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Safety culture in an Intensive Care Unit in the perception of nursing professional

Cultura de segurança em Unidade de Terapia Intensiva na percepção de profissionais de Enfermagem

Cultura de seguridad en Unidad de Cuidados Intensivos en la percepción de los profesionales de enfermería

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ABSTRACT

Objective: To assess the safety culture in the Intensive Care Unit (ICU) in the perception of nursing workers. **Methods:** A mixed-methods study, carried out in 2015, with 26 nursing workers in the ICU of a public university hospital in southern Brazil. Quantitative data were collected through the Safety Attitudes Questionnaire (SAQ) and analyzed using descriptive statistics, considering positive indicators of safety attitudes as scores with values ≥7.5. Qualitative data were collected and submitted to content analysis through semi-structured interviews whose guiding questions were about daily work and patient safety. **Results**: According to the satisfactory or unsatisfactory perception in the SAQ, 53.8% had a positive safety culture for Teamwork, 80.8% had a positive culture for Job satisfaction, and 53.8% for Perception of stress; 61.5% had a negative culture for Safety climate, 65.4% for Perception of unit management, 76.9% for Perception of hospital management and 73.1% for the Working conditions domain. The results of the interviews constituted the category “Safety culture in the ICU - perception of nursing workers”, which includes aspects related to each domain of the SAQ: Teamwork climate, Job satisfaction, Perception of stress, Working conditions, Safety climate, and management perception. **Conclusion:** The results of the qualitative stage predominantly converge with the data from the quantitative stage, which showed a negative perception about the general assessment of the safety culture in intensive care.

Descriptors: Organizational Culture; Nursing; Quality of Health Care; Patient safety; Intensive Care Units.

RESUMO

Objetivo: *Avaliar a cultura de segurança em Unidade de Terapia Intensiva (UTI) na percepção de trabalhadores de enfermagem.* ***Métodos:*** *Estudo de métodos mistos, realizado em 2015, com 26 trabalhadores de enfermagem na UTI de um hospital universitário público da região Sul do Brasil. Os dados quantitativos foram coletados por meio do Questionário das Atitudes de Segurança (SAQ) e analisados por estatística descritiva, considerando-se indicadores positivos de atitudes de segurança os escores com valores ≥7,5. Coletaram-se os dados qualitativos submetidos à análise de conteúdo por meio de entrevistas semiestruturadas cujas perguntas norteadoras versavam sobre o cotidiano de trabalho e a segurança do paciente.* ***Resultados:*** *De acordo com a percepção satisfatória ou insatisfatória no SAQ, 53,8% apresentaram cultura de segurança positiva para o Clima de trabalho*

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em equipe, 80,8% apresentaram cultura positiva para Satisfação no trabalho e 53,8% para Percepção de estresse; já 61,5% apresentaram cultura negativa para Clima de segurança, 65,4% em Percepção da gerência da unidade, 76,9% na Percepção da gerência do hospital e 73,1% em relação ao domínio Condições de trabalho. Os resultados das entrevistas constituíram a categoria "Cultura de segurança em UTI – percepção dos trabalhadores de enfermagem", a qual abarca aspectos atinentes a cada domínio do SAQ: Clima de trabalho em equipe, Satisfação no trabalho, Percepção de estresse, Condições de trabalho, Clima de segurança e Percepção da gerência. ***Conclusão:*** *Os resultados da etapa qualitativa apresentam, predominantemente, convergência com os dados da etapa quantitativa, que evidenciaram uma percepção negativa em relação à avaliação geral da cultura de segurança em terapia intensiva.*

Descritores: *Cultura Organizacional; Enfermagem; Qualidade da Assistência à Saúde; Segurança do Paciente; Unidades de Terapia Intensiva.*

