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FACTORS ASSOCIATED WITH PATIENT SAFETY CULTURE IN INTENSIVE CARE UNITS

FATORES ASSOCIADOS À CULTURA DE SEGURANÇA DO PACIENTE EM UNIDADES DE TERAPIA INTENSIVA

FACTORES ASOCIADOS CON LA CULTURA DE SEGURIDAD DEL PACIENTE EN UNIDADES DE CUIDADOS INTENSIVOS

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Objective: to evaluate the patient's safety culture and associated factors in Intensive Care Units, from the perspective of the multidisciplinary team. Method: cross-sectional study, conducted in Intensive Care Units in the city of Salvador, Bahia, Brazil, with 132 participants, who answered the Hospital Survey on Patient Safety Culture instrument, between November and December 2018. Poisson regression with robust variance was used to analyze the factors associated with the patient's safety culture. Results: the general level of patient safety culture was statistically associated only with job satisfaction. Eight of the 12 dimensions were statistically associated with job satisfaction, working time in the profession, working time in intensive care, working time in the unit and education. Conclusion: promoting job satisfaction can help develop the patient safety culture in Intensive Care Units.

Descriptors: Patient Safety. Safety Management. Organizational Culture. Intensive Care Units. Multiprofessional Team.

Objetivo: avaliar a cultura de segurança do paciente e os fatores a ela associados em Unidades de Terapia Intensiva, sob a ótica da equipe multiprofissional. Método: estudo transversal, realizado em Unidades de Terapia Intensiva da cidade de Salvador, Bahia, Brasil, com 132 participantes, que responderam o instrumento Hospital Survey on Patient Safety Culture*, entre novembro e dezembro de 2018. Para análise dos fatores associados à cultura de segurança do paciente, foi utilizada a regressão de Poisson com variância robusta. Resultados: o nível geral de cultura de segurança do paciente foi estatisticamente associado apenas à satisfação no trabalho. Oito das 12 dimensões foram estatisticamente associadas à satisfação no trabalho, ao tempo de trabalho na profissão, ao tempo de trabalho em terapia intensiva, ao tempo de trabalho na unidade e ao grau de instrução. Conclusão: promover a satisfação no trabalho pode ajudar a desenvolver a cultura de segurança do paciente em Unidades de Terapia Intensiva.*

Descritores: Segurança do Paciente. Gestão da Segurança. Cultura Organizacional. Unidades de Terapia Intensiva. Equipe Multiprofissional.

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Objetivo: evaluar la cultura de seguridad del paciente y factores asociados en las Unidades de Cuidados Intensivos, desde la perspectiva del equipo multidisciplinario. Método: estudio transversal, realizado en Unidades de Cuidados Intensivos en la ciudad de Salvador, Bahía, Brasil, con 132 participantes, que respondieron al instrumento Hospital Survey on Patient Safety Culture*, entre noviembre y diciembre de 2018. Se utilizó la regresión de Poisson con varianza robusta para analizar los factores asociados con la cultura de seguridad del paciente. Resultados: el nivel general de la cultura de seguridad del paciente se asoció estadísticamente sólo con la satisfacción laboral. Ocho de las 12 dimensiones se asociaron estadísticamente con la satisfacción laboral, el tiempo de trabajo en la profesión, el tiempo de trabajo en cuidados intensivos, el tiempo de trabajo en la unidad y la educación. Conclusión: promover la satisfacción laboral puede ayudar a desarrollar la cultura de seguridad del paciente en unidades de cuidados intensivos.*

Descriptores: Seguridad del Paciente. Administración de la Seguridad. Cultura Organizacional. Unidades de Cuidados Intensivos. Equipo Multiprofessional.

Introduction

Receiving quality health care is a right of every user. In view of this, efforts have been increasingly intensified for this purpose. Health quality depends on a series of components, attributes or dimensions, highlighting patient safety as one of its six key dimensions[1].

Patient safety is defined as the reduction, to an acceptable minimum, of the risk of unnecessary damage associated with health care[2]. The promotion of a safety culture among professionals in health institutions is one of the pillars of patient safety and must be transformed to promote safer care. Unsafe care increases the gap between the possible results and the results achieved[1].

