

Strategies for the promotion of patient safety in emergency hospitals

Estratégias para a promoção da segurança do paciente em hospitais de urgência

Patrícia Tavares dos Santos¹ , Vera Lúcia Mira² , Thaisa Cristina Afonso¹ , Cristiane Chagas Teixeira¹ , Ana Lúcia Queiroz Bezerra¹ 

ABSTRACT

Objective: Study with the objective of describing the main problems related to the patient's safety and the proposals implemented to overcome them in emergency hospital services. **Method:** It was developed by documental analysis of four managerial projects elaborated by leaders of hospital institutions in a Brazilian capital, as a product of a formative process of a Permanent Health Education program. **Results:** Problems were listed, such as failure to meet patient safety goals, insufficient physical, material and personnel resources, lack of bed management and risk, which resulted in overcrowding. Most of the proposals for overcoming were related to the work processes. **Conclusion:** The description of structural problems, process and results common to hospitals, as well as improvement actions can contribute to the construction of guidelines essential to patient safety.

Descriptors: Patient Safety; Health Evaluation; Education, Continuing; Practice Management; Emergencies.

RESUMO

Objetivo: Estudo com objetivo de descrever os principais problemas relacionados à segurança do paciente e as propostas implantadas para sua superação em serviços hospitalares de urgência. **Método:** Foi desenvolvido por meio da análise documental de quatro projetos gerenciais elaborados por líderes de instituições hospitalares de uma capital brasileira, como produto de um processo formativo de um programa de Educação Permanente em Saúde. **Resultados:** Foram elencados problemas, como falhas no atendimento às metas de segurança do paciente, insuficiência de recursos físicos, materiais e de pessoal, ausência de gestão de leitos e de risco, que resultavam em superlotação. A maioria das propostas de superação estavam relacionadas aos processos de trabalho. **Conclusão:** A descrição de problemas estruturais, de processo e resultados comuns aos hospitais, bem como ações de melhoria, pode colaborar para a construção de diretrizes imprescindíveis à segurança do paciente.

Descritores: Segurança do Paciente; Avaliação em Saúde; Educação Continuada; Gerenciamento da Prática Profissional; Emergências.

¹Universidade Federal de Goiás – Goiânia (GO), Brazil. Emails: ptavares@ufg.br, qualitha@yahoo.com.br, cc-teixeira@hotmail.com, analuciaqueiroz@uol.com.br

²Universidade de São Paulo – São Paulo (SP), Brazil. E-mail: vmirag@usp.br

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INTRODUCTION

In recent years, strategies for patient safety have been a priority, being theme on global agendas and motivating joint efforts by health institutions, professionals and patients to ensure the reduction of risk of preventable damage with quality organizational processes, established by national and international bodies⁽¹⁾.

Research carried out around the world has shown risk factors related to damage associated with patients in emergency services, such as the health work environment, inadequate staffing, poor training of professionals, work overload, insufficient equipment, prolonged hospital stay, and overcrowding. These factors are associated with problems in the effectiveness of communication, difficulties in interpersonal relationship between the multiprofessional team and weaknesses in leadership^(2,3).

It is, therefore, important to assess the availability of resources in emergency hospital services for the promotion of quality, safe, effective and damage-free care, considering the structure, work processes, and outcomes⁽³⁾.

The World Health Organization (WHO) has recommended that countries develop strategies to promote safety and reduce preventable risks to patients in health practice⁽⁴⁾.

To meet these recommendations, in 2013, the Ministry of Health (MS) instituted Patient Safety Centers in Brazil's health services, with the purpose of implementing and monitoring goals and protocols such as correct patient identification, effective communication between professionals, safe prescription, use and administration of medications, safety in surgical procedures, prevention of infections and reduction of risks of falls and pressure lesions⁽⁵⁾.

Changes in the organizational culture and in the planning of actions that favor the delineation of work processes and learning from errors are also recommended, minimizing costs, length of stay and patient dissatisfaction⁽⁶⁾.

The nurse, as a manager and the leader of the care process, has an important role in the implementation of strategies to promote quality of care, aiming at improving processes and achieving institutional goals⁽⁷⁾.

This is a challenge to be faced by Brazilian health professionals and institutions, who find, in Permanent Education in Health (PEH), the possibility of learning and of expanding the capacity for self-assessment and self-management in patient safety⁽⁵⁾.

PEH presupposes the problematization of local realities, so as to learn and recognize, according to the professional's experience, the risk situations and what needs to be resolved and improved to articulate interventions in the processes, resulting in safer health care^(7,8).

