MANAGEMENT COMPETENCES RELATED TO PATIENT SAFETY: AN INTEGRATING REVIEW

Competências gerenciais relacionadas à segurança do paciente: uma revisão integrativa

Competencias gerenciales relacionadas a la seguridad del paciente: una revisión integrativa

Taís Couto Rego da Paixão[1], Alexandre Pazetto Balsanelli[2], Elena Bohomol[3], Vanessa Ribeiro Neves[4]

ABSTRACT: Objective: To identify management competences related to patient safety. **Method**: It is an integrative literature review. The research was carried out in 2017, in English, Portuguese and Spanish, in Public Medline (PubMed) database. The texts included should be available in full and address the theme proposed. **Results:** A total of 34 articles were selected and 11 competences were identified: leadership, safety culture, teamwork, communication, advocacy, risk management, concept competence, functional competence, emotional intelligence, decision making and safety-focused management and planning. Identifying the competences allowed for their definition in the context of management, when applicable in the surgical area, in addition to verifying strategies for their development. **Conclusion:** Although only one database was used for the research, it is recommended that subsequent studies adopt these strategies, which will allow for institution managers to plan and implement the culture of safety in a more effective and concrete way.
Keywords: Professional competence. Patient safety. Leadership. Health System.

RESUMO: Objetivo: Identificar as competências gerenciais relacionadas à segurança do paciente. **Método:** Trata-se de uma revisão integrativa da literatura. A busca foi realizada em 2017, nos idiomas inglês, português e espanhol, na base de dados *Public Medline* (PubMed). Os textos incluídos deveriam estar disponíveis na íntegra e abordar a temática proposta. **Resultados:** Foram selecionados 34 artigos e identificadas 11 competências: liderança, cultura da segurança, trabalho em equipe, comunicação, advocacia, manejo de risco, competência conceitual, competência funcional, inteligência emocional, tomada de decisão e gestão e planejamento centrado na segurança. A identificação das competências possibilitou defini-las no contexto da gestão, quando aplicáveis na área cirúrgica, além de verificar as estratégias para o seu desenvolvimento. **Conclusão:** Embora tenha sido utilizada apenas uma base de dados, recomenda-se que estudos subsequentes apliquem essas estratégias, o que permitirá aos gestores das instituições planejar a implementação da cultura de segurança de uma maneira mais efetiva e concreta.
Palavras-chave: Competência profissional. Segurança do paciente. Liderança. Sistema de saúde.

RESUMEN: Objetivo: Identificar las competencias gerenciales relacionadas con la seguridad del paciente. **Método:** Se trata de una revisión integrativa de la literatura. La búsqueda se realizó en 2017, en inglés, portugués y español, en la base de datos *Public Medline* (PubMed). Los textos incluidos deberían estar disponibles en su totalidad y abordar la temática propuesta. **Resultados:** Se seleccionaron 34 artículos y se identificaron 11 competencias: liderazgo, cultura de la seguridad, trabajo en equipo, comunicación, abogacía, manejo de riesgos, competencia conceptual, competencia funcional, inteligencia emocional, toma de decisión y gestión y planificación centradas en la seguridad. La identificación de las competencias posibilitó definirlas en el contexto de la gestión, cuando aplicables en el área quirúrgica, además de verificar las estrategias para su desarrollo. **Conclusión:** Aunque se ha utilizado sólo una base de datos, se recomienda que estudios posteriores apliquen esas estrategias, lo que permitirá a los gestores de las instituciones planificar la aplicación de la cultura de seguridad de una manera más efectiva y concreta.
Palabras clave: Competencia profesional. Seguridad del paciente. Liderazgo. Sistema de salud.