The safety culture is understood as the product of individual and collective values, attitudes, perceptions, competencies and patterns of behavior that determine the commitment, style and proficiency of a health organization in the management of patient safety. Institutions with a positive safety culture are characterized by shared perceptions of the importance of patient safety and confidence in the efficacy of preventive measures[3]. The safety culture consists of seven subcultures: leadership, teamwork, evidence-based practice, communication, error-based learning, justice and patient-centered care[4].

Its implementation becomes necessary in the most diverse health care delivery environments, especially in intensive care units (ICU). In this place, advanced age, the presence of numerous comorbidities, the involvement of multiple organs, the lowering of the level of consciousness and the use of polypharmacy constitute the profile of inpatients. Many of them evolve to severe conditions, demanding invasive procedures, numerous diagnostic-therapeutic interventions, high-tech devices, long hospital stay. All these procedures are important risk factors associated with the occurrence of adverse events, which explains the high occurrence of failures and damage in these environments[5]. Health damage might only be avoided when providers of this service create a safety culture among their employees[6].

ICUs are the second hospital unit with the highest number of reports of healthcare-related incidents (29%), being surpassed only by the hospitalization sectors (52%)[7]. A cohort study conducted in a teaching hospital in Rio de Janeiro found an incidence rate of 9.3 adverse events per 100 patient-days. In addition, the occurrence of adverse events influenced the increased hospitalization time (19 days on average) and mortality[5]. These data demonstrate the magnitude of these events in the context of health care provided in ICUs and draw attention to the immediate need for measures to prevent errors. Thus, the patient safety culture becomes even more pressing and imperative in the context of critical care.

To transform and consolidate the safety culture of a service, the first step is to know it. Three is

need to understand the context of the service's care provision, its weaknesses and potentialities, in order to establish the target of the strategies necessary for its improvement, aiming to solidify the safety culture. For this, the institutions should evaluate their cultures continuously, identifying which factors influence its development[8].

The bibliographic research on the subject revealed that the theme, besides little explored in the national scenario, is even less examined in the northeastern and Bahian context, which refers to the need for investments in this sense.

A bibliographic survey carried out on PUBMED, Virtual Health Library (VHL) and Scientific Electronic Library Online (SciELO) portals, crossing the descriptors "organizational culture", "patient safety", and "intensive care units", through the Boolean operator "AND", found only seven studies developed in Brazil, all in the South and Southeast regions, in the states of São Paulo (two), Minas Gerais (one) and Santa Catarina (four).

Thus, considering that changing a culture requires understanding it, and that this change is the basis for a safe and quality care, it is essential to highlight the perceptions of professionals involved in health care in relation to this theme. Thus, this study aims to evaluate the patient's safety culture and the factors associated with it in Intensive Care Units from the perspective of the multidisciplinary team.

Method

Cross-sectional study, whose data collection occurred in a medium-sized private hospital organization in Salvador, Bahia, Brazil, with tertiary level complexity, composed of 550 professionals, 53 beds, being 17 intensive care and 13 semi-intensive care beds, accredited by the Joint Commission International (JCI), which meets adult population. It has a Patient Safety Center since 2010. In August 2012, the accreditation process was initiated, with the implementation of the standards of the handbook for hospitals, training, preparation and review of protocols, policies and procedures, review of care and support flows, and implementation of international patient safety goals.

The population consisted of professionals from the multidisciplinary team, consisting of physicians, nurses, nursing technicians and physiotherapists, totaling 150 professionals, who provide uninterrupted 24-hour care in general ICU (G ICU), cardiac ICU (C ICU) and Semi-intensive Care Unit (SICU). Given the interest of evaluating the culture of professionals who are at the forefront of care delivery, the study population did not include managers.

The sample was defined by the accessibility criterion. Therefore, it included professionals who were working in the ICUs and the SICU at the time of data collection, with a minimum time of three months of service (minimum estimated time for grasping the local culture), who returned the data collection instrument. Professionals who worked in more than one of these sectors answered the questionnaire only once.