RESUMEN

Objetivo: *Evaluar la cultura de seguridad en Unidad de Cuidados Intensivos (UCI) en la percepción de trabajadores de enfermería.* ***Métodos:*** *Estudio de métodos mistos realizado en 2015 con 26 trabajadores de enfermería de la UCI de un hospital universitario público de la región Sur de Brasil. Los datos cuantitativos han sido recogidos a través del Cuestionario de las Conductas de Seguridad (CCS) y analizados con estadística descriptiva considerándose las puntuaciones con valores ≥7,5 para los indicadores positivos de actitudes de seguridad. Se recogieron los datos cualitativos sometidos para el análisis de contenido a través de entrevistas semi-estructuradas cuyas preguntas norteadoras eran sobre el cotidiano del trabajo y la seguridad del paciente.* ***Resultados:*** *Según la percepción satisfactoria o insatisfactoria del CCS, el 53,8% de los participantes presentaron cultura de seguridad positiva para el clima de trabajo en equipo, el 80,8% presentaron cultura positiva para la satisfacción con el trabajo y el 53,8% para la percepción del estrés; el 61,5% presentaron cultura negativa para el clima de seguridad, el 65,4% para la percepción de la gerencia de la unidad, el 76,9% para la percepción de la gerencia del hospital y el 73,1% respecto el dominio condiciones de trabajo. Los resultados de las entrevistas constituyeron la categoría "Cultura de seguridad en la UCI – percepción de los trabajadores de enfermería", la cual incluye aspectos de cada dominio del CCS: Clima de trabajo en equipo, Satisfacción en el trabajo, Percepción de estrés, Condiciones de trabajo, Clima de seguridad y Percepción de la gerencia.* ***Conclusión:*** *Los resultados de la etapa cualitativa presentan, predominantemente, convergencia con los datos de la etapa cuantitativa que evidencian una percepción negativa respecto la evaluación general de la cultura de seguridad en terapia intensiva.*

Descriptores: *Cultura Organizacional; Enfermería; Calidad de la Atención de Salud; Seguridad del Paciente; Unidades de Cuidados Intensivos.*

INTRODUCTION

Patient safety is currently considered one of the priorities concerning the management and quality in health services. It is understood as one of the most critical and decisive dimensions in the quality of patient care and provides to maximize the overall balance between benefits and harms[1].

The World Health Organization (WHO) has had this theme as a priority since 2002 however; in 2004, more emphasis was given to the creation of World Alliance for Patient Safety. In 2008, the pioneering spirit and concern of Nursing about patient safety is highlighted, which is expressed through the Brazilian Network of Nursing and Patient Safety, aiming to strengthen safe and quality nursing care. However, in the Brazilian context, the theme of patient safety gained greater attention in 2013, with the publication of Ordinance No. 529 of the Ministry of Health (MS), which established the National Patient Safety Program (PNSP). This initiative reinforces to health institutions, professionals, and the community the importance of addressing and promoting patient safety, aiming to collaborate towards the qualification of care in all health institutions in the country[2].

Although the approach to patient safety has become a priority in health services in recent decades, as it is a relevant requirement for ensuring the quality of care, data from the World Health Organization (WHO) indicate that one in ten patients suffers some damage while receiving hospital care[3].

In this context, the nursing team, responsible for most of the care provided during the hospital stay, has a relevant role in promoting actions related to patient safety in the different scenarios of action, especially in the intensive care unit (ICU), given the severity of individuals and the complexity of the sector, which increases the vulnerability to the occurrence of adverse events[4]. A study carried out in an ICU showed that, in one year, 324 adverse events were confirmed in 115 patients. The incidence rate was 9.3 adverse events per 100 patient-days, which resulted in an increase in the length of hospital stay (19 days) and an increase in the mortality rate[5].

A study carried out in a private hospital in Brazil, which analyzed the notifications of adverse events occurred between 2015 and 2016, indicated that human error was the main factor related to the occurrence of the errors.

Errors linked to the drug administration accounted for 44.27% of the notifications, while errors during the typing of the medical prescription totalled 17.56% and errors during care were responsible for 13.36% of the reported notifications[6].

