








ORIGINAL ARTICLE

Patient safety culture in intensive care units: the perception of health professionals

Cultura de segurança do paciente em unidades de terapia intensiva: percepção de profissionais de saúde

Ana Livia Araújo Girão¹ , Anna Jessyca Andrade Lacerda² , Luana Sousa de Carvalho³ ,
Letícia Martins Lousada³ , Káren Maria Borges Nascimento⁴ , Karla Thâmysa Cruz³ ,
Rhanna Emanuela Fontenele Lima de Carvalho³ 

ABSTRACT

The objective of this study was to evaluate how patient safety culture is perceived by professionals working in Intensive Care Units. This is a cross-sectional study carried out with 283 health professionals from reference hospitals in the state of Ceará. The data collection used the Safety Attitudes Questionnaire, which seeks to evaluate safety attitudes in professional activity. Among hospitals, the questionnaire showed scores ranging from 63.4 to 71.5, a positive score being equal to or greater than 75. Therefore, no institution achieved positive results. Among the six domains of the questionnaire, “Safety climate”, “Management perception” and “Working conditions” presented the lowest averages. Thus, this research verified the need to encourage safety culture in several aspects, mainly regarding managerial attitudes towards patient safety and working conditions.

Descriptors: Patient Safety; Intensive Care Units; Critical Care Nursing; Culture; Patient Care Team.

RESUMO

Objetivou-se avaliar a percepção da cultura de segurança do paciente sob a perspectiva de profissionais de Unidades de Terapia Intensiva. Trata-se de um estudo transversal realizado com 283 profissionais de saúde de hospitais de referência do estado do Ceará. Os dados foram coletados por meio do *Safety Attitudes Questionnaire*, o qual busca avaliar as atitudes de segurança no exercício profissional. No escore total do questionário, entre os hospitais, observou-se variação de valores entre 63,4 a 71,5, sendo considerado valor positivo escore igual ou maior que 75. Portanto, nenhuma instituição alcançou resultados positivos. Entre os seis domínios do questionário, “Clima de segurança”, “Percepção da gerência” e “Condições de trabalho” apresentaram as médias mais baixas. Desta forma, constatou-se a necessidade de incentivo à cultura de segurança em diversos aspectos, principalmente nas atitudes gerenciais quanto à segurança do paciente e condições de trabalho.

Descritores: Segurança do Paciente; Unidades de Terapia Intensiva; Enfermagem de Cuidados Críticos; Cultura; Equipe de Assistência ao Paciente.

¹Doutor José Frota Institute – Fortaleza (CE), Brazil. E-mail: livia.girao@uece.br

²Undergraduate course in Nursing, Ceara State University – Fortaleza (CE), Brazil. E-mail: jessyca_3011@hotmail.com

³Ceara State University – Fortaleza (CE), Brazil. E-mails: luanasousa741@gmail.com, leticia.lousada@hotmail.com, karlathamysa@hotmail.com, rhanna.lima@uece.br

⁴Fortaleza General Hospital – Fortaleza (CE), Brazil. E-mail: kambn@hotmail.com

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INTRODUCTION

Though it is not a recent subject, patient safety is still a prominent issue worldwide⁽¹⁾. While health care aims to bring improvements to all individuals involved, adverse events (AE) can happen. The occurrence of such events is the most intelligible way of identifying error quantitatively. Estimates indicate that the occurrence of incidents related to health care, especially AE, affects 4 to 16% of hospitalized patients in developed countries⁽²⁾.

Adverse events can occur in any health care sector, especially in Intensive Care Units (ICUs), due to the greater clinical complexity of the patients, as well as the greater need for invasive procedures and devices. This results in greater risk to the patient, that is, greater vulnerability to the occurrence of errors⁽³⁾.

In order to reduce the number of adverse events and improve the quality of care, it is essential to enforce a safety culture in which health professionals commit to patient safety and safe care process⁽⁴⁾.

Safety culture involves all professionals, both caregivers and managers, encouraging them to take responsibility for their own safety, for the safety of their colleagues, patients and family members, prioritizing safety above financial and operational goals. This is done by encouraging and rewarding the identification, reporting and resolution of safety-related problems, as well as promoting learning from error and ensuring the maintenance of these strategies⁽⁵⁾. Safety climate refers to the measurable components of safety culture, reflecting the notion of professionals in relation to safety issues, as well as the behavior of managers⁽⁶⁾.