Exclusion criteria were: absence from the sector due to vacation, sick leave, maternity leave; and instruments with over 20% of blank answers for the 12 dimensions of the questionnaire, returned completely blank, with answers only in the questions concerning the general information section, and those with the same answer to all questions in the questionnaire. To exclude these questionnaires, the recommendations of the Agency for Healthcare Research and Quality (AHRQ) were followed[3].

After applying these criteria, 18 professionals were excluded, resulting in a final sample of 132 subjects (88%). With 5% significance and for 132 sample units, the power of the test was 75.26%, which denotes the probability of rejecting the null hypothesis, which is indeed false. The calculation of the power of the test was obtained through R computational and statistical language with the library "pwr". It is important to report that, in calculating the power of the test, the proportion of safety culture of other studies that used the same research instrument was also considered.

Data were collected between November and December 2018, through the Hospital Survey on

Patient Safety Culture (HSOPSC) questionnaire and an instrument elaborated by the researchers, with questions on sociodemographic, training, and continuing and occupational education complementary to those of the HSOPSC.

The HSOPSC questions the opinion of professionals about safety-related aspects. It consists of 42 items, grouped into 12 dimensions, evaluated by a five-point Likert scale, ranging from "strongly disagree" to "strongly agree" or "never" to "always". In addition, it includes two questions regarding the provision of an overall note on patient safety for their work unit and indication of the number of events they have reported in the past 12 months. Validated for the Brazilian context, it has high general internal consistency, with a Cronbach's Alpha of 0.91[9].

After the authorization of the hospital institution and signing of the Informed Consent Form, the professionals answered the questionnaire anonymously, depositing it in a sealed urn.

The data were stored in an electronic spreadsheet (Calc) and processed using the software known in the literature as R. Initially, descriptive analysis of the sociodemographic information of the studied population was used, through absolute and relative frequencies and measures of central tendency.

For analysis of the data of the HSOPSC questionnaire, the answers were categorized according to the recommendations of the AHRQ, in which positive responses (positive reaction in relation to the patient safety culture) include agree/strongly agree or usually/always. However, some items of the questionnaire are negatively formulated sentences (negative reaction in relation to the patient safety culture). In this case, positive responses comprise disagree/strongly disagree or never/rarely[9]. These sentences had their answers recoded for analysis, so that answers marked as strongly disagree (alternative 1) were transformed into strongly agree (alternative 5); and answers indicated as disagree (alternative 2) were transformed into agree (alternative 4).

The dimensions with 75% or more of positive responses were considered strong areas for patient safety; neutral areas were those dimensions that obtained more than 50% and less than 75% of positive responses; and areas with potential for improvement occurred when the percentage of positive responses was equal to or less than 50%[9].

The average percentage of positive responses for all dimensions allowed evaluating the general level of patient safety culture. Thus, a positive local patient safety culture occurred when the overall level of patient safety culture was equal to or above 75%.

To evaluate the association of positive safety culture and its dimensions with associated factors, the Poisson regression model with robust variance was used through the R computational environment package called Sandwich. The variables defined as dependent or response were: the positive patient safety culture and the positive scores of its 12 dimensions. The independent variables were: age, gender, level of education, training on patient safety, working time in the profession, working time in intensive care, working time in the current unit, weekly workload in the hospital, weekly workload in all employments, professional category and job satisfaction. The independent variables were chosen based on the literature in the area.

Before performing the regression, the multicollinearity of the independent variables was evaluated, with high collinearity in hospital working time and working time in the current unit (Variance Inflation Factor Values of 12). The variable working time in the hospital was excluded from the modeling, remaining only working time in the unit.

Subsequently, to select the variables that composed the multivariate analyses, Pearson's Chi-Square test (X^2) was used. The significance level for inclusion in the multivariate model was $p \leq 0.20$.

After establishing the final multivariate models, there were the Poisson regression with robust variance and interpretation of prevalence ratios (PR). To assess the significance of the co-variables, the level of statistical significance adopted was 5%.

This research complied with all the requirements contained in Resolution n. 466/2012 of the National Health Council, being submitted to the Human Research Ethics Committee at the State University of Feira de Santana (UEFS) and approved on 11/19/2018, by Opinion n. 3.026.155 and Certificate of Presentation for Ethical Appreciation (CAAE) n. 02305618.5.0000.0053.

