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Effect of the Organizational Culture for Patient Safety in the Hospital Setting: A Systematic Review*

Theme: Evidence-based practice.

Contribution to the subject: In this article, the importance of the organizational culture for patient safety is reinforced, showing that, when there is a positive safety environment, there is a possibility for improvement in the quality of health care. Thus, this study may assist the health professionals in taking this interaction to the practice, achieving benefits for health care.

ABSTRACT

Objective: To identify the effect of the organizational culture on patient safety in the hospital context. **Materials and methods:** A systematic review, without meta-analysis, registered in PROSPERO with number CRD42020162981. Cross-sectional and observational studies were selected that assessed the safety environment and safety culture published between 2014 and 2020 in journals indexed in the EMBASE, Latin American and Caribbean Literature in Health Sciences (*Literatura Latinoamericana e do Caribe em Ciências da Saúde*, LILACS) via the Virtual Health Library (*Biblioteca Virtual em Saúde*, BVS), Medline (International Literature in Health Sciences) via PubMed, and Cumulative Index to Nursing and Allied Health Literature (CINAHL). **Results:** The findings show that a positive

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safety environment exerts a beneficial effect on the safety culture, favors the notification of events, and enables improvements in the quality of health care. **Conclusions:** The effective interaction between safety culture and organizational culture is still scarce in the literature. Most of the studies carried out investigate the situational diagnosis and little progress is made in terms of deepening the implications for the professional practice and the repercussions for the safety of hospitalized patients.

KEYWORDS (SOURCE: DECS)

Organizational culture; health personnel; patient safety; hospitals; safety management.

*Efecto de la cultura organizativa para la seguridad del paciente en el entorno hospitalario: revisión sistemática**

RESUMEN

Objetivo: identificar el efecto de la cultura organizativa para la seguridad del paciente en el entorno hospitalario. **Materiales y métodos:** revisión sistemática, sin metaanálisis, registrada en el PROSPERO con el número CRD42020162981. Se seleccionaron estudios transversales y observacionales que evaluaron el clima de seguridad y la cultura de seguridad publicados en revistas indexadas en las bases EMBASE, Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS), por medio de la Biblioteca Virtual en Salud (BVS), Medline (Literatura Internacional en Ciencias de la Salud), vía PubMed y Cumulative Index to Nursing and Allied Health Literature (CINAHL), entre 2014 y 2020. **Resultados:** los hallazgos evidencian que el clima de seguridad positivo impacta de forma benéfica en la cultura de seguridad, favorece la notificación de eventos y posibilita la mejoría de la calidad del cuidado a la salud. **Conclusiones:** la efectiva interacción entre cultura de seguridad y cultura organizativa aun es escasa en la literatura. Gran parte de los estudios realizados investiga el diagnóstico situacional y poco se avanza en el sentido de profundizar las consecuencias para la práctica profesional y la repercusión para la seguridad del paciente hospitalizado.

PALABRAS CLAVE (FONTE: DECS)

Cultura organizacional; personal de salud; seguridad del paciente; hospitales; administración de la seguridad.

* Este artículo se deriva de la tesis doctoral titulada "Cultura de seguridad en la emergencia de un gran hospital en tiempos de pandemia COVID-19", presentada al Programa de Posgrado en Enfermería de la Facultad de Enfermería de la Universidade do Estado do Rio de Janeiro, Brasil. Auspiciado por la Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro, n.º proceso E-26-/010.002691/2019 y E-26-/010.100932/2018.

Efeito da cultura organizacional para a segurança do paciente em ambiente hospitalar: revisão sistemática*

RESUMO

Objetivo: identificar o efeito da cultura organizacional para a segurança do paciente no contexto hospitalar. **Materiais e métodos:** revisão sistemática, sem metanálise, registrada no PROSPERO sob o número CRD42020162981. Foram selecionados estudos transversais e observacionais que avaliaram o clima de segurança e a cultura de segurança publicados em periódicos indexados nas bases EMBASE, Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), via Biblioteca Virtual em Saúde (BVS), Medline (Literatura Internacional em Ciências da Saúde), via PubMed e Cumulative Index to Nursing and Allied Health Literature (CINAHL), entre 2014 e 2020. **Resultados:** os achados demonstraram que o clima de segurança positivo impacta de forma benéfica na cultura de segurança, favorece a notificação de eventos e possibilita a melhoria da qualidade do cuidado à saúde. **Conclusões:** a efetiva interação entre cultura de segurança e cultura organizacional ainda é escassa na literatura. A maioria dos estudos realizados investiga o diagnóstico situacional e pouco se avança no sentido de aprofundar a implicação para a prática profissional e para a repercussão para a segurança do paciente hospitalizado.