In this context, the Safety Attitudes Questionnaire (SAQ) stands out as a valid instrument capable of providing information regarding the elements that need to be implemented in hospitals for patient safety, by measuring the perception of professionals about safety culture, assessing Teamwork climate, Safety climate, Job satisfaction, Stress recognition, Management perception and Working conditions⁽⁷⁾.

In the Guide to Safe Intensive Care Units (*Guia de Unidades de Terapia Intensiva Seguras – GUTIS*), the Brazilian Society of Intensive Care (AMIB) recommends the development of a patient safety culture, especially in intensive care units⁽⁸⁾. However, to elaborate actions aimed at patient safety, it is necessary to carry out a diagnostic evaluation of the safety culture in the ICU in order to know the attributes that must be improved in the units (management and work environment) and among the professionals (stress, job satisfaction and teamwork climate).

In addition to justifying this research in the high-risk care setting of the ICU, little discussed until now, a large part of the studies carried out in this area are retrospective, making

it difficult to detect and record adverse events, which severely limits the reproducibility of the conclusions found⁽⁹⁾.

The need for studies on patient safety culture, mainly in specialized settings such as Intensive Care Units, sparked the interest of the Safety, Technology and Clinical Care research group of the Ceará State University to perform this diagnosis by applying the SAQ.

The present study seeks to contribute to the adoption of a patient safety culture in health institutions, based on the related situational diagnosis of ICUs provided by this study, aiming to evaluate patient safety culture under the perspective of Intensive Care Unit workers.

METHODS

This is a descriptive-exploratory cross-sectional study with a quantitative approach, developed in six adult and pediatric intensive care units of four public hospitals distinguished in the fields of neurology, cardiopneumology, traumatology and infectiology in the city of Fortaleza, Ceará, Brazil.

Hospitals participating in the study were randomly selected. Of the seven state hospitals, four were chosen by draw. The number of participating hospitals was based on the estimated time for data collection in each ICU, approximately three months per unit.

The population was composed of all health the professionals from the six ICUs surveyed. Professionals who had a weekly workload of at least 20 hours and who had been working for at least one month in the selected units of the study were included. The study excluded professionals on vacation or leave during the data collection period and those who did not return the completed questionnaire after three contact attempts.

The study sample consisted of 283 workers who met the criteria, among them: physicians, nurses, nursing technicians, physiotherapists, nutritionists, psychologists, occupational therapists, social workers, pharmacists, secretaries, environmental support workers and encephalogram technicians.

The data were collected from October 2015 to April 2016 to allow for the collection of a significant sample. A translated and Brazil-validated version of the Safety Attitudes Questionnaire (SAQ) composed of two parts, was used as an instrument. The first part consists of 41 questions regarding the perception of patient safety. The second part aims to collect data from the participating professionals: position held, gender, main activity and length of employment.

The SAQ seeks to assess the attitudes of professional practice through six domains:

- Teamwork climate: understanding the quality of the relationship and collaboration between the members of a team (items 1 to 6);

- Safety climate: evaluation of professionals' perception of organizational commitment to patient safety (items 7 to 13);
- Job satisfaction: positive outlook of the workplace (items 15 to 19);
- Stress recognition: perception of how much stressors have an impact on work performance (items 20 to 23);
- Management perception: approval of management actions regarding safety (items 24 to 29);
- Working conditions: perception of the quality of the work environment (items 30 to 33)⁽⁷⁾.

Before beginning data collection, the researchers met with the technical boards and heads of the sectors that participated in the survey to share the study objectives and methodologies. The workers who agreed to participate in the research signed a free and informed consent form (TCLE, in the Portuguese abbreviation) and received an envelope containing a duplicate of the TCLE for possession of the participant, the instrument, a pencil and an eraser. The instruments were filled out by participants in their work environment without the presence of the researcher, who collected the completed questionnaires at another time and provided their contact information to address any doubts. The average time for completing the questionnaire was 15 minutes.

The answers to each question followed the five-point Likert scale, ranging from total disagreement to total agreement, with a score assigned to each option:

- A: strongly disagrees (0 points);
- B: partially disagrees (25 points);
- C: neutral (50 points);
- D: partially agrees (75 points);
- E: strongly agrees (100 points);
- X: does not apply.

The final score ranges from 100 to zero, where zero corresponds to the worst perception of safety attitudes by health professionals and 100 corresponds to the best perception.

For score calculation, the questions were categorized by domains, and thus, an average score for each domain question was attributed. A final score equal to or greater than 75 points was considered a positive score.

