ASSESSMENT OF PATIENT SAFETY CULTURE IN INTENSIVE CARE FROM THE HEALTH TEAM'S PERSPECTIVE

Ana Paula Minuzzi[1], Nádia Chiodelli Salum[2], Melissa Orlandi Honório Locks[3]

[1] M.Sc. in Nursing. Nurse, Intensive Care Unit, *Hospital Governador Celso Ramos*. Florianópolis, Santa Catarina, Brazil. E-mail: annaminuzzi@yahoo.com.br
[2] Ph.D. in Nursing. Professor, *Programa de Pós-Graduação Mestrado Profissional - Gestão do Cuidado em Enfermagem*, *Universidade Federal de Santa Catarina* (UFSC). Florianópolis, Santa Catarina, Brazil. E-mail: nchiodelli@gmail.com
[3] Ph.D. in Nursing. Professor, Nursing Department, UFSC. Florianópolis, Santa Catarina, Brazil. E-mail: melhonorio@hotmail.com

ABSTRACT: The aim in this descriptive and exploratory study with a quantitative approach was to assess the dimensions of the patient safety culture from the perspective of health professionals at an Intensive Care Unit. Data collection took place between November 2013 and January 2014, using the questionnaire Survey on Patient Safety in Hospitals, administered to 59 health professionals. The results showed better ratings in the following dimensions: expectations and supervisor's actions to promote patient safety, teamwork at the health care service and openness to communication. The aspects that received the worst ratings were support of hospital management for patient safety; non-punitive responses to errors and teamwork across health care services. The study demonstrated a safety culture with potential improvements in all dimensions of the patient safety culture, offering support to plan patient safety strategies at the hospital.

DESCRIPTORS: Culture. Patient safety. Intensive care units.

AVALIAÇÃO DA CULTURA DE SEGURANÇA DO PACIENTE EM TERAPIA INTENSIVA NA PERSPECTIVA DA EQUIPE DE SAÚDE

RESUMO: Estudo descritivo-exploratório, com abordagem quantitativa, que teve por objetivo avaliar as dimensões da cultura de segurança do paciente, na perspectiva dos profissionais de saúde, de uma unidade de terapia intensiva. A coleta de dados ocorreu entre novembro de 2013 e janeiro de 2014, com a aplicação do questionário Pesquisa sobre Segurança do Paciente em Hospitais a 59 profissionais de saúde. Os resultados apontaram melhores avaliações nas dimensões: expectativas e ações de promoção da segurança do paciente do supervisor, trabalho em equipe na unidade e abertura para comunicações. Os aspectos com piores avaliações foram: apoio da gestão hospitalar para a segurança do paciente, respostas não punitivas aos erros e trabalho em equipe entre as unidades. O estudo demonstrou uma cultura de segurança com potencial de melhorias em todas as dimensões da cultura de segurança do paciente, servindo para instrumentalizar o planejamento de estratégias para segurança do paciente nesta instituição.

DESCRITORES: Cultura. Segurança do paciente. Unidades de terapia intensiva.

EVALUACIÓN DE LA CULTURA DE LA SEGURIDAD DEL PACIENTE EN TERAPIA INTENSIVA EN LA PERSPECTIVA DEL EQUIPO DE SALUD

RESUMEN: Estudio descriptivo exploratorio con abordaje cuantitativo, que tuvo como objetivo evaluar las dimensiones de la cultura de seguridad del paciente desde la perspectiva de los profesionales de la salud de una Unidad de Terapia Intensiva. La recolección de datos tuvo lugar entre noviembre de 2013 y enero de 2014 con la aplicación del cuestionario Encuesta sobre la Seguridad del Paciente en Hospitales a 59 profesionales de la salud. Los resultados apuntan mejores evaluaciones en las dimensiones: expectativas y acciones de promoción de la seguridad del paciente del supervisor; del trabajo en equipo en la unidad y apertura para la comunicación. Los aspectos con peores evaluaciones fueron: el apoyo de la gestión hospitalaria para la seguridad del paciente; las respuestas no punitivas a los errores y el trabajo en equipo entre las unidades. El estudio demostró una cultura de seguridad con potencial de mejoras en todas las dimensiones de la cultura de seguridad del paciente, sirviendo para instrumentalizar la planificación de estrategias para la seguridad del paciente en esta institución.

DESCRIPTORES: Cultura. Seguridad del paciente. Unidades de cuidados intensivos.