Results

The age of the 132 professionals who participated in the study ranged from 24 to 62 years, with a mean of 36 years (±7). Most of them were female (67%), self-reported brown (38%), married (49%) and with children (58%). Most reported having already received some training on patient safety (88%) and was satisfied or very satisfied with the work (83%).

Regarding the degree of education, the majority had postgraduate degree (51%), 49% *lato sensu* (specialization) and 2% *stricto sensu* (masters/doctorate). The distribution by professional category revealed that 45% were nursing technicians, 23% nurses, 20% physicians and 12% physiotherapists. The majority revealed a base wage in the institution of up to 2,000.00 BRL (37%).

Regarding working time, the majority had six to ten years in the profession (51%) and in intensive care (43%), and from one to five years in the hospital (44%) and in the current unit (49%).

Regarding the weekly workload in the hospital, the interval from 20 to 39 hours per week prevailed (76%). Most professionals did not have another employment relationship (54%), and of those who had, the predominant weekly workload was from 60 to 79 hours (52%). Regarding the disposition per unit of work in the institution, 39.4% belonged to G ICU, 28% to C ICU and 43% to SICU.

Table 1 shows the general and dimension level of the patient safety culture for each unit and these same values, taking into account the three units.

Table 1 – Scores of the patient safety culture and its dimensions per unit. Salvador, Bahia, Brazil – 2018. (N=132)

Dimension	General %	Cardiac %	Semi-intensive %	Units (1) %
Overall level of patient safety culture	68	74	71	71
Management support for patient safety	86	90	92	90
Teamwork within units	71	74	75	73
Handoffs and transitions	73	85	73	77
Supervisor/manager expectations and actions promoting patient safety	83	80	82	82
Organizational learning and continuous improvement	86	90	93	90
Teamwork across units	55	85	75	72
Communication openness	59	61	61	60
Feedback and communication about error	74	79	76	76
Non-punitive response to error	37	48	41	42
Staffing	58	52	43	51
Overall perception of patient safety	62	66	59	63
Frequency of events reported	71	73	82	75

Source: Created by the authors.

(1) Scores considering the percentage of positive responses in the three units gathered.

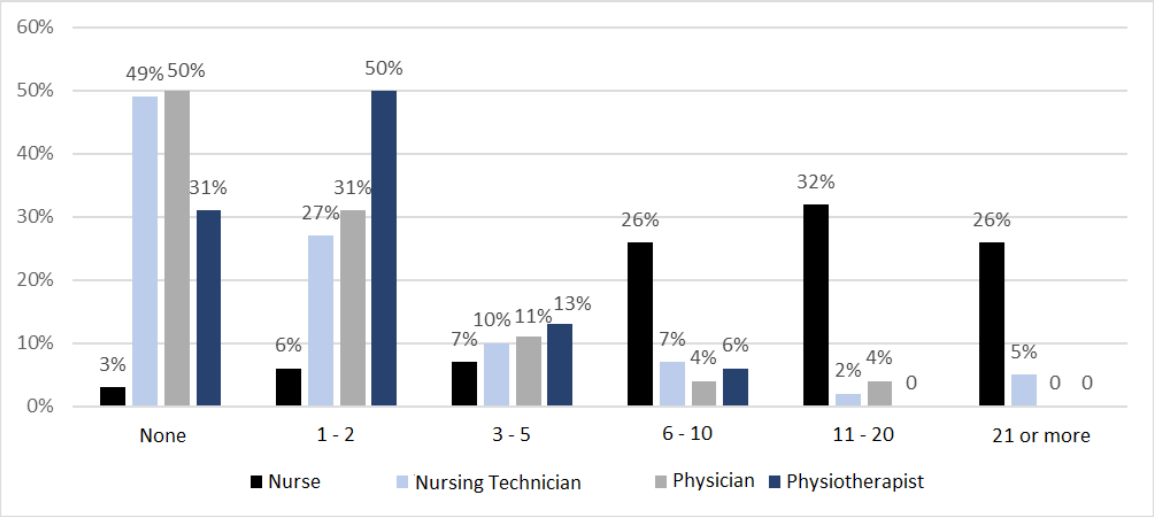
No unit presented an overall score compatible with a positive safety culture. The scores of the three units reached 71% of positive responses. C ICU obtained a higher score compared to the other two units (74%), but the SICU presented a higher number of dimensions (6 – 50%), with a percentage of positive responses greater than or equal to 75%.