The collected information was inserted into an Excel[®] database and then processed and analyzed in the Statistical Package for Social Science (SPSS), version 20.0.

The qualitative variables obtained by the questionnaires were analyzed in light of descriptive statistics through the distribution of absolute and percentage frequency. For the analysis of quantitative variables, descriptive measures of centrality (mean) and dispersion (standard deviation, minimum and maximum values) were used. ANOVA and a $p < 0.05$ were used for the mean comparison tests.

The study was sent to the Ethics Committee of the Ceará State University, obtaining approval to be carried out under approval no. 985,564. All participants in the survey were guaranteed anonymity.

RESULTS

In total, 470 questionnaires were distributed and 283 (60.2%) were answered. Of the workers who participated, 181 (64.4%) were part of the nursing staff, of whom 118 (42.1%) were nursing technicians/assistants and 63 (22.3%) were nurses. In regard to length of employment, it was found that 149 (52.7%) professionals had worked in the institution for more than five years, and professionals with a permanent contract accounted for 119 (42.0%) (Table 1).

The total SAQ score showed variation among the four hospitals (63.4 to 71.5), evidencing that no institution reached an ideal score above 75. Regarding the average per domain, the domains "Stress recognition" and "Job satisfaction" reached satisfactory averages, the latter showing a statistically significant difference between the hospitals ($p < 0.05$). In contrast, the domain "Management perception" reached averages below 60, indicating that professionals do not approve of the actions of management regarding safety issues (Table 2).

Regarding the form of employment, a statistically significant difference was observed between the scores for the "Stress Recognition" and "Working Conditions" domains, among the professionals with permanent contracts and those with non-permanent contracts. In the "Working Conditions" domain, there was a significant difference in length of employment, evidencing that professionals with up to five years of performance in the field tend to positively evaluate the work environment conditions.

Regarding the distribution of answers for each item, the results related to strongly and partially agreeing were highlighted in items 5, 15, 17 and 18, with scores of 83.1, 93.4, 85.8 and 85.4%, respectively. Item 5 mentions the ease of professionals who work in the investigated ICUs to ask questions when there is something they do not understand; item 15 reveals they like working in the unit, indicating that they are satisfied with the job; item 17 indicates the units studied as good working environments; and in item 18, the professionals reported being proud of working in the unit. The positive responses for items 20 and 33 of the domains "Stress Recognition" and "Working Conditions", respectively, are also worth mentioning. These questions show that 79.7% of professionals agree that performance is impaired when the workload is excessive and 83.4% agree that they have a good collaboration with the nurses of the unit (Table 3).

Regarding unit and hospital management, item 24 "Management supports my daily efforts" and item 25 "Management doesn't knowingly compromise patient safety"

indicated an average of 40.3% and 41.9%, respectively, of negative responses.

DISCUSSION

The results varied according to domains, hospitals, form of employment and length of employment.

Most ICU professionals studied are from the nursing team, with a length of employment of more than five years

Table 1. Study participants profile (n=283). Fortaleza, CE, Brazil, 2016.

Variables	n (283)	%
Gender		
Female	168	59.4
Male	98	34.6
Did not answer	17	6.0
Job title		
Nursing Assistant/Tec.	118	42.1
Nurse	63	22.3
Physician	27	9.5
Physical therapist	17	6.0
Nutritionist	11	3.9
Resident doctor	7	2.5
Head of Nursing	6	2.1
Occupational therapist	5	1.8
Pharmacist	4	1.4
Psychologist	3	1.0
Social Worker	2	0.7
Other	11	3.9
Did not answer	9	3.2
Length of employment		
Less than 6 months	17	6.0
6 to 11 months	16	5.7
1 to 2 years	46	16.2
3 to 4 years	32	11.3
5 to 10 years	59	20.9
11 to 20 years	57	20.1
Over 21 years	33	11.7
Did not answer	23	8.1
Form of Employment		
Permanent contract	119	42.0
Non-permanent contract	107	37.8
Other	29	10.2
Did not answer	28	10.0

and a permanent contract with the institution. These results are similar to the data identified in the study carried out by the Nursing Department of the Association of Intensive Care, which revealed that Brazilian professionals working in ICUs are predominantly female, with an average age of 35 and employed under a labor regime⁽¹⁰⁾.

Regarding the perception of safety culture, no institution reached results above 75. This result is similar to that of a study carried out in an international ICU⁽¹¹⁾, as well as to other Brazilian studies^(12,13), which also revealed low scores and a fragile ICU safety culture in most dimensions evaluated.