INTRODUCTION

Patient safety in health care delivery has turned into an imperative issue, representing a great challenge to improve the quality of health care. Nowadays, the scenario many countries have appointed the constant search for improvements in patient safety. In that perspective, the health professionals have been motivated to assess the safety culture in their work environment, with a view to understanding what the teams think and how they act with regard to patient safety.[1]

Patient safety is defined as the reduction of the risk for unnecessary health care-related damage to an acceptable minimum.[2] Based on this sense, it is considered the duty of any health institution to reduce the probability of patient damage deriving from health care delivery.

A study involving 58 hospitals from five Latin American countries appointed an estimated prevalence of adverse events (AE) corresponding to 10.5%. Six percent of these events were associated with the patient's death and more than 28% caused disability. Almost 60% of the total group of AEs was avoidable.[3] In that sense, working on prevention and encouraging a strong patient safety culture is fundamental to promote and support this concept among the health professionals.[4]

Amidst the different contexts this health care takes place in, intensive care units (ICUs) are acknowledged to be more vulnerable to the occurrence of AE, in view of the complexity and severity of the patients attended.[5]

The safety culture involves incorporated attitudes and values that should encourage and reward the identification, notification and solution of the safety-related problems; promote organizational learning based on the occurrence of incidents; and provide resources, structure and accountability for the effective maintenance of safety.[2]

Different assessment tools have been used to measure the safety culture in health, based on the use of tools that intend to focus their questions on characteristics of the culture itself, called dimensions, which are aspects that can interfere in patient safety. Among the known tools that have been tested, in this study, the Hospital Survey on Patient Safety Culture (HSOPSC) was chosen.[6]

The assessment of the patient safety culture in health organizations plays a fundamental role in the promotion of safe care, considering that these studies appoint the areas that need improvements and, thus, help to guide actions and attitudes, aiming for the best global performance.[4] In that context, the objective in this study was to assess the dimensions of the patient safety culture from the perspective of the health team professionals at an ICU.

METHOD

A descriptive and exploratory study with a quantitative approach was undertaken with ICU health team professionals from a tertiary public medium-sized general hospital for care delivery to adults, which served as a referral institution in neurotrauma, in a State in the South of Brazil.

The following inclusion criteria were adopted: male and female health professionals, who worked at this ICU at the time of the data collection, in direct contact with the patients, and who had worked at this unit for at least six months. As exclusion criteria, the decision was made not to include health professionals on leave for health treatment, pregnancy or holidays. Thus, based on a population of 71 professionals, 67 were apt to participate in the research. Fifty-nine of them answered the questionnaire, corresponding to a response rate of 88%.

The data were collected between November 2013 and January 2014 through the application of a version of the HSOPSC translated and validated for Brazil,[7] elaborated by the Agency for Healthcare Research and Quality (AHRQ).[6] This questionnaire covers the 12 dimensions of the patient safety culture and permits identifying the positive aspects and areas that need improvements.

The tool consists of sociodemographic variables; dimension variables of safety culture in the context of the service (team work at the service, supervisor/manager's patient safety promotion expectations and actions, organizational learning and continuing improvement, feedback and communication about errors, opening to communications, staff and non-punitive answers to errors); dimension variables of safety culture in the context of the hospital organization (support from hospital management to patient safety, teamwork among hospital services, internal transfers and shift transfers); and outcome variables (general perceived patient safety, frequency of reported events); in addition to two questions for the global assessment of patient safety and the number of AEs the professionals have reported in the last 12 months.

The professionals who agreed to participate received the instructions, and the data were collected during the subjects' work shift, guaranteeing a private location. Together with the questionnaire, a white envelope was delivered without any identification, to be closed and placed in a sealed ballot box.

Thus, the 12 dimensions of the patient safety culture were assessed based on questions distributed across the questionnaire, using a five-point Likert scale to score the subjects' answers, with answer categories that indicated the subjects' agreement or were based on a frequency scale.

The collected data were inserted in a worksheet in Excel® for Windows®. Next, the percentage frequency of each dimension was calculated and classified, in accordance with AHRQ recommendations, as follows: strengths in patient safety, which refer to the dimensions in which more than 75% of the interviewees gave positive answers; neutral areas, identified as items or dimensions in which the percentage of positive answers is higher than 50% but lower than 75%, or areas for potential improvement, in which the percentage of positive answers is inferior to 50%.[6]

Inferential analysis was applied through the chi-square test, in order to assess the degree of patient safety and the number of events reported in the past 12 months, testing the differences between the professional categories, with significance set at $p < 0.05$.

To analyze the sociodemographic data, descriptive statistics was applied, with absolute and percentage frequency counts for each professional category.