International research has focused on measuring damage and understanding the causes of adverse events. The performance of these surveys has been much more in developed countries than in developing countries[2]. The occurrence of errors has been accredited to the individual and collective failures. As for the failures related to the organizational system, participants in a study reported: little offer of professionals training, lack of rules, overload, and inadequate working conditions. As for individual failures, negligence and inattention to care are highlighted[7].

Thus, there is a need to strengthen the safety culture of institutions, which is a result of shared individual and group attitudes, perceptions, and values about safety issues. Effective communication among professionals and mutual trust are characteristics of institutions that report a positive safety culture and work to reduce risks and adverse events through the adoption of safe practices[8].

Thus, the importance of evaluating the safety culture is highlighted, especially in hospital institutions, given the relevance of this indicator to portray the quality of care being provided, in addition to serving as a tool for creating strategies to improve issues relating to patient safety. Research of this nature presents results that, in the medium and long term, help guide the direction of safety policies and, consequently, improve patient safety in various health institutions[2].

Therefore, this study aimed to evaluate the safety culture in the Intensive Care Unit in the perception of nursing workers.

METHODS

It is a descriptive cross-sectional study designed with a mixed method using the convergent parallel strategy, with equal weighting for quantitative and qualitative data, which were mixed to determine convergences, differences, and combinations.

The investigation took place in an ICU located in a public university hospital in southern Brazil. The study population consisted of ICU nursing workers who had been in the sector for at least three months. Workers who were on leave of any kind were excluded.

Data collection took place in 2015. In the quantitative stage, all nursing workers in the sector were approached to answer the questionnaire (n=33); however, three refused to participate in the study, and four did not return the questionnaire. Hence, 26 professionals participated in the quantitative stage.

In the qualitative stage, related to conducting a semi-structured interview, sampling was selected by drawing lots among the 26 workers who answered the questionnaire. We sought to maintain proportionality between the professional categories. Eighteen workers answered to the interview, including six nurses and 12 nursing technicians. The sample closure was due to theoretical saturation.

For the quantitative data collection, a research protocol was applied with two instruments: a questionnaire on sociodemographic and professional data of nursing workers and the Safety Attitudes Questionnaire (SAQ).The first, elaborated by the researchers of the present study based on the literature, aimed to characterize the nursing staff of the ICU, being composed of the following variables: date of birth, sex, marital status, number of children, profession, specialization, and working time in the unit. The second (SAQ) is an instrument to evaluate the professionals' perceptions concerning patient safety issues translated to the Brazilian reality in 2012[9]. It has 41 questions distributed in six domains: Teamwork climate, Job satisfaction, Perception of the unit and hospital management, Working conditions, and Stress recognition. The answers to each of the questions follow a five-point Likert scale.

In the questionnaires applying stage, the nurses were invited to participate in the workplace, individually, and received the research protocol, which was answered in a place of their choice, with a time being scheduled to be collected.

Regarding the qualitative data collection, semi-structured interviews articulated with the SAQ domains were carried out, which was tested through the application of the script to professionals working in other units of the hospital, to verify the need to adapt the questions. The guiding questions were about daily work and patient safety.

Before starting the collection, the researcher sought a setting in the interview scenario, establishing an approximation with participants. The interviews, pre-scheduled according to the respondent's availability time, were held at the workplace in a private room in the ICU. A draw was carried out to select the workers, seeking to maintain proportionality between the professional categories, namely: nurses and nursing technicians. Thus, 18 workers answered the interview, being six nurses and 12 technicians. The sample closure was due to theoretical saturation.

The interviews lasted between 26 minutes and 1 hour and 8 minutes, being recorded on a digital device and transcribed in full. Participants had their identity-preserved, with the code "ENF" being assigned to nurses and "TEC" to nursing technicians, followed by sequential cardinal numbers according to the order in which the interview was conducted.

Data organization, performed in the Epi-Info® program, version 6.4, occurred with independent double entry. After analyzing the differences in typing, the data were analyzed using the PASW Statistics® program (Predictive Analytics Software, by SPSS Inc., Chicago - USA), version 18.0 for Windows.