The impact of safety culture on health care and worker safety has been under study since the 1990s. A study carried out in Brazil⁽¹⁴⁾, reveals the importance of research carried out in specific units, such as ICU, to evaluate the conditions of a work environment that can lead to adverse events and damages to the patient. This type of assessment is believed to be able to raise awareness about patient safety issues, assess the current status of safety culture and monitor the effectiveness of interventions over time.

As for the domains, "Job satisfaction" obtained a higher average, with variation between 71 to 84 and a statistically significant difference between hospitals. The ICU of hospital A, which obtained the highest average in this domain, is a unit composed mostly of professionals hired through a public selection procedure, that is, they have a permanent contract with the institution. The opposite is observed in the ICU of hospital C, which has the largest number of professionals without a permanent contract with the institution. We cannot state that a permanent contract with the institution is directly linked with job satisfaction, however, these results may indicate factors that may be related to this construct.

It is worth noting that the different forms of employment contracts point to a precariousness of a significant contingent of health workers. Such precariousness constitutes a critical point for the consolidation of the Single Health System (SUS, in the Portuguese acronym) and for ensuring the right to health⁽¹⁵⁾. The absence of a permanent contract with the institution compromises the relationship with the workers and jeopardizes the continuity of the services provided, as it causes a high rate of personnel turnover⁽¹⁶⁾. Studies have shown that this turnover may be associated with job satisfaction⁽¹⁰⁾ and patient-related outcomes such as length of stay and incidents that pose a threat to patient safety and well-being⁽¹⁷⁾.

Regarding the form of employment, it was observed that the "Stress Recognition" domain shows a statistically significant average among professionals with and without permanent contracts with the institution. This interpretation reinforces the results of the "Job satisfaction" domain, since professionals with permanent contracts and satisfied with the institution feel safer and are able to recognize how stressors interfere in their performance. With these findings,

participants are aware that factors such as excessive workload, stressful situations and fatigue can compromise patient safety and generate situations that are prone to adverse events.

Excess workload is seen as the cause of emotional exhaustion, accidents and health problems in professionals. This is why there should be an adequate planning of workload distribution, continuing education and elaboration of strategies to improve working conditions, in order to prevent the physical and psychological deterioration of the team⁽¹⁸⁾.

Studies demonstrate the influence of job satisfaction on the quality of patient care, pointing out that if there is dissatisfaction with the work, at least on the part of the team, the whole team of professionals can be affected, decreasing the quality of patient care and, thus, extending the length of stay in hospital, increasing the number of adverse events and mortality⁽¹⁹⁾, besides being associated with performance, motivation, absenteeism/tardiness, mental/physical health and general life satisfaction⁽²⁰⁾.

Table 2. Safety Attitudes Questionnaire (SAQ) scores by domain according to hospital, form of employment and length of employment (n=283). Fortaleza, CE, Brazil, 2016.

Variables	SAQ Domains							Total SAQ
	D1*	D2*	D3*	D4*	D5A*	D5B*	D6*	
Hospital	Average	Average	Average	Average	Average	Average	Average	Average
A	82.0*	65.5	84.0*	78.6	63.7	58.2	65.2	71.5
B	69.6*	59.9	76.0	75.6	53.4	52.1	68.4	64.6
C	69.8	59.8	71.7*	71.3	53.6	48.4	67.5	63.8
D	73.4	66.7	78.9	74.8	54.3	57.7	52.4	63.4
Form of Employment								
Permanent contract	73.1	60.0	76.4	83.1*	55.1	47.8	59.2*	65.2
Non-permanent contract	70.0	63.2	75.9	68.1	55.5	54.5	68.3	65.3
Other	76.9	67.1	79.9	74.2	61.4	51.7	70.0	69.4
Length of employment								
Less than 6 months	80.8	73.9	79.1	68.7	65.8	63.2	75.7*	73.3
6 to 11 months	70.3	61.8	72.9	79.9	52.8	52.1	71.6	66.4
1 to 2 years	74.2	63.8	77.2	74.1	58.5	52.6	70.7	67.8
3 to 4 years	72.2	63.9	78.8	75.0	61.0	60.6	72.4	69.0
5 to 10 years	72.6	62.4	74.4	72.0	52.5	47.8	63.0	63.6
11 to 20 years	71.7	59.1	76.8	81.1	56.0	45.7	59.0	64.7
Over 21 years	70.5	62.1	77.9	69.2	51.8	51.2	60.1	63.7

*D1: teamwork climate; D2: safety climate; D3: job satisfaction; D4: stress recognition; D5A: hospital management perception; D5B: unit management perception; D6: working conditions; *p<0.05.