[1]Nurse graduated at Escola Paulista de Enfermagem (EPE) of Universidade Federal de São Paulo (UNIFESP). Post-graduation program *Stricto Sensu* at EPE-UNIFESP – São Paulo (SP), Brazil.
[2]Nurse graduated at Faculdade de Medicina de São José do Rio Preto. PhD in Science at EPE-UNIFESP. Adjunct Professor of the Department of Administration in Health and Nursing Services (DASSE) of EPE-UNIFESP – São Paulo (SP), Brazil.
[3]Nurse graduated at Universidade de Mogi das Cruzes. Nursing Professor at the School of Nursing of Universidade de São Paulo (USP). Adjunct Professor of DASSE at EPE-UNIFESP– São Paulo (SP), Brazil.
[4]Nurse graduated at EPE-UNIFESP. PhD in Nursing at EPE-UNIFESP. Adjunct Professor of DASSE at EPE-UNIFESP – São Paulo (SP), Brazil. E-mail: vanessa.neves@unifesp.br
Rua Napoleão de Barros, 754 – Vila Clementino – CEP: 04021-002 – São Paulo (SP), Brazil.
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INTRODUCTION

Despite the efforts of health professionals, care practice has been shown to be a risk-generating activity for those who receive it[1]. From this perspective, according to a retrospective study carried out in the United States, the United Kingdom and Australia, one out of ten hospitalized patients is likely to suffer some kind of error during hospitalization, showing that staying in hospital has been a great risk activity to the integrity of the individual[2].

Concerned about this issue, the World Health Organization (WHO) published the World Alliance for Patient Safety Program, in 2004, and proposed actions to address this problem and improve health care practices. One of those actions was to make a call for patient safety, setting three global challenges: "Clean Care is Safer Care" (2005), "Safe Surgery Saves Lives" (2008) and "Use Medicines Safely " (2017). Brazil, as a WHO Member State, adhered to all the challenges and has been developing projects to improve health care[1].

However, the progress toward risk reduction associated with intervention and/or hospitalization has been lengthy[3], since rates and incidence of errors remain practically the same as those reported in previous studies[4].

It is necessary for health professionals to propose improvements in order to promote safe care in institutions, especially in hospitals and in the surgical center. Thus, the acquisition of skills related to the management of these services is essential for achieving this objective.

Competence relate to the individual's knowledge, their technical and non-technical abilities, and a proactive attitude; and are defined as a responsible and recognized know-how that involves mobilizing, integrating and transferring knowledge, resources and skills that add economic value to the organization and social value to the individual[5].

The association between competence and patient safety has been addressed in the literature[6-11], with special emphasis on communication[8,11] and on leadership[10]. However, it is known that, in the area of security management, it is essential to know all the skills necessary to make it effective, focusing on the care offered. Therefore, the question is: what are the managerial competences related to patient safety?

Such response could provide elements for permanent education in institutions, subsidize an individual development plan for professionals and advance in the knowledge on this subject.

OBJECTIVE

Identify managerial competences related to patient safety.

METHODS

It is an integrative review, elaborated according to the following steps:

1. definition of the objective of the integrative review;
2. establishment of inclusion and exclusion criteria of articles (sample selection);
3. definition of the information to be extracted from selected articles;
4. analysis of results;
5. discussion and presentation of results;
6. presentation of the review[12].

Articles published in the period between 2005 and 2017 in English, Portuguese and Spanish were included, whose texts were available in full in the database consulted and which would address the proposed theme. It is noteworthy that the time cut was established following WHO's publication of the World Alliance for Patient Safety in 2005, which drew the attention of the world and led to the development of several researches on the subject.

Documents such as letters to the editor, reviews, editorials and chapters of books were excluded, as well as researches published by professionals from other areas of knowledge, other than the field of health.

For the selection of articles, the Public Medline database (PubMed) was used, and the descriptors were: professional competence, leadership and patient safety. The simultaneous use of these three descriptors resulted in few publications, so we chose the articles captured in the searches combining leadership AND patient safety (255) and professional competence AND patient safety (400), totaling 655 articles. The initial selection was carried out by reading the title and abstract of these publications; after applying inclusion and exclusion criteria, 34 articles were chosen to integrate this study (Figure 1).

The data were collected during the month of June 2017. The articles were read in full and analyzed as to the relevance of their subject and the similarity between texts, which allowed to synthesize the content about each competence, to identify the existing relations between them and to create

categories for the presentation and discussion of such findings. In addition, publications were coded, using the letter "A" followed by a cardinal number, in order to facilitate their presentation and identification in the tables that composed this study. Evaluation instruments and competence development techniques were also extracted from the articles.