PALAVRAS-CHAVE (FONTE: DeCS)

Cultura organizacional; pessoal de saúde; segurança do paciente; hospitais; gestão da segurança.

* Este artigo é derivado da tese de doutorado intitulada "Cultura de segurança na emergência de um grande hospital em tempos de pandemia covid-19", defendida no Programa de Pós-Graduação em Enfermagem da Faculdade de Enfermagem da Universidade do Estado do Rio de Janeiro, Brasil. Financiada pela Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro, n.º processo E-26-/010.002691/2019 e E-26-/010.100932/2018.

Introduction

Patient safety involves several fields of professional performance and encompasses the care and managerial levels, with a view not only to ensuring adequate care but also to maintaining health and preventing health-related problems.

In this sense, the consolidation of the patient safety culture is an important subsidy for the quality improvement proposals, since its constructs allow remodeling work processes, allowing for safe strategies to improve health care (1).

It is understood that the safety culture is characterized as the result of values, attitudes, competencies, and patterns of individual and group behavior, which determine the commitment, style and proficiency of the management of a healthy and safe organization (2, 3).

Research studies on the assessment of the safety culture and the impact on health management were considered essential for the development of safe care, with an emphasis on learning, continuous improvement, and a non-punitive approach to errors (4).

Organizational culture is defined as the shared system of actions, values and beliefs that develops in an organization and guides the behavior of its members. The reason for an organization having a strong culture is that it has a long common history or because it has intense and important shared experiences (5).

The patient safety environment can be defined as a measurable characteristic of the organizational culture, through the individuals' perception and attitude, at a certain time (6).

In this context, it awakens the need to know the organizational safety culture, intending to prevent, detect, and evaluate errors and adverse events, as well as for the formulation and implementation of improvement measures that will foster patient safety (7).

Studying the safety culture in the hospital makes it possible to understand the factors involved in the work process that impact patient safety. In this sense, the development of research studies on the theme can strengthen the effective communication of scientific evidence, experiences and recommendations aimed at ensuring patient safety in health care (1).

Given the need to disseminate and strengthen the patient safety culture, to reduce the risks to which they are exposed dur-

ing health care, this study sought to answer the following question: "What is the effect of the organizational culture for patient safety in the hospital setting?" In addition to that, it aimed at identifying the effect of the organizational culture on patient safety in the hospital context.