Table 3. Distribution of participants' responses by item (n=283). Fortaleza, CE, Brazil, 2016.

Safety Attitudes Questionnaire (SAQ)	Strongly and partially disagree	Neutral	Strongly and partially agree
	n (%)	n (%)	n (%)
1. Nurse input is well received in this clinical area.	30 (10.9)	34 (12.3)	212 (76.8)
2. (R) * In this clinical area, it is difficult to speak up if I perceive a problem with patient care.	121 (44.3)	23 (8.4)	129 (47.3)
3. Disagreements in this clinical area are resolved appropriately (i.e., not who is right, but what is best for the patient).	42 (15.2)	29 (10.5)	205 (74.3)
4. I have the support I need from other personnel to care for patients.	25 (9.1)	29 (10.6)	219 (80.2)
5. It is easy for personnel here to ask questions when there is something that they do not understand.	30 (11.0)	16 (5.9)	227 (83.1)
6. The physicians and nurses here work together as a well-coordinated team.	43 (15.7)	20 (7.3)	210 (77.0)
7. I would feel safe being treated here as a patient.	37 (13.6)	28 (10.3)	207 (76.1)
8. Medical errors are handled appropriately in this clinical area.	62 (22.6)	45 (16.4)	168 (61.1)
9. I know the proper channels to direct questions regarding patient safety in this clinical area.	46 (16.7)	36 (13.0)	194 (70.3)
10. I receive appropriate feedback about my performance.	106 (39.3)	45 (16.7)	119 (44.0)
11. (R)* In this clinical area, it is difficult to discuss errors.	126 (45.6)	50 (18.1)	100 (36.2)
12. I am encouraged by my colleagues to report any patient safety concerns I may have.	45 (16.5)	42 (15.4)	185 (68.0)
13. The culture in this clinical area makes it easy to learn from the errors of others.	69 (25.4)	48 (17.7)	154 (56.9)
14. My suggestions about safety would be acted upon if I expressed them to management.	75 (28.3)	63 (23.8)	127 (47.9)
15. I like my job.	5 (1.8)	13 (4.8)	255 (93.4)
16. Working here is like being part of a large family.	27 (9.9)	33 (12.1)	213 (78.0)
17. This is a good place to work.	14 (5.1)	25 (9.1)	237 (85.8)
18. I am proud to work in this clinical area.	17 (6.2)	23 (8.4)	234 (85.4)
19. Morale in this clinical area is high.	59 (22.6)	51 (19.5)	152 (58.00)
20. When my workload becomes excessive, my performance is impaired.	35 (12.9)	20 (7.4)	216 (79.7)
21. I am less effective at work when fatigued.	38 (14.0)	20 (7.4)	213 (78.6)
22. I am more likely to make errors in tense or hostile situations.	47 (17.4)	26 (9.6)	197 (73.0)

Continue...

Table 3. Continuation.

Safety Attitudes Questionnaire (SAQ)	Strongly and partially disagree	Neutral	Strongly and partially agree
	n (%)	n (%)	n (%)
23. Fatigue impairs my performance during emergency situations (e.g.: emergency resuscitation, seizure).	61 (24.4)	28 (11.2)	162 (64.5)
24. Management supports my daily efforts: (Hospital).	58 (32.0)	27 (14.9)	96 (53.0)
24. Management supports my daily efforts: (Unit).	90 (40.3)	61 (27.4)	72 (32.0)
25. Management doesn't knowingly compromise patient safety: (Hospital)	75 (41.9)	45 (25.1)	59 (32.9)
25. Management doesn't knowingly compromise patient safety: (Unit)	62 (27.7)	76 (33.9)	86 (38.4)
26. Management is doing a good job: (Hospital)	38 (20.5)	37 (20)	110 (59.5)
26. Management is doing a good job: (Unit)	57 (25.1)	72 (31.7)	98 (43.2)
27. Problem personnel are dealt with constructively by our: (Hospital)	58 (31.2)	58 (31.2)	70 (37.6)
27. Problem personnel are dealt with constructively by our: (Unit)	71 (32.3)	75 (34.1)	74 (33.7)
28. I get adequate, timely info about events that might affect my work, from: (Hospital)	57 (30.8)	34 (18.4)	94 (50.8)
28. I get adequate, timely info about events that might affect my work, from: (Unit)	71 (32.3)	60 (27.3)	89 (40.4)
29. The levels of staffing in this clinical area are sufficient to handle the number of patients.	118 (44)	32(12)	116 (43.6)
30. This hospital does a good job of training new personnel.	69 (25.9)	39 (14.7)	158 (59.4)
31. All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	69 (25.7)	44 (16.4)	156 (58.0)
32. Trainees in my discipline are adequately supervised.	52 (19.7)	26 (9.8)	186 (70.5)
33. I experience good collaboration with nurses in this clinical area.	28 (10.3)	17 (6.3)	226 (83.4)
34. I experience good collaboration with staff physicians in this clinical area.	34 (12.5)	26 (9.5)	213 (78.0)
35. I experience good collaboration with pharmacists in this clinical area.	50 (19.0)	44 (16.8)	168 (64.1)
36. (R)* Communication breakdowns that lead to delays in delivery of care are common.	152 (57.4)	46 (17.4)	67 (25.3)