The SQA by domains and the total SAQ were analyzed. For the descriptive analysis, the sum of the responses to the 41 items of the instrument was performed. To calculate the score for each domain, the response of the items was added, dividing by the total number of items in the domain. Positive indicators of safety attitudes are considered to be scores with values ≥7.5. The SAQ domains were classified according to the cut-off point for safety culture and dichotomized into negative (<7.5) and positive culture (≥7,5)[7].

For the analysis of data from the interviews, we used content analysis[10], which is divided into three stages: pre-analysis, analytical description, and treatment of results, with predefined categories according to the domains of the quantitative instrument.

Given the methodological resource adopted in this research, based on the mixed method with convergent parallel strategy, after analyzing the quantitative and qualitative data, we sought to integrate them to show convergences and divergences between them.

The research development complied with the ethical precepts of Resolution No. 466/2012 of the National Health Council[11]. This research was approved by the Research Ethics Committee, of the educational institution to which the hospital is linked, under Opinion No. 1.105.926.

RESULTS

There was a prevalence of female professionals (73.1%) among the 26 participants, aged between 24 and 37 years (53.8%), coming from Santa Maria (57.7%), white (80.8%), married or with a partner (69.3%) and with children (73.1%). As for professional characteristics, 69.2% of workers do not have a postgraduate degree, 61.5% work on the day shift, and 76.9% are nursing technicians.

Among the six domains of the SAQ, three had a average greater than or equal to 75 points, which is considered a positive assessment: Teamwork climate, Job satisfaction, and Perception of stress. The other domains had a negative evaluation for the safety culture, with the domain Perception of hospital management having the lowest result.

53.8% of the workers who responded had a positive safety culture for Teamwork, 80.8% for Satisfaction at work, and 53.8% for Perception of stress. The negative culture was present in 61.5% of workers in Safety climate, 65.4% in Perception of the unit management, 76.9% in Perception of hospital management, and 73.1% in Conditions of job domain.

Concerning qualitative data, the results of the interviews constituted the category "Safety Culture in the ICU - perception of nursing workers", which includes aspects related to each domain of the SAQ: Teamwork climate, Job satisfaction, Perception of stress, Working conditions, Safety climate and Perception of management.

Safety culture in the ICU - perception of nursing workers: Teamwork climate

In the work environment, interpersonal relationships are established from a process of interaction between members of the same team. When workers were asked about this aspect, they mostly mentioned positive factors of teamwork developed in the studied ICU, as can be seen in the extracts below:

> *"Here, it is kind of, out of the ordinary. As I tell you, I've worked in other places, and you are under bad weather alone, it just doesn't exist here. [...] Everyone together and the nurses taking it together." (TEC 4)*
>
> *"Look, from zero to ten, I can say it's ten. [...] Today it has improved a lot with new employees. Everyone who came, the ones I've worked with, there is no problem. Everybody help, help each other." (TEC 8)*

According to the statements above, it is clear that nursing workers collaborate among them to develop activities within their competence. Also noteworthy is the emphasis given by TEC 4 when mentioning that nurses help them whenever necessary. In addition, there is a certain enthusiasm on the workers' statements when they talk about their work team, showing "pride", commitment and good relations with each other, which favors communication and, consequently, makes the work safer.

Based on the testimonies, it was possible to see that the work in the investigated ICU takes place in a multidisciplinary way, so that each professional acts as a collaborator in their part of work, but together with the different professions, on behalf of the patient. However, it is known that working in a team can cause some difficulties, mentioned by some workers:

> *"In general, I think people try to help each other because, if I'm in a heavy load today, tomorrow it can be my colleague, so I have to help because, tomorrow it can be me. Of course, sometimes there is some misunderstanding within the team, but we try not to go ahead, try to resolve it right there." (ENF 3)*

It is observed that, despite the good relationship and cooperation mentioned by the workers, there are situations that can interfere with the work climate.