For the data analysis, in line with AHRQ orientations, to preserve the participants' anonymity, the categories with only two or three respondents were grouped. Thus, three subgroups were constituted: nurses (11 respondents); physicians and physiotherapists (19 respondents); and nursing technicians and nursing auxiliaries (29 respondents)[*].

The ethical aspects of the research were complied with. Approval was obtained from the Ethics Committees for Research involving Human Beings at *Universidade Federal de Santa Catarina*, under opinion 388.522/2013, and at the study hospital, under opinion 2013/0027. The health team professionals who agreed to participate in the research received and signed two copies of the Informed Consent Form.

RESULTS

Concerning the health team professionals' sociodemographic characteristics, 47.45% was between 31 and 40 years of age. Women were predominant (74.57%), even more in the nursing team (85%). As for the length of experience at the hospital, two main groups appeared, one with between six and ten years of experience (30.50%) and another with less than one year (27.11%). Regarding the length of experience in ICU, the result was similar to the time of work at the hospital.

Most (52.54%) of the health team professionals worked at the service between 30 and 40 hours per week. This result differed from the physicians, who generally worked 20 hours per week. What the length of experience in the profession is concerned, 27.11% had between six and ten years of experience in the area.

What the instruction level is concerned, almost half of the team (47.45%) held a graduate degree. In the functions nurse, physician and physiotherapist, 83.33% of the professionals held such a degree. Finally, 45.76% of the health team professionals had only one employment contract, against 15.78% for the subgroup physicians and physiotherapists.

With regard to the dimensions of the patient safety culture, Table 1 displays the percentages of the ICU health team professionals' positive answers, as well as the percentages for the subgroups described earlier for each dimension of the safety culture.

---

[*] In Brazil, nursing is divided into three categories: nurse, nursing technicians and nursing auxiliaries, being the highest level is a nurse, followed by technicians and auxiliaries. Translator's note.

Table 1 – Percentage of positive answers of the health team professionals according to the dimensions of the safety culture in the Survey on Patient Safety in Hospitals at an ICU of a hospital in the South of Brazil, 2014

Dimensions	Nurses (n=11)	Physicians and Physiotherapists (n=19)	Nursing Technicians and Aux. (n=29)	Health Team (n=59)
Teamwork at the service	40.90%	44.73%	50.82%	46.99%
Supervisors' expectations/actions	47.72%	53.94%	45.79%	48.89%
Organizational learning and continuous improvement	33.33%	24.55%	51.29%	39.12%
Feedback and communication errors	36.36%	14.02%	19.30%	20.81%
Opening to communication	51.51%	29.81%	44.04%	40.22%
Staff	24.99%	24.99%	33.26%	29.04%
Non-punitive responses to errors	21.21%	10.52%	13.23%	13.91%
Support from hospital management	6.06%	10.52%	16.25%	12.48%
Teamwork among services	27.27%	10.52%	19.11%	17.85%
Internal transfers and shift transfer	27.27%	22.72%	30.18%	26.05%
General perceived patient safety	27.27%	22.36%	35.40%	29.62%
Frequency of reported events	18.18%	17.53%	32.44%	24.84%

As regards the AHRQ orientations, according to the health team, none of the dimensions assessed was classified as strength, nor as a neutral area, receiving less than 50% of positive answers. Therefore, all dimensions were considered potential areas for improvement.

When the subgroups were analyzed separately, however, from the nurses' perspective, the dimension opening to communication was considered a neutral area, reaching more than 50% of positive answers. For the physicians and physiotherapists, the dimension expectations and supervisor/manager's actions to promote patient safety was considered a neutral area. The nursing technicians and auxiliary nurses considered organizational learning, continuous improvement and teamwork at the service as neutral areas as well. The remainder was assessed as potential areas for improvement.

Based on the collected information, it was observed that some specific items influenced the percentage of positive answers in each of the 12 dimensions.

In the item that affirms that, in situations in which there is plenty of work to be done, there is mutual support among the professionals, in the dimension teamwork at the service, 61.01% of positive answers were obtained. One point that negatively affected most of the team's (64,41%) opinion, especially among the nurses (81.82%), was the lack of respect among the team professionals.

Concerning the particularities of the supervisor/manager's expectations and actions to promote patient safety, 51.72% of the professionals affirmed that the management takes into account the team's suggestions and does not put pressure on the professionals in situations in which there is plenty of work to be done. On the other hand, 70.18% of the professionals reported that the management did not compliment them for activities focused on patient safety.

With respect to the aspects of the organizational learning and continuous improvement dimension, most nursing technicians and auxiliary nurses (72.41%) mentioned that the team professionals are always adopting attitudes to improve the patient safety. On the other hand, 28.07% of the professionals believed that the errors committed led to positive changes at this ICU.