Since it was an integrative review with no participation or involvement of human beings, prior approval was not required from the Research Ethics Committee.

RESULTS

The 34 articles related to competences focused on patient safety were published between 2008 and 2016, with 3% in 2008, 15% in 2009, 12% in 2010, 6% in 2011, 15% in 2012, 25% in 2013, 6% in 2014, 6% in 2015 and 12% in 2016. There were no publications in the years 2005, 2006, 2007 and 2017.

Fourteen countries of origin were identified, with the United States accounting for 32% and the United Kingdom, 25% of the articles, followed by Canada with 12%, Australia, New Zealand and Sweden with 5%, and South Korea, Denmark, Ethiopia, the Netherlands, Israel, Japan, Switzerland and Taiwan, with 2% of the researches each (Chart 1). There were no Brazilian articles on the subject in the database consulted in the analyzed period.

The selected articles addressed competences related to patient safety, described tools that help in the construction of these tools, and presented tools for skills

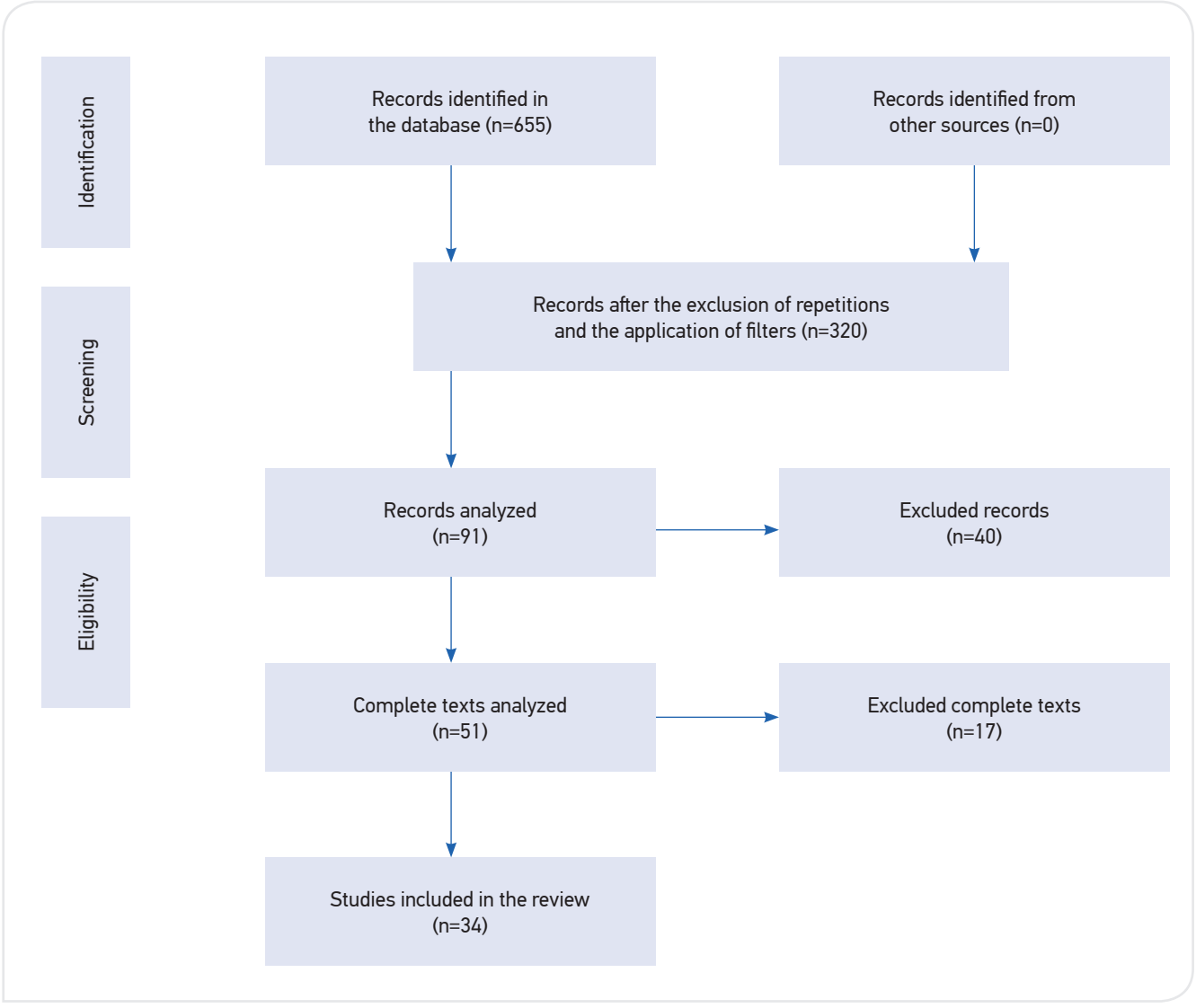

Figure 1. Flowchart of the selection of publications. São Paulo, 2017.

Chart 1. Distribution of the selected articles, with demonstration of the code, title, year, country and magazine. São Paulo, 2017.

Code	Article title	Year	Country	Magazine
A1[13]	*What's makes maternity teams effective and safe? Lessons from a series of research on teamwork, leadership and team training*	2013	United Kingdom	*Acta Obstetricia et Gynecologica Scandinavica*
A2[14]	*Training and simulation for patient safety*	2010	United Kingdom, Ethiopia, United States, Japan, Israel and Canada	*Quality & Safety Health Care*
A3[15]	*The Patient Safety OSCE for PGY-1 Residents: A Centralized Response to the Challenge of Culture Change*	2009	United States	*Teaching and Learning in Medicine*
A4[16]	*The patient safety chain: Transformational leadership's effect on patient safety culture, initiatives, and outcomes*	2009	United States	*Journal of Operations Management*
A5[6]	*The H-PEPSS: an instrument to measure health professionals' perceptions of patient safety competence at entry into practice*	2012	Canada	*BMJ Quality & Safety*
A6[17]	*Team training for surgical trainee*	2011	United States	*The Surgeon, Jornal of the Colleges of Surgeons of Edinburgh and Ireland*