Safety culture in the ICU - perception of nursing workers: job satisfaction and stress

As for job satisfaction, the analysis of qualitative data showed positive data for the participants. Below, some testimonies exemplify this finding:

> *"I am quite satisfied. [...]. There are days when we get a little more stressed, but I think the hospital environment is just like that. [...] I try to stay calm, see priorities, do one thing at a time, but I'm satisfied." (ENF 5)*
>
> *"I feel great. I love. I like the sector, I like the service, I like the people, no matter how difficult it is... I get along well with everyone. People, I don't know if it is because of the age, they respect me. I consider myself satisfied. If I had to go back, I would stay here, so much so that I did not leave... and I had the opportunity." (ENF 6)*

Job satisfaction was a strong point evidenced in the analyzed group. In this sense, it is relevant to highlight that professionals feel satisfied. The main factors of job satisfaction reported were: gratification for the work performed, feeling of happiness, possibility to perform the functions provided for the position, pleasure and recognition for the work performed, and relationships at work:

> *"(...) when we're here, wow, it's good, you can see that you can do something good for others. "Bah, look, I did this medication today", I was happy. We let her [referring to the patient] calm down more. These kinds of things we do, one [patient] has his pupils dilated, we go down to the tomo [CT sector]. You feel pleased… for the small actions we take, however much we know the seriousness of the case. In the case of organ harvesting, some patients were stopping, which we almost took to the [surgical] block massaging. That's what's rewarding. We managed to gain a few more minutes; in time for the staff from the Central [Organ Procurement Center] to arrive. Things like that". (ENF 7)*

Despite the satisfaction demonstrated by the workers through the testimonies, work overload was described as an obstacle at work, which can compromise the workers' sense of satisfaction and configure itself as a stressor:

> *"When it's hard here, it's stressful; because there's a lot of procedure, there are lots of bandages, it's a lot of work, and then it's overloaded, and I feel that people get stressed. I get stressed. There are things that you get passed because of the excess of work, the overload of procedure that you have to do, things that we should not forget, sometimes they end up forgotten." (TEC 10)*

It is noteworthy that, according to the workers, this stress, when not controlled, can trigger care failures, as explained in the statements below:

> *"The biggest problem of stress and fatigue that we live in here is what can happen due to failure for the patient. We need to be in body and mind here, and really at the moment because otherwise, something could go wrong. Figure it? Tired, stressed, exhausted, we can make mistakes... I'm honestly afraid." (TEC 4)*
>
> *"The problem is that this tiredness, this irritation due to the surplus of things to do here, is bad for the patient. The biggest loser is him. It's not his fault, but, often, it happens that we can't do it in the best way... Even basic things, like talking to the most lucid patients, are all due to stress, fatigue. Undoubtedly, overload greatly interferes with the quality of our work." (TEC 1)*

According to the statements above, it is clear that, in addition to the workers recognizing that work in the ICU is stressful and tiring, they also emphasize that this can interfere with patient safety, as the professional does not perform their activities with cognitive conditions suitable for this and may develop some procedure in the wrong way.

Safety culture in the ICU - perception of nursing workers: safety climate

When asked about what the institution has done to implement actions that favor a safety culture, it is clear that, for seven workers, the institution is at an early stage concerning patient safety. It is noticed that they consider more training on the subject necessary, in which daily practices that may be compromising the quality of care are discussed, as in the statements below:

> *"I think it's crawling, starting. We had training talking about the medications, the vias, the care involving the medicines." (ENF 4)*

However, other respondents have different opinions, recognizing the institution's actions in favor of patient safety:

> *"I believe we are evolving more and more. For example, the error notification itself... Before, none of this existed. Now, we can notify when something happens that was not supposed to happen to the patient." (ENF 3)*
>
> *"I think it always improves. [...] I think the patient safety culture is improving, but there are many people who still ignore it." (ENF 2)*

The statements above show that, although some workers do not recognize the institution's work, mobilizations are being carried out for training and/or surveillance, to implement a safety culture in the institution.