As regards feedback and communication about errors, 17.24% of the professionals indicated being informed about errors at the service, and 22.80% believed that methods are discussed to prevent the reoccurrence of errors

What the dimension opening to communication is concerned, 55.17% of the professionals considered they were free to talk when they noticed something that can negatively affect the patient. On the opposite, 24.13% of the team professionals felt comfortable about questioning their supervisors' decisions or actions.

In the staff dimension, which inquires about whether staff numbers at the ICU are sufficient and whether the number of hours worked is appropriate, 11.86% of the health team considered that the

staff is sufficient. Nevertheless, 54.23% disagreed that the ICU uses more temporary staff or that the professionals do more overtime than the ideal to guarantee safe care.

In the dimension non-punitive responses to errors, most of the professionals (89.84%) considered that their errors can be used against them, 85.97% affirmed being afraid that their errors might be registered in their job files and 82.46% believed that, when an error occurs, only the person who made the mistake is focused on, instead of the AEs.

As regards the support from hospital management to patient safety, 89.84% of the respondents disagreed that the hospital management sees patient safety as a priority and 89.66% of the team agreed that the hospital management does not favor a safety climate that promotes patient safety.

In the teamwork among the hospital services, the professionals appointed lack of cooperation (91.53%), rapport (88.14%) and coordination (86.21%) among the services.

Concerning the internal transfers and shift transfers, 79.67% of the professionals emphasized difficulties with information exchange among the services and 77.59% of them considered the shift transfer problematic.

In the general perceived patient safety, most professionals (77.59%) believed that the service presents patient safety problems, 74.58% affirmed that the procedures and systems are inappropriate to prevent errors and 79.32% appointed that, in some situations, patient safety is jeopardized to respond to the high work demand.

As regards the frequency of the reported events, approximately the same percentage of professionals who reported the intercepted errors also appointed the errors committed, with or without potential patient damage. Nevertheless, under-reporting of adverse events occurs in any of the circumstances.