A7[7]	*Self-reported patient safety competence among new graduates in medicine, nursing and pharmacy*	2013	Canada	*BMJ Quality & Safety*
A8[18]	*Safety in numbers 2: Competency modelling and diagnostic error assessment in medication dosage calculation problem-solving*	2013	United Kingdom, New Zealand, United States	*Nurse Education in Practice*
A9[19]	*Safe eye surgery: non-technical aspects*	2011	United Kingdom	*Eye*
A10[2]	*Review article: Simulation: a means to address and improve patient safety*	2013	Canada	*Canadian Journal of Anesthesia*
A11[20]	*Quality and Safety Initiatives in the Future Practice of Surgery: Meeting Patient Demands for Enhanced Professionalism*	2009	United States	*Surgery Today*
A12[21]	*Patient Safety in the Obstetric and Gynecologic Office Setting*	2013	United States	*Obstetrics & Gynecology Clinics of North America*
A13[8]	*Patient safety and communication: A new assessment for doctors trained in countries where language differs from that of the host country: Results of a pilot using a domain-based assessment*	2014	United Kingdom	*Patient Education and Counseling*
A14[9]	*Nurses values, attitudes and behavior related to falls prevention*	2009	Australia	*Journal of Clinical Nursing*
A15[22]	*Non-technical skills of anaesthetic assistants in the perioperative period: a literature review*	2012	United Kingdom	*British Journal of Anaesthesia*
A16[3]	*Improving patient safety in the operating theatre and perioperative care: obstacles, interventions, and priorities for accelerating progress*	2012	United Kingdom, United States	*British Journal of Anaesthesia*
A17[23]	*Implementing an interprofessional patient safety learning initiative: insights from participants, project leads and steering committee members*	2013	Canada	*BMJ Quality & Safety*
A18[24]	*Human factors in resuscitation teaching*	2012	United Kingdom	*Resuscitation*
A19[25]	*How excellent anaesthetists perform in the operating theatre: a qualitative study on non-technical skills*	2013	Sweden	*British Journal of Anaesthesia*
A20[26]	*Examining patient safety attitudes among urology trainee*	2014	United Kingdom	*BJU International*
A21[10]	*Ensuring patient safety through effective leadership behavior: a literature review*	2010	Sweden	*Safety Science*

Continue...