Materials and methods

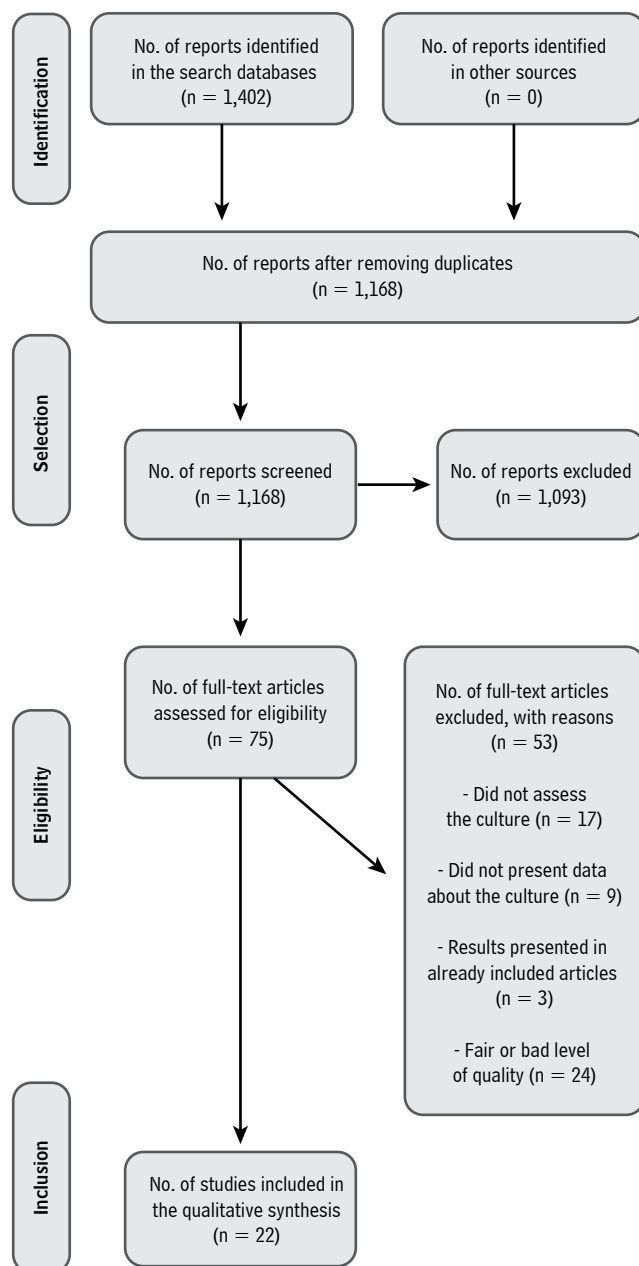
This is a systematic literature review, without meta-analysis, conducted in the Graduate Program in Nursing of the Nursing School at *Universidade do Estado do Rio de Janeiro*, Brazil.

The report of this review complied with the recommendation of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist (8). The study protocol was registered under number CRD42020162981 in the International Prospective Register of Systematic Reviews (PROSPERO), an international database in which researchers register their systematic reviews, to avoid duplicated productions, another review being conducted and guaranteeing the reliability record (9).

The following inclusion criteria were established: cross-sectional and observational studies, studies assessing the organizational safety environment and the safety culture, and studies with access to full-reading in Portuguese, English, or Spanish. Duplicate studies were excluded, maintaining the article from a single database, as well as those that were related to a single professional category and assessed only a specific sector. After applying the eligibility criteria, the articles identified in the previous search were subjected to double-blind checking. In divergent cases, a third evaluator was consulted to determine whether or not the article would be selected. The selection details are shown in Figure 1.

To elaborate the review, the PICO strategy was used (10), where 'P' represents the participants (health professionals); 'I', the intervention/exposure (organizational culture); 'C', the comparator/control (none) (or 'C', context [hospital]); and 'O' for outcome (patient safety). Searches were conducted from October 1st, 2014, to July 21st, 2020, in the following databases: EMBASE, Latin American and Caribbean Literature in Health Sciences (*Literatura Latino-Americana e do Caribe em Ciências da Saúde*, LILACS) via the Virtual Health Library (*Biblioteca Virtual em Saúde*, BVS), Medline (International Literature in Health Sciences) via PubMed, and Cumulative Index to Nursing and Allied Health Literature (CINAHL). This time frame was established to

Figure 1. PRISMA — Flowchart corresponding to the search in the literature and to the selection process. Rio de Janeiro, Brazil, 2020



Source: Adapted from Moher *et al.* (8).

find more recent contemporary evidence about the influence of the organizational culture on the safety of hospitalized patients. An initial search was conducted in November 2019 to verify the feasibility of the study.

The terms and synonyms corresponding to each database were used. For the extraction of the descriptors, the controlled vocabularies of the health area were consulted in the Descriptors in Health Sciences (*Descritores em Ciências da Saúde*, DeCS), Medical Subject Headings (MeSH), and Emtree (EMBASE).

The data from the literature search were collected in a standardized data collection record, which contains the following variables: author, year, country, population/sample, data collection, response rate, and the effect of the culture identified. The selected data were organized in a spreadsheet in Microsoft Excel® 2010 and subsequently analyzed according to pre-established variables, based on the study object.

To assess the quality of the studies, the NHLBI Quality Assessment Tool for cohort, observational and cross-sectional studies was used, with the articles that obtained a good evaluation being selected for the qualitative analysis of the data, based on the criteria of this tool (11).