To improve the actions taken by the institution, the workers also made suggestions, such as: care about medicines and patients with similar names, more awareness among the team about patient safety, and more training for this purpose.

Safety culture in the ICU - perception of nursing workers: perception of unit and hospital management

The workers were asked about their perception of the hospital and unit management actions regarding patient safety issues:

> *"It is not being discussed with the team; this part is very complicated. We are taking training, qualification, everything. But then what's missing is talking; go into the ICU more, talk to people, and not simply come to impose situations" (TEC 2)*

In the statement presented above, the worker reports some discomfort about managers decision-making. He also expresses the desire to talk more about the topic, participating in decisions. As he is on the front line of care, he has the potential to contribute to specific changes in care practice and, consequently, to patient safety. Below is another statement on the perception of management:

> *"A person has been here and has already said it; she has given us all this part of the infection, this part of contagion, of contact; the precautions we have to take to preserve him [the patient], for his safety. That part was more than she put on because she was at CCIH. But it can't be like that person said, not in the sense of demand. You have to put much more in a way as if it were a benefit to the patient, not in a demanding way. Not that she meant it badly, because it was necessary, but it would be nice to put it in a more constructive way" (ENF 6)*

According to the statement, the participant reports the need for more emphasis, on the part of the institution's management, concerning the subject of patient safety. He highlights that some actions are being carried out, but that there is a need to implement other strategies to approach workers, in addition to the training and qualifications that are already being carried out.

It is pertinent to highlight that, due to the entry of a significant number of new workers into the service, as a result of the institution's adhesion to the Brazilian Hospital Services Company (Ebserh), a systematic training program was established, in which various subjects are included, including those relating to patient safety. In addition, the head of the ICU established a training program, with monthly meetings, for all workers, dealing with different issues involving intensive care assistance and also including topics related to patient safety.

Safety culture in the ICU - perception of nursing workers: working conditions

It is noteworthy that workers, when asked about their working conditions to develop safe care, described the following opinion:

> *"You have everything you need on hand. Material is not lacking. Material is rarely lacking, but on weekends, the staff does not replace it. You have a doctor to support you; there is a nurse, a psychologist, a physiotherapist. I think the working conditions are good." (ENF 4)*

Nursing workers consider the working conditions to be good in the ICU studied since the institution provides quality materials, provides the human resources necessary for quality care, and has relevant technological devices for the treatment of patients. However, some limitations were mentioned regarding the physical structure of the sector that directly interfere with patient safety. Such deficiencies are demonstrated in the following statement:

> *"About the space and the excess of people, as I work at night, I don't have this problem of overcrowding, but the few times I come during the day, it's noise pollution, it's a lot of people, a lot of people around you. You already have all that paraphernalia around the patient, five hundred more people around you... you work by deviating from wires, deviating from the machine; you can't reach an infusion pump to stop it alarming because it's too much. I think the physical space would need to be much more expanded". (TEC 10)*

In the workers' statements, the issue of work overload also came up, and even this relationship with patient safety, as can be seen in the statement:

> *"Look, talking about working conditions is talking about a lot of work, like overload. Perhaps this is the main problem in the ICU... and this directly interferes with patient care." (TEC 4).*

Another aspect remembered by workers and which is related to working conditions is the number of professionals:

> *"Look, when there are two nurses, it gets really good, because, according to the constitution there, it asks for six patients per nurse. So, when there are not two nurses per shift, it gets complicated [...]. Demand gets higher, but we can handle it". (ENF 3)*

In the assessment of working conditions, qualitatively, it can be said that nursing workers have a good perception. However, there was a need for improvement, especially concerning the structural part of the unit. It was also reported that the overload of activities and, consequently, the number of staffs could influence working conditions, reflecting on patient safety.