*Reverse items.

The "Management perception", "Working conditions" and "Safety climate" domains were also highlighted, obtaining below expected scores ranging from 48.4 to 58.2; 52.4 to 68.4; and 59.9 to 66.7, respectively. Management perception expresses approval of the actions of management by personnel

in regard to patient safety issues. Similar results were identified in SAQ studies in Italy⁽²¹⁾ and Brazil⁽¹⁴⁾.

Negative management perceptions reflect the dissatisfaction of professionals with their managers regarding patient safety issues, and these are evident when practitioners

report that they do not feel supported in their daily efforts. In this way, professionals may feel less valued in their work, which has an impact on patient care. However, it is worth noting that, in intensive care units, the clinical profile of patients and high mortality rates can lead to personal exhaustion and stress, which may impact the perception of hospital management.

A Brazilian study also analyzed incidents in ICUs and revealed the influence of ICU work aspects, stress levels, burnout, nursing workload, professional satisfaction and perception of the work environment in patient safety⁽²²⁾.

The “Working conditions” domain obtained a score of >75, with a statistically significant difference for professionals with a length of employment of less than six months. This result can be explained by the fact that these professionals are adapting to the new workplace, in contrast with professionals who have been in the institution for more than 10 years and are expected to have a more critical view of the work environment. However, a study carried out in Brazil⁽¹²⁾ revealed that work experience time did not have significant impact in terms of a better perception of safety culture.

In this study, one of the domains evaluated by the instrument, “Safety climate”, was not correlated with any variable of the study. The perception of a strong and proactive organizational commitment to safety was below the expected average, however, when evaluating the items in this domain, it was observed that most professionals would feel safe if they were patients in those units, moreover, more than 70% admitted to knowing the appropriate means to address issues related to patient safety.

This is consistent with the proposal of a robust patient safety culture: one that seeks an understanding of the whole multi-professional team in assisting the patient directly and indirectly, clearly exposing and discussing the needs and errors among professionals, using a non-punitive approach, encouraging professionals to report on events so that the institution can intervene in work processes and continuing education, empowering professionals to ensure safer care to patients⁽²³⁾.

The present study assessed the safety culture in a given time and did not analyze the correlation of safety culture with patient safety indicators without identifying the impact of safety culture on such indicators. Further studies with other research designs will broaden the knowledge on the subject and minimize the mentioned limitations.

CONCLUSION

The results of this research indicate that the perception of patient safety by the workers in the studied units showed scores below expected (<75), reflecting a safety culture that needs to

be improved in several aspects, especially regarding managerial attitudes towards patient safety. Aspects such as stress recognition and working conditions should also be strengthened.

In addition, it was observed that professionals with a permanent contract had a better perception of the factors that lead to stress and are more critical regarding the working conditions, highlighting how employment contracts for health professionals are important when it comes to providing safe care.

According to the study, management aspects within the work environment need to be improved, especially in the ICU, as this is a place of complex care delivery to critical patients. A continuous evaluation of safety culture is suggested to provide managers with data that can help them strategize and implement a fair culture in which people are not punished for committing errors, but violations are not tolerated. A culture of reporting, notification and continuous learning, which acknowledges and investigates errors in order to find and implement solutions.

With such a diagnosis, this study serves as a starting point for changing policies and addressing the identified problems, thus encouraging the implementation of future interventions aimed at reducing the impact of these factors on the quality of patient care and safety.