Results

A total of 22 articles (12-33) were selected for qualitative analyses that were conducted in 15 countries, with different levels of economic and socio-cultural development, published in English and between 2014 and 2020. All were read in full and their data were collected and presented in Table 1.

Ten articles (13, 14, 17, 18, 20, 22, 24, 25, 27, 33) used the HSOPSC questionnaire as data collection instrument; another ten articles (12, 15, 16, 21, 23, 26, 28, 30-32) used SAQ, and two (19, 29) made use of PSCHO.

Regarding the population, the samples of studies 16, 19, 21 and 29 consisted of physicians and nurses, both managerial and assistants; of only physicians and nurses in studies 23 and 28, and of other health professionals in the remaining studies (12-15, 17, 18, 20, 22, 24-27, 30, 32-34). Only nurses were included in all the research studies, and the physicians were not contemplated in the population of one of the studies (31).

Table 1. Characteristics of the studies included (n = 22). Rio de Janeiro, Brazil, 2020

Reference, year, country	Population/ Sample	Instrument used for data collection	Response rate	Results	Effect of the culture identified
Kolankiewicz ACB, Schmidt CR, Carvalho REFL, Spies J, Dal Pai S, Lorenzini E. (12), 2020, Brazil	Sample: 698 Participants: 630	Safety Attitude Questionnaire (SAQ)	90.2 %	Positive scores were found in all the safety culture domains, except for the stress perception domain. Schooling, gender, working time, and choice of the work unit exerted a positive influence on the safety environment.	Positive. It favors the participatory safety culture of the professionals.
Kumbi M, Hussen A, Lette A, Nuriye S, Morka G (13), 2020, Ethiopia	Sample: 556 Participants: 518	Hospital Survey on Patient Safety Culture (HSOPSC)	93.2 %	The overall level of the patient safety culture was 44 % (CI = 95 %; 43.3-44.6). Factor analysis indicated that hours worked per week, participation in a patient safety program, reporting of adverse events, communication openness, teamwork within the hospital, organizational learning, and exchange of feedback on the error were among the factors that were significantly associated with the patient safety culture.	Critical. Need to strengthen the safety culture.
Yari SN, Akbari MH, Shahsavari S. (14), 2019, Iran	Sample: 720 Participants: 680	Hospital Survey on Patient Safety Culture (HSOPSC)	94 %	The safety environment and safety culture scores were 3.61 and 3.30, respectively, which are appropriate values. There was positive significance in the relationships between safety environment and the safety culture, safety environment and any of its components, and safety culture and any of the components.	Positive. It favors the safety culture.
Magalhães FHL, Pereira ICA, Luiz RB, Barbosa MH, Ferreira MBG (15), 2019, Brazil	Sample: 206 Participants: 198	Safety Attitude Questionnaire (SAQ)	96 %	Professionals with a negative perception of the patient safety environment (69.5). The job satisfaction domain obtained the highest score (81.98) and the perception of the management domain (62.15), the lowest.	Negative. Detrimental to the safety culture.
Jiang K, Tian L, Yan C, Li Y, Fang H, Peihang S et al. (16), 2019, China	Sample: 900 Participants: 665	SAQ	74 %	The participants rated job satisfaction as the best-rated domain, followed by teamwork environment, working conditions and stress recognition. There were significant differences between the domains of patient safety culture and those associated with other factors, such as gender, age, position and schooling.	Positive. Contribution for improving the services.
Akologo A, Abuosi AA, Anaba EA (17), 2019, Ghana	Sample: 406 Participants: 384	HSOPSC	94.50 %	Two dimensions with high scores: teamwork within the units (81.5 %) and organizational learning-continuous improvement (73.1 %). Three dimensions with lower scores: professionals, non-punitive response to error, and frequency of events reported. The overall perception of patient safety was significantly correlated with all the dimensions, except staffing.	Positive. It favors the safety culture.
Alqattan H, Cleland J, Morrison, Z (18), 2018, Kuwait	Sample: 1,340 Participants: 1,008	HSOPSC	75.2 %	The dimensions that needed improvements were: non-punitive response to error and communication openness. The positive dimensions were teamwork within the units and organizational learning-continuous improvement, as strong dimensions. The professional subcultures within the organizations must be considered when assessing the patient safety culture.	Critical. Need to strengthen the safety culture.