What the assessment of the degree of patient safety is concerned, the results are presented in figure 1.
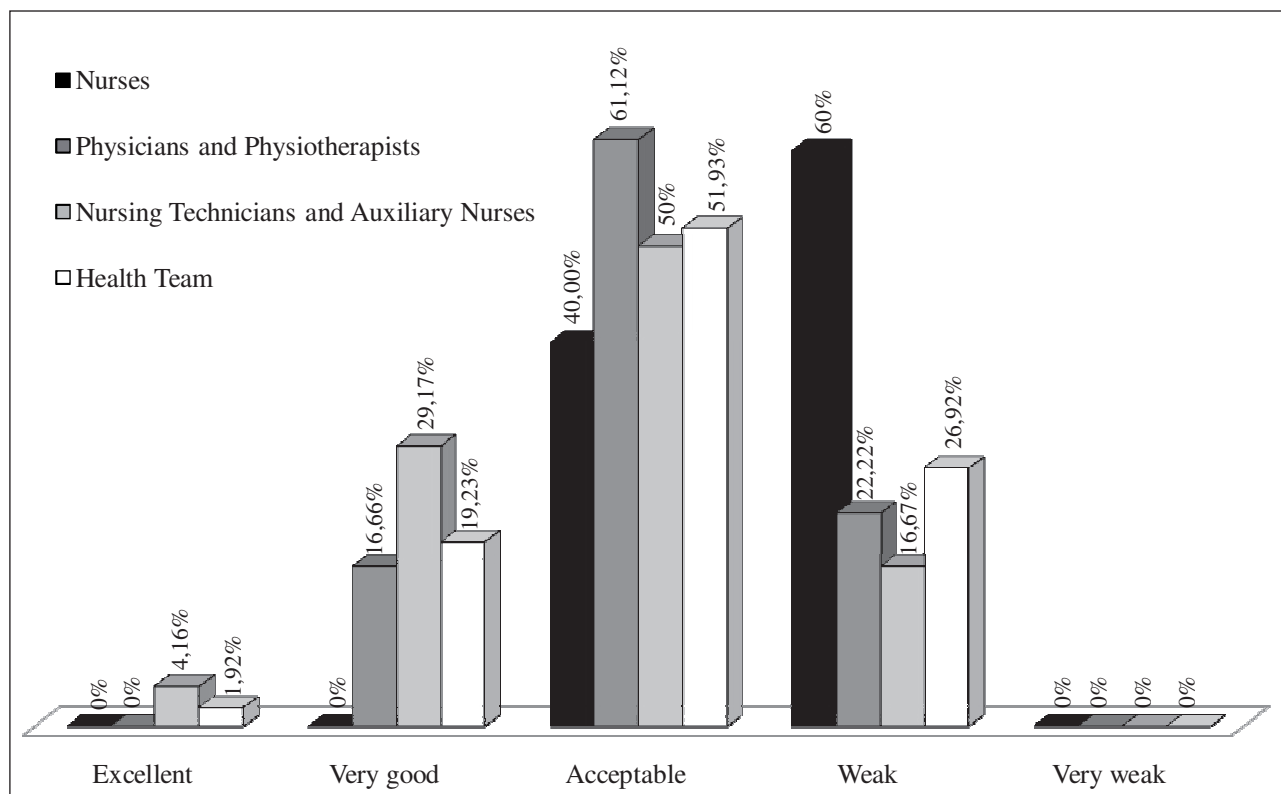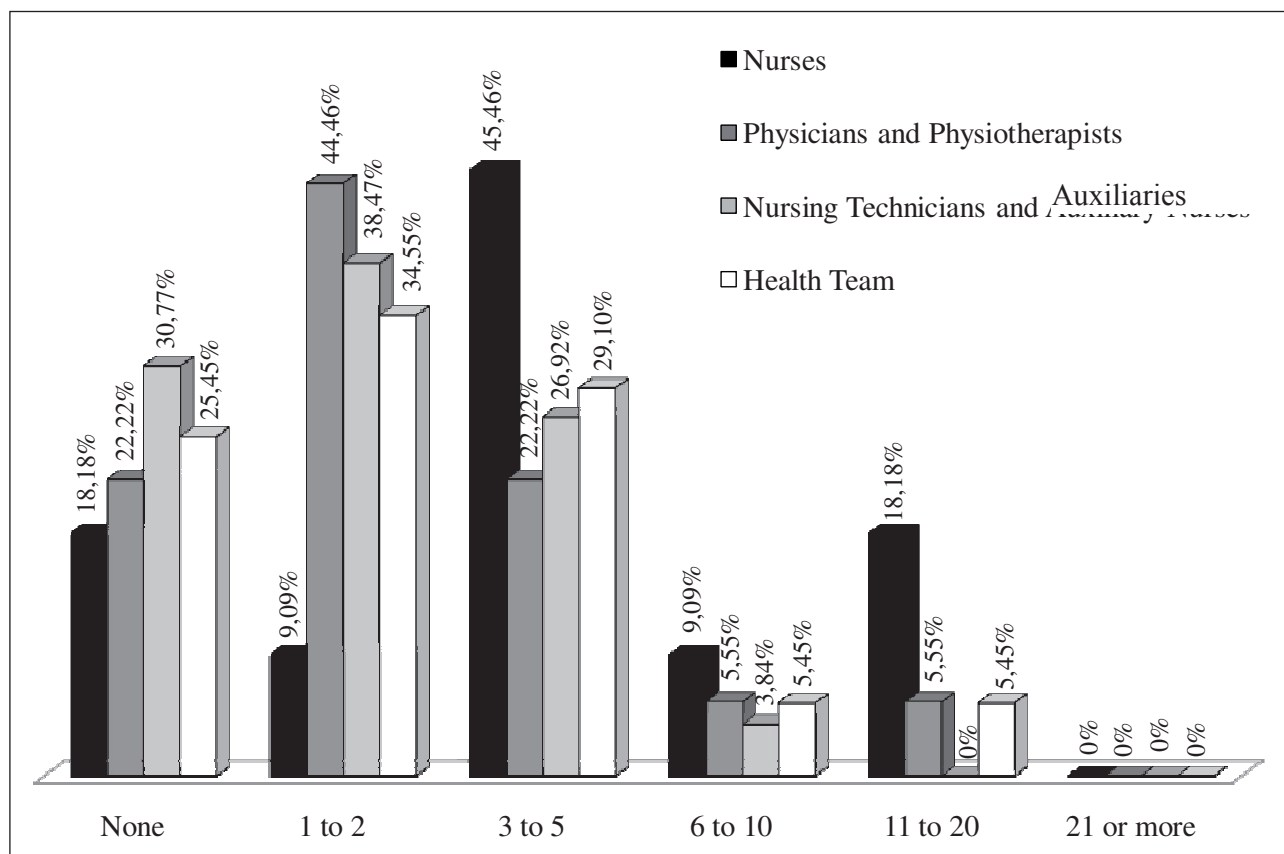

Figure 1 – Assessment of the degree of patient safety from the perspective of each health team subgroup at an ICU of a hospital in the South of Brazil, 2014

Concerning the reporting of AE, the percentages are described in Figure 2.