DISCUSSION

The findings on the predominance of females in this study are in line with other studies results, which showed that women constitute the largest contingent of nursing workers[12-14]. As for age, the present study shows a relatively young population, similar to other studies. The profile of Brazilian nursing confirms this finding, considering that the profession is in whole rejuvenation, with ¼ of its contingent aged up to 20 years and 61.7% up to 40 years[13].

Concerning graduate courses, there was a high percentage (69.2%) of workers without a graduate degree in the study in question. This result may be related to the large number of young professionals who participated in the study, considering that professionals up to 25 years of age are at the beginning of their professional life, recent graduates, and recent graduates from technical schools or nursing schools. These young people are still without a clear definition of their area of expertise and how their insertion in the labor market will take place so that they are in the stage of professional training[13].

Regarding the variable strain at work, 57.7% of the participants in the current survey consider it very exhausting, which is in line with the literature. The ICU is a place to care for patients in critical condition with prognostic variations; those who work in this place experience life and death situations of patients, which can result in emotional vulnerability, anxiety, guilt, and impotence[15].

As for the general assessment of the safety culture, there was a negative perception by the workers evaluated in this study. It could be observed that 61.5% have a negative perception of the safety culture, a result that is similar to that found in a Brazilian study[16] and that differs from that found in a survey conducted in Ghana, a country where 77.4% of workers had a positive perception of the safety culture[17].

Among the analyzed domains, the Job Satisfaction domain had the best result (average=92.5), obtaining a positive evaluation by the majority of the nursing workers (80.8) in the current study. This result was similar to those found in national and international research[18,19].

Qualitative data from the present study showed that, despite disagreeing with some attitudes of the hospital and unit management, and the existence of feelings of overload and fatigue on the part of nursing workers, there is great satisfaction in working in this ICU, demonstrating affinity between quantitative and qualitative data evidence in this research. Based on the statements, it was possible to observe adoration, accomplishment, and gratification for the work performed, although they report, in some situations, feeling overloaded, tired, and exhausted. It demonstrates

that even when exposed to a high workload, with direct repercussions on their health, the satisfaction generated by the work developed in this ICU is higher for the workers.

According to other authors, in other words, an environment conducive to work emerges professionals who are satisfied with the service they perform, contributing with positive attitudes towards safety[19].

The Perceived Stress domain also had a positive assessment by most workers (53.80%) in the current study, with a mean score of 75 (DP=22). It means that the professionals in this study recognized how much stressors interfered in the performance of the work. This result is in line with the findings from other studies[17,20,21], which found means below 75.

Based on the qualitative results of this research, it was possible to observe that workers, in many situations, perceive themselves and the team stressed. As a stressor in this process, they consider the work process in the ICU itself, which, in their view, is tiring, exhausting, as it requires constant concentration, being associated with an excess of workload. Complementarily, the literature suggests that working indoors is also a stressor and that the level of stress that nursing workers are subjected to during their work routine can cause psychological, physical, and social disturbances[22].

Another domain evaluated positively by 54.6% of workers in this research was Teamwork climate (average of 75). This data is similar to the results obtained by research carried out in another ICU[23], which found a average of 72, and differs from the results obtained in two surgical hospitalization units[24], which found an average of 52.3. A positive perception of teamwork was also observed by 83% of workers in a study carried out in Ghana[17] and by 60.3% of workers in a survey carried out in Albania[25].

Qualitatively, although some statements report difficulties in teamwork, in most of the statements it was observed that the teamwork climate constitutes a quality of the studied ICU team, showing a connection between quantitative and qualitative data. As noticed in the statements, the workers report that there is a relationship of cooperation and help between team members, both nursing and multidisciplinary.

To confirm this information, through the SAQ, it was shown that 50% of the workers fully agreed with the statement: “I have the support I need from other team members to take care of the patients”. A survey conducted in the United Kingdom found that, generally, communication between nursing teams was seen as positive, but communication between professions was identified as problematic, which further enhances the study result[26].