Considering the three units gathered, six dimensions achieved scores greater than or equal to 75%, with emphasis on "Hospital management support for patient safety" (90%), "Organizational learning and continuous improvement" (90%) and "Supervisor/manager expectations and actions promoting patient safety" (82%), which reached considerably high levels. "Non-punitive responses to errors" (42%) was classified as an area with potential improvement for patient safety, in the evaluation of the three sectors, with the dimension "Staffing" (43%) obtaining the same classification, upon evaluating the SICU scores separately.

When asked to evaluate patient safety in their work units, most professionals rated it as very good (61%), followed by excellent (28%), regular (10%), poor (1%) and very bad (1%).

Regarding the number of events reported in the past 12 months, 73% of the professionals reported less than six events and 37% did not report any. The distribution of the frequency of notification of events by professional category, according to Graph 1, shows that nurses are responsible for the highest number of notifications, since most of these professionals (58%) reported more than 11 events each year.

Graph 1 – Number of related events in the past 12 months, by professional category. Salvador, Bahia, Brazil – 2018



Source: Created by the authors.

The analysis of the factors associated with the score of the overall level of patient safety culture, as well as the scores of the dimensions "Hospital management support for patient safety", "Teamwork across units" and "Supervisor/manager expectations and actions promoting patient safety" showed statistical association only with job satisfaction. Nevertheless, another 5 of the 12 dimensions showed association with other variables, as shown in Table 2.

Table 2 – Results of the multivariate analysis for the factors associated with patient safety culture and its dimension. Salvador, Bahia, Brazil – 2018. (N=132)

Patient Safety Culture and its Dimensions	Associated Variables	Prevalence Ratio (1)	Confidence Interval (95%)	p-value (2)
Overall level of patient safety culture	Job satisfaction	5.37	1,43 – 20,13	0,013
Management support for patient safety	Job satisfaction	1.44	1,00 – 2,09	0,05
Teamwork across units	Job satisfaction	2.64	1,32 – 5,25	0,006
Handoffs and transitions	Time working in the profession below one year	1.20	1,08 – 1,33	0,001
Handoffs and transitions	Time working in intensive care below one year	0.77	0,61 – 0,97	0,028
Handoffs and transitions	Time working in the current unit below one year	1.33	1,08 – 1,66	0,009
Handoffs and transitions	Job satisfaction	2.37	1,29 – 4,37	0,006
Supervisor/manager expectations and actions promoting patient safety	Job satisfaction	1.49	1,03 – 2,15	0,034
Teamwork within units	Schooling equal to or above complete higher education	1.69	1,26 – 2,27	0,000
Teamwork within units	Job satisfaction	2.09	1,13 – 3,87	0,019
Communication openness	Time working in the current unit below one year	2.00	1,12 – 3,56	0,018
Overall perception of patient safety	Schooling equal to or above complete higher education	0.65	0,46 – 0,91	0,013
Overall perception of patient safety	Job satisfaction	2.58	1,16 – 5,73	0,020
Frequency of events reported	Schooling equal to or above complete higher education	0.60	0,45 – 0,79	0,000

Source: Created by the authors.

(1) Poisson Regression with robust variance.

(2) p <0.05 -Statistically significant association.

Discussion

The results of the present study revealed that the units did not present a positive score for the safety culture. The overall score of 71% of positive responses achieved categorizes the patient safety culture as neutral. Although not a satisfactory result, it was higher than that presented in studies that used the HSOPSC, conducted in other parts of the world (Brazil, China and the United States of America), where the scores ranged from 47% to 61%[10-12].

The hospital organization analyzed demonstrated six areas of strength for patient safety. Outcome also higher than other studies, which found a maximum of two dimensions with 75% or more of positive responses[10-12]. Thus, there was a better performance of the ICUs studied when compared to other Brazilian cities and other countries.