REFERENCES

1. Minuzzi AP, Salum NC, Locks MOH, Amante LN, Matos E. Contribuições da equipe de saúde visando à promoção da segurança do paciente no cuidado intensivo. Esc. Anna Nery [Internet]. 2016 [accessed on Nov. 28, 2018];20(1):121-9. Available at: <http://dx.doi.org/10.5935/1414-8145.20160017>.
2. Brasil. Ministério da Saúde. Agência Nacional de Vigilância Sanitária. Gestão de Riscos e Investigação de Eventos Adversos Relacionados à Assistência à Saúde [Internet]. Brasília: Ministério da Saúde; 2017 [accessed on Nov. 20, 2018]. Available at: <http://portal.anvisa.gov.br/documents/33852/3507912/Caderno+7++Gest%C3%A3o+de+Riscos+e+Investiga%C3%A7%C3%A3o+de+Eventos+Adversos+Relacionados+%C3%A0+Assist%C3%Aancia+%C3%A0+Sa%C3%BAde/6fa4fa91-c652-4b8b-b56e-fe466616bd57>.
3. Ortega DB, D’innocenzo M, Silva LMG, Bohomol E. Análise de eventos adversos em pacientes internados em unidade de terapia intensiva. Acta Paul Enferm [Internet]. 2017 [accessed on Nov. 19, 2018];30(2):168-73. Available at: <http://dx.doi.org/10.1590/1982-0194201700026>.
4. Roque KE, Tonini T, Melo ECP. Eventos adversos na unidade de terapia intensiva: impacto na mortalidade