The Safety Climate domain had an average of 60.7, demonstrating a negative perception of organizational commitment to patient safety. It was also possible to verify that 61.5% of workers had an awful perception. Studies that used the SAQ found means higher than this investigation for this domain[18-27].

Based on the participants’ statements of this study, gaps were also noticed in the workers’ perception about the organizational commitment of the institution regarding patient safety issues. However, some positive points were mentioned by the workers. For them, the institution’s actions regarding patient safety issues are in the initial phase.

Given the panorama brought by the workers, it is essential to say that the patient safety movement is not only new in this institution, but in Brazil and the world. Some countries are references and have implemented safety practices as national policy, including Canada, Australia, England, and Scotland[1,14]. However, there is still a lot to do, especially to consolidate a safety culture, modifying the behavior of health professionals, not blaming them, but educating. With this, the debate is still incipient, showing that issues related to the safety culture formation may still be in the initial phase or under consolidation in many health services. Thus, it is known that the path towards a safety culture within institutions is still long and that it is relevant that everyone (institution, workers, and patient/family members) contribute to this process.

The Perception of Unit and Hospital Management domain had the worst perception when compared to the other SAQ domains (from 62.5 for the unit and 50 for the hospital) (SD =18.8), demonstrating a negative view of the professionals of the study on the screen regarding the actions of the management regarding safety issues. This result is similar to that found in a survey conducted in Swedish operating rooms, which obtained an average score of 57.9[28].

The qualitative results of this research were also mostly negative, suggesting that this data is due to the low valuation of ICU workers opinions. According to them, the actions of patient safety, by the hospital management, are being imposed and not agreed with the workers in the unit. It is known that the intellectual valuation of employees brings benefits to the institution and, thus, the individual starts to feel part of the process and to pursue the same goals as their managers. Management involvement in patient safety is essential to ensure quality care[24].

The Working Conditions dimension is related to the perceived quality of the work environment and logistical support, such as human resources, equipment, among others. In this study, there was an average of 54.2 (SD=26.8), representing a negative view of professionals regarding the perception of the quality of environmental and logistical

support in the workplace. The data found by the SAQ in this domain are similar to Brazilian studies[14,20,29], but are inferior to international studies, in which the authors observed means higher than those in this study[28-30].

However, the qualitative data that emerged in this study partly corroborate the quantitative results. Although several statements portray the limitations evidenced in working conditions, many workers reported several positive aspects. Among the positive aspects of working conditions, workers valued the availability of technological resources and the quality of the human resources they have to develop their work, such as materials, exams, and the constant presence of all members of the health team (physician, physiotherapist, nurse, technicians, psychologist). According to the statements, the limitations of working conditions are related to the excess of people who walk in the ICU during day shifts, the inadequate number of professionals assigned in some shifts, the physical structure of the ICU, and the work overload.

It is noteworthy that this study results can serve as a basis for identifying the weaknesses existing in organizations to then develop strategies that contribute to strengthening the safety culture and improving the quality of nursing care.

As a limitation, it is worth noting that the study was carried out in only one location, which limits the generalization of data to other locations.

CONCLUSION

From this study, it was evident that the results of the qualitative stage predominantly converge with the data of the quantitative stage, showing that workers have a negative perception concerning the general assessment of the safety culture. Among the domains explored, the Job satisfaction domain had the best result, obtaining a positive assessment by most nursing workers, while the Perception of the unit and hospital management domain had the worst perception when compared to the other domains assessed by SAQ, demonstrating a negative view of professionals regarding management actions related to safety issues.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

CONTRIBUTIONS

Etiane de Oliveira Freitas, **Tânia Solange Bosi de Souza Magnago**, **Rosângela Marion da Silva** and **Silviamar Camponogara** contributed to the conception and design of the study; analysis and interpretation of results; and writing and critically reviewing the content of the manuscript. **Camila Pinno**, **Karen Emanueli Petry** and **Daiana Foggiato de Siqueira** contributed to the conception and design of the study; and writing and critically reviewing the content of the manuscript. All authors approved the final version of the manuscript.

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