Reference, year, country	Population/ Sample	Instrument used for data collection	Response rate	Results	Effect of the culture identified
Zhou P, Bai F, Tang H et al. (19), 2018, China	Sample: 4,753 Participants: 4,176	Patient Safety Climate in Healthcare Organizations (PSCHO)	87.86 %	The dimensions with universally high scores in the different departments were fear of blame and punishment. The perceptions about the patient safety environment vary across departments and types of work.	Negative. Detrimental to the safety culture.
Najjar S, Baillien E, Vanhaecht K et al. (20), 2018, Belgium and Palestine	Sample: 2,836 Participants: 1,418	HSOPSC	Belgium 51.9 % and Palestine 53.6 %	The overall patient safety level was predicted by organizational learning in Palestine ($\beta = 0.19$, $p < 0.001$) and by personal learning in Belgium ($\beta = 0.19$, $p < 0.001$). The number of reported events was predicted by staffing in Palestine ($\beta = -0.20$, $p < 0.001$) and by feedback and communication in Belgium.	Critical. Need for investment in the dimensions to strengthen the safety organizational culture.
Li Y, Zhao Y, Hao Y et al. (21), 2018, China	Sample: 1200 Participants: 1,024	SAQ	85.33 %	The working conditions domain (80.19) obtained the highest score, and the safety environment (70.48), the lowest. There were significant differences in the perceptions of the patient safety culture according to gender, age, years of experience, position, status and schooling level.	Different among the professionals. Need to strengthen the safety culture.
Verbeek-van Noord I, Smits M, Zwijnenberg N C, Spreuwenberg P, Wagner C. (22) 2018 Netherlands	Participants: 6,605	HSOPSC	62.2 %	The relative influence of the hospitals on the safety culture increased and became more favorable after the implementation of the Patient Safety Program (PSP). The perception of safety across hospitals and departments did not become more equivalent, except for the frequency of reported events.	Positive. Favorable after the implementation of the PSP, but in need of improvement in terms of the safety culture.
Huang CH, Wu HH, Chou CY, Dai H, Lee YC (23), 2018, Taiwan	Sample: 800 Participants: 405	SAQ	50.6 %	The results highlighted that the safety environment was positive and significantly related to the teamwork climate and the perception of the hospital management, while recognition of stress was negatively related to burnout.	Positive. Seeking to improve quality and to strengthen the safety culture.
Rajalatchumi A, Ravikumar TS, Muruganandham K, Thulasigam M, Selvaraj K, Reddy MM et al. (24), 2018, India	Sample: 421 Participants: 386	HSOPSC	91.60 %	The dimensions of teamwork within the units, organizational learning-continuous improvement, and supervisor/manager expectations and actions promoting patient safety showed the highest scores of positive answers. The safety culture was strengthened after the creation of a safety council, whose objective was to improve patient safety and the provision of health care.	Positive. Strengthening of the safety culture after the creation of a quality council.
Burlison JD, Quillivan RR, Kath LM et al. (25), 2018, United States	The data obtained from 223,412 individuals were analyzed.	AHRQ-HSOPSC	51.3 %	The dimensions return of information and communication regarding the error were the most exclusive predictive variation in the result of frequency of reported events. Other dimensions significantly associated included organizational learning-continuous improvement, non-punitive response to error, and teamwork within the units (all with $p < 0.001$).	Positive. Strengthening of the patient safety culture and event reporting.

