communication process, the *feedback* routine for adverse event reports, the extent to which the institution's leadership encourages patient safety actions and staffing levels.

Regarding the "open communication" dimension, we found that it has a strong influence on the dimensions "management support for patient safety", "teamwork between units", "non-punitive responses to errors", and "frequency of reporting events". The study by Reis[13] also found a strong relationship between the dimensions "non-punitive responses to errors" and "open communication" (Pearson's R coefficient - 0.99).

Another important correlation was between the dimensions "management support for patient safety x non-punitive responses

to errors", which expresses the great importance of the role of hospital management in establishing a culture of safety.

With regard to teamwork, the correlation analysis showed a high influence between the dimensions "teamwork between units x teamwork within units", suggesting that the better the teamwork within the sector, the more effective and satisfactory the work between professionals from different sectors will be.

Most of the correlations were considered medium to strong, i.e., they have a significant influence on each other. Only one correlation was considered weak. The strongest relationship was between the dimensions "open communication" and "management support for patient safety" (Pearson's R coefficient - 0.99), suggesting that management support for patient safety has a major influence on open communication and, as one of these dimensions increases, so does the other, which is why it is called positive. The relationship between the dimensions is described in Table 2.

Regarding the general perception of patient safety at the institution, 74% of the nursing staff rated it as "excellent" or "very good", followed by 25% as "fair" and 1% as "poor". There were no "very bad" ratings. In principle, this assessment differs from the answers given in the other dimensions of the questionnaire, which point to a weak and underdeveloped safety culture.

Table 3 shows the assessment of safety according to professional category, sector and type of employment. There were no significant differences in perception between professional categories and types of employment. The obstetrics and intensive care unit sectors had a more positive assessment of patient safety. On the other hand, the non-surgical clinic sector had the most negative assessment.

Analyzing the variations in perception shown by the professionals in relation to the dimensions, it can be seen that this ranged from 19% to 65% of positive responses. In similar national studies, this variation ranged from 15% to 72% between the 12 dimensions evaluated[7,13,22,23,24,25].

According to Reis[13], the culture of blame places responsibility for adverse events on professionals. This prevents the identification of inadequacies in work processes, flows, routines, and structure, and makes it impossible to properly understand and correct the factors that contributed to the occurrence of these adverse events and, consequently, compromises learning, since professionals feel discouraged from reporting adverse events. From this perspective, the low percentage of positive responses obtained in the "non-punitive responses to errors" dimension (19%) is consistent with the high percentage of professionals who said they had not reported any events in the last 12 months (51%).

Other Brazilian studies have shown similar patterns, with low percentages of positive responses in this dimension[7,13,22,23,24,25], leading us to understand that the culture of guilt is an important national challenge for strengthening the culture of patient safety in hospitals.

The information obtained through this survey presented a situational diagnosis of the most developed areas and those that need greater investment and intervention in the institution. This was the first assessment of safety culture carried out at the hospital studied, which makes it impossible to compare with previous data. It is important that future

Table 2. Type of correlation between dimensions. Patos de Minas (MG), 2019.

Dimension	Pearson's R coefficient	Type of correlation
Non-punitive responses to errors x Open communication	-0,83	Strong negative
Non-punitive responses to errors x Management support for patient safety	-0,82	Strong negative
Open communication x Frequency of reporting events	0,82	Strong positive
Open communication x Management support for patient safety	0,99	Strong positive
Frequency of reporting events x Feedback and communication about errors	0,91	Strong positive
Open communication x Teamwork between units	0,93	Strong positive
Frequency of event reporting x Management support for patient safety	0,84	Strong positive
Frequency of reporting events x Adequacy of professionals	0,85	Strong positive
Teamwork between units x Teamwork within units	0,94	Strong positive
Teamwork within units x Adequacy of professionals	0,71	Positive average
Open communication x Change of duty or shift/transfers	0,60	Positive average
Non-punitive responses to errors x Supervisor/boss expectations and actions promoting safety	-0,64	Negative average
Non-punitive responses to errors x Frequency of reporting events	-0,38	Negative average
Non-punitive responses to errors x General perception of patient safety	0,22	Weak positive

Source: Prepared by the authors, 2022.

Table 3. Respondents' general perception of patient safety according to professional category, sector, and type of link. Patos de Minas (MG), 2019.

General perception of patient safety											
Category		Excellent		Very good		Regular		Bad		Very bad		Total
		n.	%	n.	%	n.	%	n.	%	n.	%	
Professional category	Nursing assistant	-	-	2	100	-	-	-	-	-	-	2
	Nursing technician	10	7	89	64	38	28	1	1	-	-	138
	Nurse	5	10	35	69	10	20	1	2	-	-	51
Sector of assignment	Surgery	1	2	37	67	16	29	1	2	-	-	55
	Clinical (non-surgical)	1	6	7	41	9	53	-	-	-	-	17
	Various hospital units/No specific unit	1	11	5	56	3	33	-	-	-	-	9
	Obstetrics	3	9	25	78	3	9	1	3	-	-	32
	Pediatrics	1	13	4	50	3	38	-	-	-	-	8
	Emergency sector	-	-	10	56	8	44	-	-	-	-	18
	Intensive care unit	8	16	37	73	6	12	-	-	-	-	51
Type of link	Effective	11	7	105	68	37	24	2	1	-	-	155
	Contract	4	11	21	60	10	29	-	-	-	-	35
General		**15**	**8**	**126**	**66**	**48**	**25**	**2**	**1**	**-**	**-**	**-**

Source: Prepared by the authors, 2022.

assessments are carried out in order to monitor the development of the organizational culture and target the areas with the greatest vulnerability.

CONCLUSIONS

The study provided an insight into the nursing staff's assessment of the institution's organizational culture. The safety culture of the hospital analyzed proved to be fragile. By applying the HSOPSC, it was possible to identify in depth the nursing staff's perception of the different areas involved in the patient safety culture and the opportunities for improvement. No dimensions of patient safety culture were identified that were strengthened, i.e., with a percentage of positive responses equal to or greater than 75%.

The results obtained in this research corroborate the national literature on how fragile and underdeveloped the patient safety culture is in Brazilian hospitals, with punitive and blame aspects still predominating, in which the error is centered on the individual.

The culture of blame discourages professionals from reporting adverse events, preventing them from learning from mistakes as a means of mitigating the recurrence of failures. Urgent opportunities for improvement were identified to change the current paradigm. In addition, the results presented here can be used to plan actions, optimizing the management and quality of services, and strengthening team commitment.

It is suggested that this survey be replicated periodically, including the other professional categories in the institution, in order to provide robust data on the prevailing culture, as well as to help define effective strategies for improving health care.

Establishing patient safety in a hospital requires constant vigilance, and it is necessary to continually identify the weakest areas and opportunities for improvement. Effective quality improvement interventions can lead to visible changes in an institution's patient safety culture, and solid commitment and support from managers can help sustain these improvements.

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Authors' Contribution

Almeida PP, Moura GG - Conception, planning (study design), acquisition, analysis, data interpretation, and writing of the work. All the authors approved the final version of the work.

Conflict of Interest

The authors inform that there is no potential conflict of interest with peers and institutions, political or financial, in this study.