Among the areas of strength, the three that stood out in this study demonstrated that hospital management provides a working climate that promotes patient safety and considers it a priority; supervisors and managers consider the team's suggestions for improving patient safety and commend it, for following safe procedures, and do not neglect safety problems. Errors lead

to positive changes and changes are evaluated for efficacy[3].

Thus, there are two properties of the safety culture: leadership and error-based learning. The role of leadership is a key element to foster and encourage the safety culture by outlining strategies that guide processes and outcomes. The occurrence of errors should be seen as a new opportunity for learning and the search for performance improvement[4].

A study conducted in a teaching hospital in the state of São Paulo, in three ICUs (adult, pediatric and neonatal), applying the same instrument, had the same dimensions among the three highest scores. Nonetheless, only "Supervisor/manager expectations and actions promoting patient safety" obtained a score higher than 75% (75.4%). "Organizational learning and continuous improvement" and "Management support for patient safety" achieved scores of 74.3% and 67.8%, respectively[11].

The dimension "Non-punitive responses to errors" acquired the lowest score for the three units (42%). This finding demonstrates that professionals fear that their mistakes will be kept in their personal files and used against them[3]. Fair culture is indispensable for the safety culture, as it recognizes errors as system failures and not as individual failures, discouraging the punitive culture[4]. Fair culture must be promoted in the institution and disseminated from leadership to the front line.

This same dimension reached the lowest scores in other national and international studies, with scores that varied between 19% and 33.6%[10-12], demonstrating that the culture of blaming the subjects that made the mistake is still present, which discourages the notification of adverse events, preventing their recognition, investigation and positive transformations based on the occurrence of errors.

The concern with punitive behaviors, present among the employees of this study, may justify the low number of events reported, since only 26% of them (physicians, physiotherapists and nursing technicians) reported six or more events in one year. Moreover, only nurses seem committed to notification, since most of these professionals (58%) notified more than 11 events in a year.

A research revealed as reasons for the non-notification of patient safety incidents the fear of notifying, notification focused on more serious events, unawareness of the subject or how to notify and centralization of the notification in the nursing professional[13].

Developing and propagating the concept of fair culture, as well as stimulating the notification of events by the whole team, becomes fundamental to improve the performance of safe procedures, especially in an institution where one of the areas of strength for patient safety is "Organizational learning and continuous improvement".

The dimension "Staffing", which evaluates whether there are enough staff to handle the workload and whether work hours are appropriate to provide the best care for patients, was considered as an area with potential improvement, in the evaluation of the SICU, reaching 43% of positive responses.

It is important to mention that 75% of the studies in a systematic review identified the influence of work overload on the occurrence of adverse events in ICU patients, such as infection, pressure injury and error in the use of medications[14]. Thus, it is evident the importance of personnel management, to avoid work overload and increase patient safety.

Most participants (89%) classified patient safety in their work unit as excellent or very good, thus translating the low perception concerning the real need to improve the local safety culture. Therefore, it is essential to disseminate the results of this evaluation, with subsequent involvement and mobilization of all, leaders and front line, for the implementation of the necessary actions.

The analysis of the associated factors revealed job satisfaction as statistically associated with the overall level of positive patient safety culture and the positive scores of the dimensions "Management support for patient safety", "Teamwork across units", "Handoffs and transitions", "Supervisor/manager expectations and actions

promoting patient safety", "Teamwork within units" and "Overall perception of patient safety".

Job satisfaction is an affective aspect that results from the worker's assessment of the environment and the experiences lived at work, resulting in a pleasant state. It transforms environments, increasing the commitment and involvement of workers in the performance of their functions[15].

Therefore, individuals satisfied and very satisfied with the work recognize the management support for safety; agree that hospital units cooperate and coordinate to offer the best care to patients; realize that important information about patient care is communicated in handoffs and transitions; believe that supervisors and managers consider the team's suggestions to improve safety; affirm that employees support and relate with respect, working together as a team; and state that procedures and systems are good at preventing errors and the absence of problems related to patient safety[3].