Reference, year, country	Population/ Sample	Instrument used for data collection	Response rate	Results	Effect of the culture identified
Carvalho REFL, Arruda LP, Nascimento NKP, Sampaio RL, Cavalcante MLSN, Costa ACP (26), 2017, Brazil	Sample: 573; 106 (18.5 %) Hospital A, 183 (31.9 %) Hospital B and 284 (49.6%) Hospital C	SAQ	60.3 %	The scores obtained by the three hospitals varied between 65 and 69. The job satisfaction domain showed the highest score and the opposite was observed in the perception of the management domain. Higher-level professionals showed a better perception of the stressors when compared to mid-level professionals.	Positive related to job satisfaction, but the safety culture still shows opportunities for improvement.
Cheikh AB, Bouafia N, Mahjoub M, Ezzi O, Nouria A, Njah M (27), 2016, Tunisia	Participants: 116 physicians and 203 paramedics	HSOPSC	74.1 % physicians and 100 % paramedic team	The scores of the dimensions vary between 32.7 % and 68.8 %. The highest (68.8 %) was the frequency of reported events and the lowest (32.7 %) was management support for patient safety, but all the dimensions need to be improved.	Critical. Need for improvements in most of the safety culture dimensions.
Elsous A, Sari AA, Rashidian A, Aljeesh Y, Radwan M, AbuZaydeh H (28), 2016, Palestine	Sample: 370 Participants: 339	SAQ	91.6 %	The mean score for the safety attitude in the six dimensions varied between 68.5 for job satisfaction and 48.5 for working conditions. Workers with positive attitudes were more collaborative with their work colleagues than those without positive attitudes.	Positive. Favorable for the safety culture based on cooperation among the professionals and improvement of the clinical results.
Zhou P, Bundorf MK, Gu J et al. (29), 2015, China	Sample: not informed Participants: 1,272	PSCHO	75 %	The fear of blame and punishment (79 %) and fear of shame (41 %) dimensions presented higher percentages of problematic answers, which can be barriers to improvements in patient safety in Chinese hospitals.	Negative. Detrimental to the safety culture.
Kristensen S, Badsberg JH, RischelV, Anhøj J, Mainz J, Bartels P (30), 2015, Denmark	Sample: 867 Participants: 544	SAQ	63 %	No differences were found in the percentage of positive perceptions between nurses and physicians ($p > 0.05$), but the difference between leaders and the front-line team was evident ($p < 0.05$). The perceptions varied more among individuals within the same unit than between the hospital units and between hospitals.	It emerges as a multilevel construction, in need of strengthening the safety culture in some professional categories.
Barbosa MH, Sousa EM, Felix MMS, Oliveira KF, Barichello E (31), 2015, Brazil	Sample: 107 Participants: 66	SAQ	61.60 %	The overall score of the instrument was 70.28. The best domain was job satisfaction (86.74) and the domains with the lowest scores were perception of the management (64.99) and stress recognition (61.74). There was no statistically significant difference between the genders, but there was between those who were undergraduate students or not.	Weak. Requirement for permanent education.
Chakravarty A, Sahu A, Biswas M, Chatterjee K, Rath S (32), 2015, India	Sample and participants: 300	SAQ	100 %	Significant variations in the perception of the safety environment were observed across the different categories of health professionals in the domains of teamwork, perception of the management and stress recognition.	Inconsistent. Need to strengthen the safety culture.
Al Mandhari A, Al-Zakwani I, Al-Kindi M, Tawilah J, Dorvlo A, AlAdawi S (33), 2014, Oman	Sample: not informed Participants: 398	HSOPSC	98 %	The mean of positive answers was 58 %. The dimension with the highest score was the organizational learning-continuous improvement and the one with the lowest score was the non-punitive response to error.	Positive. It favors the safety culture.

Source: Elaborated by the authors.

In general, the studies presented the overall response rate, without specifying by professional category; however, in the study that made this separation, nurses stood out with the highest response rate: 85 %-91.9 %; followed by physicians, with 81 %-91.8 % (28, 29). In one of the studies (27), the response rate was 74.1 % among the physicians, and 100 % among the other health professionals. In the others, the response rates were 50 %-59 % (20, 23, 25), 60 %-69 % (22, 26, 30, 31), 70 %-79 % (16, 18), 80 %-89 % (19, 21), 90 %-99 % (12-15, 17, 24,33) and 100 % (32).

The objectives of the studies varied between investigating the interaction between the safety environment and the safety culture (14), analyzing the perception of the patient's safety environment by health professionals (15, 29, 31, 32), investigating/evaluating the patient safety culture (12, 13, 16, 26-28, 33), assessing the perceptions about the patient safety culture among the health professionals (17-19, 21, 23, 24, 30), examining whether the safety culture has improved after the implementation of the patient safety program (22), assessing the associations between the dimensions of the patient safety culture and the perceived notification practices of safety events of varying severity (25), and investigating the relationships between dimensions of the patient safety culture in different cultures (20).