- e no tempo de internação em um estudo prospectivo. *Cad Saúde Pública* [Internet]. 2016 [accessed on Nov. 22, 2018];32(10):e00081815. Available at: <http://dx.doi.org/10.1590/0102-311X00081815>.
5. Brasil. Ministério da Saúde. Fundação Oswaldo Cruz. Agência Nacional de Vigilância Sanitária. Documento de referência para o Programa Nacional de Segurança do Paciente [Internet]. Brasília: Ministério da Saúde; 2014 [accessed on Nov. 13, 2018]. Available at: http://bvsm.s.saude.gov.br/bvs/publicacoes/documento_referencia_programa_nacional_seguranca.pdf.
 6. Kolankiewicz AC, Loro MM, Schmidt CR, Santos FP, Bandeira VAC, Magnago TSBS. Clima de segurança do paciente entre trabalhadores de enfermagem: fatores contribuintes. *Acta Paul Enferm* [Internet]. 2017 [accessed on Nov. 20, 2018];30(5):531-7. Available at: <http://dx.doi.org/10.1590/1982-0194201700076>.
 7. Carvalho REFL, Arruda LP, Nascimento NKP, Sampaio RL, Cavalcante MLSN, Costa ACP. Avaliação da cultura de segurança em hospitais públicos no Brasil. *Rev Latino-Am Enfermagem* [Internet]. 2017 [accessed on Nov. 20, 2018];25:e2849. Available at: <http://dx.doi.org/10.1590/1518-8345.1600.2849>.
 8. Tomazoni A, Rocha PK, Kusahara DM, Souza AIJ, Macedo TR. Avaliação da cultura de segurança do paciente em terapia intensiva neonatal. *Texto Contexto Enferm*. 2015 [accessed on Nov. 22, 2018];24(1):161-9. Available at: <http://dx.doi.org/10.1590/0104-07072015000490014>.
 9. Novaretti MCZ, Santos EV, Quitério LM, Daud-Gallotti RM. Sobrecarga de trabalho da Enfermagem e incidentes e eventos adversos em pacientes internados em UTI. *Rev Bras Enferm* [Internet]. 2014 [accessed on Oct. 15, 2018];67(5):692-9. Available at: <http://dx.doi.org/10.1590/0034-7167.2014670504>.
 10. Viana RAPP, Vargas MAO, Carmagnani MIS, Tanaka LH, Luz KR, Schmitt PH. Profile of an intensive care nurse in different regions of Brazil. *Texto Contexto Enferm* [Internet]. 2014 [accessed on Oct. 11, 2018];23(1):151-9. Available at: <http://dx.doi.org/10.1590/S0104-07072014000100018>.
 11. Elsous A, Sari AA, Rashidian A, Aljeesh Y, Radwan M, AbuZaydeh H. A cross-sectional study to assess the patient safety culture in the Palestinian hospitals: a baseline assessment for quality improvement. *JRSM Open* [Internet]. 2016 [accessed on Oct. 15, 2018];7(12):167-75. Available at: <https://doi.org/10.1177/2054270416675235>.
 12. Tomazoni A, Rocha PT, Souza S, Anders JC, Malfussi HFC. Cultura de segurança do paciente em unidades de terapia intensiva neonatal: perspectivas da equipe de enfermagem e médica. *Rev Lat Am Enferm* [Internet]. 2014 [accessed on Oct. 16, 2018];22(5):755-63. Available at: <https://doi.org/10.1590/0104-1169.3624.2477>.
 13. Mello JF, Barbosa SFF. Cultura de segurança do paciente em unidade de terapia intensiva: perspectiva da equipe de enfermagem. *Rev Eletr Enf* [Internet]. 2017 [accessed on Oct. 12, 2018];19(7):2-12. Available at: <https://doi.org/10.5216/ree.v19.38760>.
 14. Santiago THR, Turrini RNT. Cultura e clima organizacional para segurança do paciente em Unidades de Terapia Intensiva. *Rev Esc Enferm USP* [Internet]. 2015 [accessed on Oct. 17, 2018];49(Núm. Esp.):123-30. Available at: <http://dx.doi.org/10.1590/S0080-623420150000700018>.
 15. Eberhardt LD, Carvalho M, Murofuse NT. Vínculos de trabalho no setor saúde: o cenário da precarização na macrorregião Oeste do Paraná. *Saúde em Debate* [Internet]. 2015 [accessed on Oct. 17, 2018];39(104):18-29. Available at: <http://dx.doi.org/10.1590/0103-110420151040432>.
 16. Pialarissi R. Precarização do Trabalho. *Rev Adm Saúde* [Internet]. 2017 [accessed on Nov. 21, 2018];17(66). Available at: <http://dx.doi.org/10.23973/ras.66.11>.
 17. Leitão IMTA, Sousa FSP, Santiago JCS, Bezerra IC, Moraes JB. Absenteeism, turnover, and indicators of quality control in nursing care: a transversal study. *Online Braz J Nurs* [Internet]. 2017 [accessed on Oct. 17, 2018];16(2):119-29. Available at: <https://doi.org/10.17665/1676-4285.20175623>.
 18. Chiang HY, Hsiao YC, Lee HF. Predictors of Hospital nurse's Safety Practices: Work Environment, Workload, Job satisfaction, and Error Reporting. *J Nurs Care Qual* [Internet]. 2017 [accessed on Oct. 12, 2018];32(4):359-68. Available at: <https://doi.org/10.1097/NCQ.0000000000000240>.
 19. Bordignon M, Monteiro MI, Mai S, Martins MFSV, Rech CRA, Trindade LL. Satisfação e insatisfação no trabalho de profissionais de enfermagem da oncologia do Brasil e Portugal. *Texto Contexto Enferm* [Internet]. 2015 [accessed on Nov. 22, 2018];24(4):925-33. Available at: <http://dx.doi.org/10.1590/0104-0707201500004650014>.
 20. Körner M, Wirtz MA, Bengel J, Göritz AS. Relationship of organizational culture, teamwork and job satisfaction in interprofessional teams. *BMC Health Serv Res* [Internet]. 2015 [accessed on Oct. 15, 2018];15:243. Available at: <https://doi.org/10.1186/s12913-015-0888-y>.
 21. Zenere A, Zanolin ME, Negri R, Moretti F, Grassi M, Tardivo S. Assessing safety culture in NICU: psychometric properties of the Italian version of

- Safety Attitude Questionnaire and result implications. *J Eval Clin Pract* [Internet]. 2016 [accessed on Oct. 15, 2018];22(2):275-82. Available at: <https://doi.org/10.1111/jep.12472>.
22. Padilha KG, Barbosa RL, Andolhe R, Oliveira EM, Ducci AJ, Bregalda RS, et al. Carga de trabalho de enfermagem, estresse/burnout, satisfação e incidentes em unidade de terapia intensiva de trauma. *Texto Contexto Enferm* [Internet]. 2017 [accessed on Dez. 20, 2018];26(3):e1720016. Available at: <http://dx.doi.org/10.1590/0104-07072017001720016>.
23. Lemos GC, Azevedo C, Bernardes MFGV, Ribeiro HCTC, Menezes AC, da Mata LRF. A cultura de segurança do paciente no âmbito da enfermagem: reflexão teórica. *Rev Enferm Centro-Oeste Mineiro* [Internet]. 2018 [accessed on Nov. 20, 2018];8:e2600. Available at: <http://dx.doi.org/10.19175/recom.v8i0.2600>.