In this sense, a retrospective study conducted in 26 ICUs of 11 American hospitals, which applied the HSOPSC, found a strong and positive relationship between the involvement of members and the overall general level of patient safety culture[10].

In agreement, a cross-sectional study conducted in 30 hospitalization units and 12 ICUs of five teaching hospitals in Taiwan, based on the HSOPSC, proved the direct and positive effect of nurses' job satisfaction in the patient safety culture, demonstrating that individuals more satisfied at work are more likely to support organizational culture, including the patient safety culture[16].

However, it is noteworthy that job satisfaction is a construct, and since the present investigation used a simple and unique question to evaluate it, its results have limitations. There is need to use validated and reliable work satisfaction scales for more accurate analyses of its association with patient culture.

The degree of education was associated, in this investigation, with the dimension "Teamwork within units" and showed that graduate and post-graduate professionals (specialization, masters and doctorate) obtained higher scores in this dimension. This connection had already been demonstrated in a previous study, which found statistically significant associations between the highest educational level and high scores in the dimensions "Teamwork within units" and "Supervisor/manager expectations and actions promoting patient safety"[17].

As an additional finding, the level of education was also associated with two other dimensions: "Overall perception of patient safety" and "Frequency of events reported". The analysis of Table 2 shows that the prevalence ratio found in these associations is below 1. It is interpreted, then, that graduate and postgraduate individuals do not consider that the procedures and systems of the institution are adequate for error prevention and absence of safety-related problems, and declare that the frequency of events reported is insufficient[3]. These findings might indicate that individuals with a higher level of education have a higher level of demand regarding the aspects necessary to ensure patient safety.

Another statistically significant association identified in this study was the dimension "Handoffs and transitions" with the variables working time in the profession, working time in intensive care and working time in the current unit. Individuals with less than one year of work in the profession and in the current unit exhibit higher classifications in this dimension, agreeing that important information about the care of patients is transmitted during such care transitions[3].

Similar to these findings, a study found that the percentage of overall positive responses tended to be higher when the subjects had less than one year of work in the unit[18]. Furthermore, another study found that individuals with professional experience of more than one year exhibited lower safety culture classifications[19]. However, the prevalence ratio of the association of this dimension with the variable time working in intensive care was below one. Thus, individuals with less than one year of work in intensive

care disagree that important information about patients is communicated during handoffs and transitions[3].

Regression analysis also identified an association between the dimension "Communication openness" with time working in the unit. Individuals with less than one year of work in the unit declare that the team speaks freely about something that can negatively affect a patient and feels comfortable questioning people with more authority[3].

The limitation of this study is the use of a single hospital institution, which may compromise the generalization of the findings. Nevertheless, such results may be representative of realities with similar characteristics.

Conclusion

The organization studied did not demonstrate a score compatible with a positive patient safety culture, but its performance was superior to that of other hospital institutions reported in several publications, since evaluations performed in other locations showed scores below 71%.

Hospital management support for patient safety, organizational learning and continuous improvement, and expectations and actions to promote the safety of supervisors and managers, stood out as potentialities. However, critical areas demonstrated the fear of adoption of punitive behaviors based on error reports, as well as the concern with the impact of work overload on patient safety.

In view of these findings, strong areas of the safety culture can be strengthened, as well as areas with potential for improvement can be analyzed and modified, through an action plan proposed to the institution by the researchers, to promote the use of the results of this research in practice, thus strengthening the provision of safe and quality care supported by scientific evidence.

Job satisfaction was evidenced as a factor statistically associated with the safety culture. The awareness of managers of health institutions to the importance of job satisfaction can help develop programs and institutional policies aimed at the well-being of the multidisciplinary team, in order to obtain effects on the optimization of the patient safety culture.

Collaborations:

1 – conception, design, analysis and interpretation of data: Nathália Dantas Farias Kruschewsky, Kátia Santana Freitas and Aloísio Machado da Silva Filho;

2 – writing of the article and relevant critical review of the intellectual content: Nathália Dantas Farias Kruschewsky and Kátia Santana Freitas;

3 – final approval of the version to be published: Nathália Dantas Farias Kruschewsky, Kátia Santana Freitas and Aloísio Machado da Silva Filho.

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