Chart 1. Continuation.

Code	Article title	Year	Country	Magazine
A22[27]	*Emotional stability of nurses: impact on patient safety*	2009	Taiwan	*Journal of Advanced Nursing*
A23[28]	*Does Team Training Work? Principles for Health Care*	2008	United States	*Academic Emergency Medicine*
A24[11]	*Development and reliability of the explicit professional oral communication observation tool to quantify the use of non-technical skills in healthcare*	2013	Netherlands	*BMJ Quality & Safety*
A25[29]	*Developing a program, a curriculum, a scenario*	2013	United States	*Seminars in Perinatology*
A26[30]	*Cultural safety and the socioethical nurse*	2010	New Zealand	*Nursing Ethics*
A27[31]	*Creating Champions for Health Care Quality and Safety*	2010	United States	*American Journal of Medical Quality*
A28[32]	*Creating a culture of safety by coaching clinicians to competence*	2013	Australia	*Nurse Education Today*
A29[33]	*Simulation for operational readiness in a new freestanding Emergency Department: strategy and tactics*	2016	United States	*Simulation in Healthcare*
A30[34]	*An interprofessional training course in crises and human factors for perioperative teams*	2016	United Kingdom	*Journal of Interprofessional Care*
A31[35]	*Strengthening leadership as a catalyst for enhanced patient safety culture: a repeated cross-sectional experimental study*	2016	Denmark	*BMJ Open*
A32[36]	*Trauma team leaders' non-verbal communication: video registration during trauma team training*	2016	Sweden	*Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*
A33[37]	*Teamwork education improves trauma team performance in undergraduate health professional students*	2015	United States	*Journal of Educational Evaluation for Health Professions*
A34[38]	*Teamwork and clinical error reporting among nurses in Korean hospitals*	2015	South Korea	*Asian Nursing Research*

assessment and techniques for their development by health professionals.

Eleven competences were identified: leadership, safety culture, teamwork, communication, advocacy, risk management, conceptual competence, functional competence, emotional intelligence, decision making, and security-focused planning and management. Leadership was cited and analyzed in 20 articles; teamwork in 19; communication, in 17; and safety culture, in 8. Advocacy as competence for patient safety was presented by one article only.

The articles presented the concepts of competences in an innovative way, considering issues related to patient safety, such as concern about the occurrence of incidents, encouragement for patient participation, minimization and identification of errors, among others (Chart 2). The use of specific techniques and instruments for the development of skills by professionals was also verified, pointing to different ways of teaching and learning in this context.

DISCUSSION

The present study introduces an expressive number of articles that deal with specific competences for patient safety. However, it should be pointed out that this subject has a recent approach, as the publications have taken place since 2008. This demonstrates the need to look at the issue in a different way, that is, to transform the formation and development of professionals for the practice of care and the management of health systems[15,28].

The study and teaching of patient safety are considered recent in care and training institutions, and the educational activity is a way of alerting to risks within the care process arising, in many cases, from operational failures of the care system. Therefore, these studies are expected to be linked to the United States, the United Kingdom, Canada, and Australia, which pioneered

Chart 2. Competences related to patient safety, definition and instruments and techniques for its development. São Paulo, 2017.