Figure 2 – Number of adverse events reported to immediate head in the past 12 months from the perspective of each health team subgroup at an ICU of a hospital in the South of Brazil, 2014

Based on the application of the chi-squared test to the sections assessment of degree of patient safety and number of events reported in the past 12 months, at a significance level of $p < 0.05$, no significant differences could be identified among the proportions of the different professional categories.

DISCUSSION

The results found in this study, from the perspective of the health team, demonstrated a safety culture with potential improvements in all dimensions of the patient safety culture, highlighting the support of the hospital management to patient safety, non-punitive responses to errors and teamwork among the services, dimensions that received the worst assessments according to this team.

Nevertheless, these same professionals demonstrated a better perception of the supervisor/manager's expectations and actions to promote patient safety, teamwork at the service and opening to communication.

The research revealed that teamwork at the service, in comparison with the other dimensions, received one of the best assessments in all professional categories. The professionals consider teamwork at this service in a relatively positive manner, contributing to care practice marked by shared responsibility and the patient safety culture. In a study developed in Taiwan, involving 349 hospitals and medical centers, the percentage of positive answers to this same dimension was 94%, much superior to the percentage found in the current study, showing respect, cooperation and coordination in these teams.[8]

The dimension regarding the supervisor/manager's expectations and actions to promote patient safety also showed one of the highest percentages of positive answers. Nevertheless, this result remains inferior to the percentage found in a study developed in China, involving 1,160 physicians and nurses from 32 hospitals, in which this dimension reached 63% of positive answers.[9] Similar findings suggest that a positive assessment of this dimen-

sion demonstrates that the team feels supported in its work environment, and thus presents a greater probability to cooperate with teamwork in favor of patient safety.[10]

Organizational learning and continuous improvement presented a considerable amount of positive answers according to the health team. This finding evidences that the professionals perceive that a continuous improvement philosophy exists at the institution that permits their improvement. Nevertheless, in the literature, significantly higher percentages can be found for this dimension, reaching 88% of positive answers.[9] The use of protocols that standardize health care is fundamental to guarantee the quality of the services.[11]

As opposed to the perception of continuous improvement, the professionals' assessment of feedback and communication about errors was significantly negative. The alert that the AEs are hardly disseminated at the institution and that feedback is rarely provided. The frontline care professionals need to be heard, to be informed of error events and to receive feedback on the changes made to avoid reoccurrences. Promoting feedback and creating bonds of trust among the team members is an important property of the safety culture.[12]

The nurses assessed the dimension opening to communication positively, which also figured among the dimensions that stood out in the health team's perception. In that context, it is extremely important to allow all professionals to act proactively, contributing with their ideas and suggestions, thus permitting co-accountability for the conducts implemented. In line with this finding, a study developed at a hospital in Saudi Arabia showed 42.9% of positive answers in this same dimension.[4] A clear and structured language with correct communication techniques is essential to promote a patient safety culture.[12]

In the staff dimension, based on the percentages the health team presented, it is inferred that the staff at the ICU is insufficient to attend to the work demand. Similar results were found in a study developed in China, in which most participants considered that the staff dimensioning is not sufficient to respond to the workload. In China, this dimension received the smallest percentage of positive answers, although it still received 45% of positive answers.[1]

In addition, a similar study demonstrated that 76% of the physicians and nurses interviewed believe that the work overload is an important cause of AEs.[13]

The dimension non-punitive responses to errors obtained one of the lowest scores of positive answers in the health team's perspective. In a study developed in a capital in the Middle East, this dimension also ranked among the lowest positive response scores (26.8%).[4] This punitive culture discourages the professionals' acknowledgement and reporting of errors, neglects valuable information, makes it impossible to analyze the situations and conditions that contribute to the occurrence of the event and thus favors the recurrence of the error.

On the other hand, the perception that the systems fail and predispose to the occurrence of adverse events allows the hospital organization to reconsider its processes and strengthen its defense barriers.[14]

The hospital management's support to patient safety obtained the lowest score of positive answers. It should be highlighted that, according to the nurses, this dimension received an even lower percentage. In Taiwan, the percentage of positive answers in this dimension reached 62%. As opposed to the percentage found in this study, in Taiwan, the professionals perceived that the hospital management contributes to patient safety.[8]

In line with this perception, experts appoint that the promotion of the safety culture demands effort and commitment from the entire institution, but with emphasis on the managers, who should encourage the communication and reporting of errors and strengthen the non-punitive culture, enhancing a work climate that prioritizes patient safety.[15]