In research studies on the safety culture, the dimensions that presented high values of positive answers were teamwork within the units (13, 17, 18, 24, 33), organizational learning-continuous improvement (17, 18, 24, 33), supervisor/manager expectations and actions promoting patient safety (24), and frequency of event reporting (22, 27).

The dimensions that recorded lower values of positive answers were non-punitive responses to error (13, 17, 18, 22, 25, 33) and frequency of event reporting (17, 24), communication openness (18, 22), the general perception of patient safety (22), and management support for patient safety (13, 27).

In the studies that investigated the safety environment, the safety domains that obtained the highest scores were job satisfaction (12, 15, 16, 26, 28, 31, 32), teamwork climate (16, 23, 28, 30) and working conditions (21). In study 12, all the domains had a positive answer, except for the stress perception dimension.

The safety domains that obtained the lowest score were perception of the unit/hospital management (12, 15, 26, 30, 31),

stress perception (12, 16, 23, 31, 32), fear of blame and punishment (19, 29), fear of shame (29), safety environment (19) and working conditions (28).

The findings show that a positive safety environment exerts a positive impact on the safety culture (14), favors the notification of events (25, 27), and enables improvements in quality (116, 23, 27, 32).

In the opposite direction, a negative safety environment weakens the safety culture (13, 15, 19, 29), is related to the decrease in the reporting of events for strengthening punitive responses to errors (13, 17) and to the fear of blame and of shame (19, 29). A weak safety environment requires permanent education (31) and improvement of the patient safety program (22).

The safety environment emerged as a multilevel construction (30), which suffers variations among professionals from different categories (15, 16, 19, 21, 24, 32), with differences in schooling (12, 15, 16, 21, 26, 31), within the same unit (22, 30) or across units (22, 30, 32).

It was identified that the schooling/training level exerts a positive impact on the safety culture and on the safety environment (14, 15, 16) and that there is a difference in the patient's perception of safety among professional categories at the same institution (12, 15, 16, 18, 21, 31, 32).

Discussion

The quality of the health services has been related to the patient safety culture; in this sense, the HSOPSC and SAQ questionnaires have been widely used by various countries to gather data on the patient safety culture and on the safety environment (34, 35). The PSCHO tool is also used to obtain data on the safety environment, although it adds the fear of blame and fear of shame dimensions, as well three additional items that ask the interviewees if they witnessed or were involved in the provision of unsafe care (35, 36).

The response rate of all the studies was over 50 %, which is one of the criteria for assessing the quality of the tool used in this study (11). In 85 % of the studies selected for this review (14-19, 21, 22, 24, 26-33), the rate was over 60 %. The literature suggests rates over 60 % as representative (37).

The dimension of teamwork within the units was identified as a strong dimension (38, 39); however, it also appears as a dimension with potential for improvement (40, 41), which, when strengthened, will enable commitment among the professionals and strengthening of the security environment.

There are divergences in the perception of the participation of managers and leaders. This divergence can be related to the real commitment of managers in strengthening the safety actions and improving the organizational environment (38, 41) or to the workers' reticence in expressing negative opinions about managers and institutions (38).

The low scores identified in terms of communication openness can be associated with the rigid relationship between workers and managers, which leads to passive behavior regarding event reporting (42), as there is no room to discuss errors (34). This attitude is reflected in organizational silence, which weakens individual initiatives; in addition to discouraging the issuance of opinions, thoughts and suggestions that could contribute to the improvement of processes and services (43).

The frequency of event reporting can be negatively associated with non-punitive responses to errors, since the professionals fear that their errors will be used to punish them (1, 44) instead of considering them as an opportunity for improvement (44). The studies that presented this dimension with positive results associated them with the implementation of the patient safety program (22) and with the positive safety environment (27).

Several studies point out that job satisfaction and the organizational environment exert a positive influence on the safety culture (45, 46), playing a significant role in guaranteeing the quality of the health services (46) and, consequently, in patient safety.