The verification of safety processes to guarantee the quality of health systems, however, seems to have weakened⁽²⁾. In emergency services, this is evidenced by the inadequacy and disorganization of the unit and absence of routines and protocols⁽²⁾, which points to the need to analyze working conditions to comply with the recommendations.

For this purpose, the dimensions for evaluation proposed by Donabedian were adopted. The first dimension is Structure, which concerns relatively stable aspects: professionals, instruments and resources at hand, locations and models of work organization. The second dimension involves process, that is, the set of activities that professionals perform for patients and their responses, including decision-making activities at diagnostic, therapeutic and preventive levels. Finally, the third dimension, outcomes, is related to the effectiveness and efficiency of actions and the level of patient satisfaction^(9,10).

Considering the problems described, the remarks of the MH are that there is a greater probability of incidence of adverse events directly or indirectly related to patient safety in emergency services⁽¹¹⁾, and that the PEH essentially favors the resolution of health policies and personnel training in different health care scenarios⁽⁶⁾, allowing the reduction of preventable injuries by means of skills developed in the training process. The objective of this study was, therefore, to describe the main problems related to patient safety and the proposals implemented to overcome them, identified in emergency hospital services.

Thus, it is believed that describing such problems and respective resolution strategies should contribute to increase knowledge and understanding on the topic, which, in turn, may support management decisions in other services, as well as reiterate and deepen related research.

METHODS

This is a descriptive study carried out by documentary analysis.

As a PEH strategy, a philanthropic hospital linked to the Ministry of Health—part of the Institutional Development Support Program of the Unified Health System—promoted a training between February 2014 and January 2015 with the objective of developing managerial competencies for leaders in the context of Emergency Care.

The underlying theme of the training was “overcrowding of services”, composed of ten modules addressing the following: overcrowding; regional health systems; admission with risk classification; care quality and patient safety; organization of the emergency service, inpatient

units, surgical center, diagnostic support service, support service and care transfer.

The care quality and patient safety module stands out, with content related to the culture of safety and continuous quality improvement in the care of acute patients; strategies for implementing the Patient Safety Centers (PSC) and risk management; application of patient safety protocols and criteria for selection and monitoring of quality indicators.

The module was conducted by a specialist on the topic, with the support of learning facilitators who used theoretical frameworks of meaningful learning, adult learning, and the problematization method. The participants were encouraged to observe the reality, identify the problems, plan and execute actions to overcome them, making records in the management project, which was the final and evaluative requirement of the program.

Fifty-five leaders from different professional categories and performance units participated in the training: emergency service, diagnostic support service, hospitalization, technical areas and support services. They were representatives of four medium and large emergency hospital institutions, with a structured and active PSC managed by a municipal authority in a Brazilian capital. The four hospitals comprised the total number of participating institutions and were appointed by the Municipal Health Department.

All participants, indicated by the direction of the hospitals and grouped by institution, developed four management projects whose objective was to enhance their own critical and reflective thinking and to encourage actions that can transform the daily work; the projects consisted of situational diagnosis and proposals for interventions to solve the problems faced. The built of the project was guided by the learning facilitators, following the stages of the Modified Situational Strategic Planning⁽¹²⁾.

Therefore, the records referring to the care quality and patient safety were extracted from four management projects, identified as H1, H2, H3, H4.

Two of the authors, specializing in patient safety, created an instrument to record problems and proposals to solve or face them, as well as the status of implementation, as a means of data collection. Problems and proposals explicitly stated in the writing of the project were considered, as well as those identified by the researchers and that could origin, develop or increase the risk of occurrence of an incident or adverse event⁽⁴⁾. The lists of problems and proposals were compared in order to ensure that there was no data loss.

For analysis, part of the problems and proposals were grouped by similarity and categorized according to the Donabedian triad⁽¹⁰⁾. Thus, the problems related to material and human resources and organizational constitution were grouped in the Structure dimension (S); those related

to activities, routines and procedures, in the Process dimension (P), and those concerning the effects and consequences of the process, in the Outcomes dimension (O)⁽¹³⁾. The other portion of problems and proposals were categorized according to the Six Patient Safety Goals⁽⁵⁾.

The recommendations of Resolution 466/12 of the National Health Council were observed, and the project was approved by the Research Ethics Committee of the School of Nursing of *Universidade de São Paulo* (EEUSP), the proponent institution, under CAAE 49356415.2.0000.5392, as well as by the ethics committees of co-participating institutions. An Authorization Term for the use of the database was signed by a professional designated by the institution that handles management projects. This study integrates a doctoral thesis⁽¹⁴⁾.