Competences	Definition	Instruments and Techniques	Articles
Leadership	Ability to give direction to a group of people. Its objectives are, in the context of patient safety, to achieve a welcoming and guilt-free environment and to build a team and organization focused on safety and the best results. It is the professional who assists in building the safety culture in the institution and works to ensure that it is effectively and affectively embraced by all members of the team.	Model of transformative leadership Coaching TeamSTEPPS[I] OTAS[II] Revised NOTECHS[III]/Oxford NOTECHS[IV]/T-NOTECHS[V] NOTSS[VI] Ottawa GRS[VII] MHPTS[VIII] OSCAR[IX] EPOC[X] Teamwork Perceptions Questionnaire Simulation/Briefing/Debriefing	A1 – A2 – A4 – A6 – A9 – A10 – A12 – A15 – A16 – A18 – A20 – A21 – A24 – A25 – A28 – A30 – A31 – A32 – A33 – A34
Safety culture	A culture in which all workers take responsibility for safety, making it more important than other interests. It offers encouragement and rewards in problem identification, notification and resolution. Promotes, from the occurrence of incidents, organizational learning.	H-PEPSS[XI] Simulation/Briefing/Debriefing	A1 – A4 – A5 – A7 – A11 – A12 – A26 – A28
Teamwork	Joint action by members who support each other, present clear and objective communication and aim at patient safety. To achieve good performance, you need: effective leadership, commitment and continuous training.	OSCE[XII] H-PEPSS[XI] TeamSTEPPS[I] Revised NOTECHS[III]/Oxford NOTECHS[IV]/T-NOTECHS[V] ANTS[XIII] MHPTS[VIII] OSCAR[IX] EPOC[X] Teamwork Perceptions Questionnaire Simulation / Briefing / Debriefing	A1 – A2 – A3 – A5 – A6 – A7 – A9 – A10 – A15 – A16 – A17 – A18 – A20 – A23 – A24 – A30 – A32 – A33 – A34
Communication	Communication is a key competence for patient safety. Health care professionals must be able to communicate effectively with peers and clients so that there is mutual understanding, support for meaningful relationships, and involvement in decisions about care.	Closed-loop communication SBAR Technic OSCE[XII] H-PEPSS[XI] OTAS[II] Revised NOTECHS[III]/Oxford NOTECHS[IV]/T-NOTECHS[V] NOTSS[VI] Ottawa GRS[VII] OSCAR[IX] TeamSTEPPS[I] Teamwork Perceptions Questionnaire Simulation/Briefing/Debriefing	A1 – A2 – A3 – A4 – A5 – A9 – A12 – A13 – A15 – A16 – A18 – A24 – A29 – A30 – A32 – A33 – A34
Advocacy	Positive action that results in change. Its exercise favors the transformation, through the professional's performance, of the reality in which care takes place. Patient defense is a fundamental part of advocacy.	Simulation/Briefing/Debriefing	A2
Risk management	Correct identification of risks, with their respective actors, proposals and execution of protocols for prevention and reduction of damages and evaluation of their effectiveness.	H-PEPSS[XI] Simulation/Briefing/Debriefing	A5 – A11 – A14

Continue...

Chart 2. Continuation.

Competences	Definition	Instruments and Techniques	Articles
Conceptual competence	Thorough and critical knowledge about patient safety issues, so that real evaluation and the establishment of proposals for solving problems can be possible.	Simulation/Briefing/Debriefing	A5 – A8 – A10 – A12 – A18
Functional competence	Ability to transform knowledge and theory into practical applications, in addition to the effective manipulation of tools that support actions.	Simulation/Briefing/Debriefing	A8 – A10 – A12 – A18
Emotional intelligence	Ability to maintain emotional stability in the face of unplanned situations. Emotional stability has been described as the tendency to remain confident and secure.	Music Simulation/Briefing/Debriefing	A18 – A19 – A20 – A22
Decision making	Action in which a certain situation is evaluated with its unfolding and a decision is made by a determined path. In patient safety, this action becomes more complex because it will often occur from an unplanned and stressful situation.	Revised NOTECHS[III]/Oxford NOTECHS[IV]/T-NOTECHS[V] NOTSS[VI] ANTS[XIII] OSCAR[IX] TeamSTEPPS[I] Simulation/Briefing/Debriefing	A9 – A10 – A14 – A15 – A16 – A28 – A33
Security-focused planning and management	Commitment and management and planning actions that focus on patient safety. They remain centralized and cover all areas and institutional protocols.	EPOC[IX] Simulation/Briefing/Debriefing	A2 – A11 – A14 – A19 – A24 – A27 – A28