On the other hand, stress perception addresses how much each professional can perceive that the stress load favors risk situations for patient safety (34), since the difficulty in perceiving and dealing with stressors can result in errors, reduced productivity, feelings of discomfort, illness or poor team performance (4).

Identifying weaknesses in the patient safety culture is considered as an opportunity to improve quality (47). In this context, identifying and monitoring the dimensions or domains with the lowest scores can become a subsidy for the establishment of strategies to develop them, as well as for the strengthening of the most solid dimensions and domains.

The interaction between the safety environment and the safety culture deserves attention from researchers, managers and health workers. The impact of the organizational influence affects the entire care system, the maturity of a safety culture that permeates all actions of care practice being a challenge for patient safety (34).

The safety environment and the safety culture had a positive impact on each other, which suggests that the safety culture accompanies the improvement of the safety environment, and vice versa (14). There is a complex relationship between safety culture and safety environment, which can indicate that organizations with a certain type of culture can more or less develop a positive safety environment (48).

The evidence points out that the insufficiency in the reports of events is related to trust in a culture of blame, instead of a safety culture, risk management and improvement system (49), precluding a fair, participatory and open culture between professionals and managers (39). However, occasionally blaming the professional for frequent errors, caused by neglect or non-adherence to the safety standards, may be appropriate (50).

Therefore, the institutions must encourage the patient safety culture among all the professionals with a view to improve quality (51). Permanent education is presented as a tool for the insertion of patient safety in the daily lives of health professionals (52). Interdisciplinary team training emerges as a strategy to strengthen the relationship between the teams and solve misunderstandings that can have an impact on patient care (53).

Due to the existence of local microcultures within the organizations (34), knowledge of the organizational culture will allow managers to identify the differences across the services of the same hospital, which promotes their improvement (54).

In this context, the safety culture may be perceived differently among the professional categories (41), which highlights the need to know this difference to enable the planning and implementation of actions aimed at standardizing and strengthening the perception of the safety culture.

Patient safety is considered as one of the cornerstones of health care quality (41), a requirement for ensuring care quality (55). The implementation of the Patient Safety Center denotes an advance towards encouraging the patient safety culture and

the quality of health care, as it reveals the concern and support of managers for the actions to improve the structure and processes, whose objective is to improve care (56).

The concern with the quality of care provided by the health services, with a focus on harm-free assistance, has been an objective sought by institutions worldwide. A positive safety culture will promote individual and organizational learning, enabling the achievement of quality care (53). This is because the organizational culture can directly influence the patient safety culture concerning risks, expectations, and actions (57).

Studying the effect of the organizational culture on the patient safety culture can be an effective tool for reducing the harms resulting from health care, since a positive organizational culture provides a more effective safety environment.

In this sense, we hope that this study can contribute to the professional practice, as knowing the strengths and weaknesses in the organizational culture will enable the identification of multiple factors that put patient safety at risk, as well as to research, as the understanding of what determines safe assistance can guide more effective educational processes and enable the establishment of evidence that points to the needs for improving health care.

Conclusions

The objective proposed for this review was attained, as it was possible to identify the effect of the organizational culture

on the safety culture for hospitalized patients. The effect is positive when the organizational culture is strong, geared towards improving processes and quality, resulting in strengthening the patient safety culture and achieving positive results related to health care; whereas a fragile and punitive organizational culture is related to a culture of deficient safety in which adverse events with or without harms may be more present.

There is still a long way to go in the search for safe care, but it is undisputed that strengthening the patient safety culture is the path to follow. The evidence points towards the need to establish a fair, non-punitive culture, geared towards the development of interpersonal, professional and institutional capacity.

Much has been studied about the safety culture and the organizational culture; however, the effective interaction between them is still little reported in the literature, which possibly makes the topic relevant for future studies, since most of the research studies investigated the situational diagnosis and little progress has been made in investigating the implication for the professional practice and the repercussion for the safety of hospitalized patients.

A limitation of this study is the choice of only four databases, which was considered adequate for the selection of studies according to the proposed theme and objective, but which may have allowed eligible studies not to be found, as well as the restriction to studies published in English, Portuguese and Spanish, in addition to the non-performance of a meta-analysis.

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