Teamwork among the hospital services received a low percentage of positive answers according to the health team. The professionals strongly appoint elements such as lack of respect among the professionals and lack of cooperation and coordination, which certainly jeopardizes the patient safety at the ICU. In another study that used the same tool in a similar reality, 26.5% of positive answers were provided, emphasizing the need for interventions to improve the communication and relationships among the teams.[10]

In relation to the internal transfers and shift transfers, the professionals investigated in this study demonstrated concerns with the information exchange, when a patient is transferred to another sector and when the shift is transferred between professionals. In one study, the percentage of positive answers and possible outcomes was compared, identifying that the occurrence of adverse events was significantly associated with low percentages in the dimension internal transfers and shift transfers.[4]

What the general perception of patient safety at the ICU is concerned, less than a third of the team manifested positive answers. This dimension was also assessed in another study, appointing 65% of positive answers, in which most professionals believed that the procedures and systems are appropriate to prevent errors.[8]

As opposed to the general perception of patient safety, most of the health team professionals assessed the degree of patient safety at this ICU as "acceptable". Similar to this finding, in a study developed at four neonatal ICUs, involving health and medical team professionals, 45% of the professionals considered the safety was acceptable.[16]

With regard to the dimension on the frequency of reported events, the professionals' answers indicate underreporting of AE in the entire team, whether concerning incidents that did not cause patient damage or even incidents that provoked damage. One correlation between the dimensions in a study that used the same tool identified that the enhancement of feedback and communication about errors increase the professionals' adherence to the reporting of adverse events.[4]

Finally, in the analysis of the section on the number of AEs the participants reported in the past 12 months, a small number of events are informed in all categories, especially by physicians, physiotherapists and nursing technicians and auxiliary nurses. This information demonstrates that this practice has not been established at the sector yet, whether due to the lack of a reporting culture or the punitive culture that blocks the incident reports. This represents a challenge for the management of risks and the improvement of patient safety. In line with this finding, another study also alerts to the underreporting of events, in which 65% of them indicates not having reported any or just one or two events in the past 12 months.[16]

Overall, concerning the dimensions with the largest number of positive assessments, the results found were homogeneous among the different professional categories. Also, the three categories were similar concerning the dimensions with the worst assessments according to the health team professionals.

The assessments of the patient safety culture in health organizations plays a fundamental role in the promotion of safe care, considering that these studies indicate the areas in need of improvements, and thus help to guide actions and attitudes for a better global performance.[4] Nevertheless, a meta-analysis suggests that, to understand an organizational culture, several measuring methods are needed, including the quantitative and the qualitative. Only of these measures does not truly reflect the actual patient safety behavior, resulting in an incomplete measure of the safety culture.[17]

The relevance of engaging the professionals who have direct contact with the patient in this safety improvement process should be highlighted, motivating them to feel safe to do so, admitting human fallibility and the need to reconsider the healthcare processes and routines.[13]

CONCLUSION

The study demonstrated a patient safety culture with potential improvements in all dimensions, which orchestrates the planning of patient safety strategies at the institution. In that sense, the effort and commitment of all members involved in the process is suggested. The leaders and management should give the example by adopting patient safety as a priority and extending this commitment to the frontline professionals, who should equally engage in the search for safe and high-quality care.

The study presents a contextualized reality and, therefore, its results cannot be generalized. Nevertheless, it can contribute to similar realities and serve as a base of comparison for other studies with the same proposal. One positive point in this research was the use of tool translated and validated in Brazil, permitting a safer and more reliable application.

The assessment of the patient safety culture is but the first step for the delivery of safe care. In that sense, further studies are needed to appoint effective interventions with a view to positively influencing the patient safety culture.

Finally, it is considered that the establishment of a patient safety culture involves the commitment of the entire institution. Departing from the problems, in search of the respective solutions, favoring an environment in which the professionals feel empowered to participate, collaborating with their suggestions, thus identifying the need to reconsider the work process in favor of safe and, consequently, high-quality care practice.

REFERENCES

1. Nie Y, Mao X, Cui H, He S, Li J, Zhang M. Hospital survey on patient safety culture in China. Health Serv Res [internet]. 2013 Jun [cited 2014 Dec 15]; 13:228-38. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3701538/pdf/1472-6963-13-228.pdf

2. Ministério da Saúde (BR). Portaria N. 529, de 1º de abril de 2013: institui o Programa Nacional de Segurança do Paciente (PNSP). Brasília (DF): Diário Oficial da União; 2013 [cited 2013 Jun 30]. Disponível em: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2013/prt 0529_01_04_2013.html

3. Aranaz-Andrés JM, Aibar-Remón C, Limón-Ramírez R, Amarilla A, Restrepo FR, Urroz O, et al. Prevalence of adverse events in the hospitals of five Latin American countries: results of the 'Iberoamerican study of adverse events' (IBEAS). BMJ Qual Saf. 2011; 20(12):1043-51.