[I]Team Strategies and Tools to Enhance Performance and Patient Safety;[II]Observational Teamwork Assessment for Surgery;[III]Revised Non-technical Skills;[IV]Oxford Non-technical Skills;[V]Trauma Non-technical Skills;[VI]Non-technical Skills for Surgeons;[VII]Ottawa Crisis Resource Management Global Rating Scale;[VIII]Mayo High Performance Teamwork Scale;[IX]Observational Skill-based Clinical Assessment Tool for Resuscitation;[X]Explicit Professional Oral Communication;[XI]Health Professional Education in Patient Safety Survey;[XII]Objective Structured Clinical Exam;[XIII]Anesthesiologists Non-technical Skills.

researches on the subject, fostered understanding of causal and cultural factors, and introduced comprehensive initiatives in their territories to modify the culture within the organizations[7,14,32,34].

Although Brazilian studies related to errors and adverse events within the health system are not scarce, the study of competences is still a challenge for researchers in the national scenario. It is expected that there will be more maturation in care and training organizations, as the need to implement the National Patient Safety Program launched by the Ministry of Health in 2003, which aims to monitor and prevent incidents that cause harm to user assistance in hospitals and other health facilities[39].

In the study in question[39], the most frequent competences were leadership, teamwork and communication. Studies on leadership are not uncommon in the literature; however, leadership focused on patient safety highlights a leader who provides a welcoming and guilt-free environment, enabling staff to grow in issues related to patient safety. This would transform the current reality related to punishments and warnings in the face of mistakes in a learning environment[13,26,35,36,38].

Teamwork is essential for patient safety and its importance tends to increase due to factors such as increased complexity of diseases, increased specializations in care, elevated comorbidities, shortage of workforce, among others. Health work involves many professionals and needs to be well coordinated, with good communication amongst them at all times. Thus, teamwork stands out as a fundamental competence[6,14,34,37]. The surgical scenario is an excellent example of this importance, and the implementation of the protocol of safe surgery is a tool which allows the participation of professionals in order to avoid errors and adverse events related to the procedures[1].

However, in order to have a proper teamwork, which means to develop a collective work, with several technical interventions, interaction of professionals from different areas and built through a mutual relationship, it

is necessary to observe one of its main premises: quality communication amongst members. It is known that the most frequent causal factor for the occurrence of errors and adverse events within the health system is inadequate communication[8,11,36,37].

For this reason, numerous studies have been conducted in order to establish an effective communication among team members, through a structured and honest process between health professionals and patients, especially after the latter have suffered damages[8,11,17,38].

It is also verified that new competences related to patient safety, such as advocacy, have a focus on patient defense, making it a priority within the service as opposed to issues related to the structure or the organization. It is a concern with the patient regarding their treatment and their need for care, their understanding of informed consent and the encouragement to clarify doubts about their care needs. Such competence implies knowing how to listen to the patient, knowing how to negotiate, getting to know the work team, having knowledge about the administrative process and the quality improvement tools[14,15,17].

The present study also indicates the development of competences with differentiated tools and techniques, which allows us to assume that teaching and learning carried out in a traditional way within a positivist, disciplined and organized paradigm do not fit into the context of patient safety. In this way, educators, managers and teachers, in addition to being continuously prepared in their theoretical knowledge, should use innovative educational methodologies that allow professionals and students to transform information into meaningful and applicable knowledge[8,17,29,33,36].

The limitation of this study is the use of only one database for the search of articles. However, the material found and the analysis made allowed to identify important competences for the management of patient safety, as well as to indicate the possibility of carrying out further studies that improve its development.

CONCLUSION

The identification of competences related to patient safety allowed them to be defined in the context of management and, mainly, to verify strategies for their development. Subsequent studies can apply these strategies and test their evidence. This will enable institution managers to plan the implementation of the security culture in a more effective and concrete way, bringing numerous benefits to organizations and their clients.

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