4. El-Jardali F, Sheikh F, Garcia NA, Jamal D, Abdo A. Patient safety culture in a large teaching hospital in Riyadh: baseline assessment, comparative analysis and opportunities for improvement. Health Serv Res [internet]. 2014 Mar [cited 2014 Set 05]; 14:122-36. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3975247/?tool=pubmed

5. Ksouri H, Balanant PY, Tadié G, Heraud G, Abboud I, Lerolle N, et al. Impact of morbidity and mortality conferences on analysis of mortality an critical events in intensive care practice. Am J Cri Care. 2010 Mar; 19(2):135-45.

6. Agency for Healthcare Research and Quality (AHRQ). Hospital survey on patient safety culture [internet]. [cited 2013 Jun 05]. Available from: http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/hospital/index.html

7. Reis CT. A cultura de segurança do paciente: validação de um instrumento de mensuração para o contexto hospitalar brasileiro [tese]. Rio de Janeiro (RJ): Escola Nacional de Saúde Pública; 2013.

8. Chen IC, Li HH. Measuring patient safety culture in Taiwan using the Hospital Survey on Patient Safety Culture (HSOPSC). BMC Health Serv Res [internet]. 2010 [cited 2014 Dec 10]; 10:152-61. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2903582/?tool=pubmed

9. Nie Y, Mao X, Cui H, He S, Li J, Zhang M. Hospital survey on patient safety culture in China. BMC Health Serv Res [internet]. 2013 Jun 24 [cited 2014 Dec 15]; 13:228. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3701538/pdf/1472-6963-13-228.pdf

10. Mello JF, Barbosa SFF. Patient safety culture in intensive care: nursing contributions. Texto Contexto Enferm [internet]. 2013 [cited 2014 Nov 12]; 22(4):1124-33. Available from: http://www.scielo.br/pdf/tce/v22n4/31.pdf

11. Quadrado ERS, Tronchin DMR. Avaliação do protocolo de identificação do neonato de um hospital privado. Rev Latino-Am Enfermagem [internet]. 2012 [cited 2014 Dec 17]; 20(4):659-67. Available from: http://www.scielo.br/scielo.php?pid=S0104-11692012000400005&script=sci_arttext&tlng=pt

12. Sammer CE, Lykens K, Singh KP, Mains DA, Lackn NA. What is patient safety culture? A review of the literature. J Nurs Scholarsh. 2010 Jan; 42(2):156-5.

13. Chakravarty BA. A survey of attitude of frontline clinicians and nurses towards adverse events. Medic J Armed Forces India [internet]. 2013 [cited 2014 Sep 05]; 69(4):335-340. Available from: http://www.mjafi.net/article/S0377-1237(13)00013-0/fulltext.

14. Silva AEBC. Segurança do paciente: desafios para a prática e a investigação em Enfermagem. Rev Eletrônica Enferm [internet]. 2010 [cited 2014 Dec 10]; 12(3):422. Available from: http://www.fen.ufg.br/fen_revista/v12/n3/v12n3a01.htm

15. Marinho MM, Radünz V, Barbosa SFF. Assessment of safety culture by surgical unit nursing teams. Texto Contexto Enferm [internet]. 2014 [cited 2014 Oct 15]; 23(3):581-90. Available from: http://www.scielo.br/pdf/tce/v23n3/pt_0104-0707-tce-23-03-00581.pdf

16. Tomazoni A, Rocha PK, Kusahara DM, Souza AIJ, Macedo TR. Evaluation of the patient safety culture in neonatal intensive care. Texto Contexto Enferm [internet]. 2015 [cited 2014 Dec 18]; 24(1):161-9. Available from: http://www.scielo.br/pdf/tce/v24n1/0104-0707-tce-24-01-00161.pdf

17. Groves PS. The relationship between safety culture and patient outcomes: results from pilot meta-analyses. West J Nur Res [internet]. 2014 [accessed 2015 Sep 10]; 36(1):66-83. Available from: http://wjn.sagepub.com/content/36/1/66.full.pdf

Correspondence: Ana Paula Minuzzi
Rodovia Amaro Antônio Vieira, 2355
88.034-102 Itacorubi, Florianópolis, SC, Brazil
E-mail: annaminuzzi@yahoo.com.br