RESULTS

Problems and proposals that were similar between the four hospitals and that could generate risks of adverse events, according to professionals and their categorization based on the Donabedian triad—Structure, Process and Result—as well as the action proposals for their resolution are presented in Chart 1.

Overcrowding of the emergency service, categorized in the Outcomes dimension, appeared in the management projects as a synthesis problem, being related to all other problems in Chart 1. Therefore, the proposals for overcoming them are the set of actions related to problems and the implementation of care protocols such as: the acute coronary syndrome, early recognition and sepsis care protocols; prevention of venous thromboembolism, admission with risk classification and monitoring by specific indicators, and qualification of professionals through systematic permanent education programs.

It is noteworthy to note that strategies for the creation and analysis of indicators were incipient in all institutions, but they were included in management projects. The results of actions taken were aligned with the structure, process and outcomes indicators, in order to measure the quality of services provided and recognize possible flaws in the processes. All actions were developed with the support of hospital management, aiming at care quality and assistance security.

When delineating the problems, some weaknesses in adhering to the recommendations of the National Health Surveillance Agency (ANVISA) were identified, as well as in the implementation and, in particular, in the management of goals for assistance security (Chart 2), whose indicators were not measured.

Such problems indicate weaknesses in the management of services in regards to patient safety and the need to strengthen the mechanisms of communication, evaluation and monitoring of care results.

DISCUSSION

Emergency services are environments that are favorable to incidents related to clinical and care events^(4,15,16). Different conditions support these occurrences, such as overcrowding,

complexity of patients' clinical conditions, need for decision-making with little clinical information, which along with professional factors, conditions of teamwork and organizational aspects result in high risk of safety problems^(15,16).

Chart 1. Problems and proposals for the improvement of care quality and patient safety at four hospitals in a Brazilian capital. São Paulo, SP, Brazil, 2015.

Problems	Dimension	Proposals and actions planned	Status* of actions' implementation			
			H1	H2	H3	H4
Lack of equipment and supplies.	S	Define contingency plans. Encourage interaction between the nursing, medical and pharmacy teams when acquiring materials and equipment.	OG	OG	OG	OG
Inadequacy in physical structure of sectors.	S	Adapt the physical structure of the institution.	OG	OG	NA	OG
Inadequate dimensioning of the multidisciplinary team.	S	Hire and/or relocate professionals.	OG	NS	OG	C
Failure in procedures for periodic assessment of acute patients by the multidisciplinary team.	P	Implement new clinical protocols.	OG	OG	OG	OG
		Periodically re-evaluate patients.	OG	OG	OG	OG
No bed management	P	Implement a therapeutic plan.	OG	OG	OG	OG
		Implement risk classification.	OG	OG	OG	C
		Implement hospital discharge schedule.	OG	OG	OG	OG
		Implement the Internal Regulation Center (IRC)	C	NS	OG	C
		Implement bed management.	OG	OG	OG	OG
		Adapt the physical structure of the institution.	OG	OG	NA	OG
No risk management	P	Standardize service workflows.	OG	OG	OG	C
		Implement an incident notification system.	OG	OG	OG	OG
		Promote a safety culture.	OG	OG	OG	OG
		Monitor processes and results through indicators.	OG	OG	OG	OG
		Implement quality management service.	C	C	C	C
No Permanent Education in Health	P	Implement an institutional contingency plan.	OG	OG	OG	OG
		Promote educational actions on patient safety, reception and risk classification protocols.	OG	OG	OG	OG
No analysis of care outcomes and indicators.	O	Analyze and disseminate the outcomes of indicators	OG	OG	OG	OG

* At the beginning of the training process, hospitals were at different stages of actions' implementation. For this reason, some actions were initiated and others improved.

S: Structure; P: Process; O: Outcome; C: completed; OG: ongoing; NS: not started; NA: not applicable.

Chart 2. Problems related to patient safety goals and actions planned to be overcome at four hospitals in a Brazilian capital. São Paulo, SP, Brazil, 2015.

Problems	Goals	Proposals and actions planned	Status* of actions' implementation			
			H1	H2	H3	H4
Failure in patient identification.	Goal 1 – Identify patients correctly	Review patient identification routine.	OG	OG	OG	OG
		Monitor identification failure indicator.	OG	OG	NA	OG
Failure in effective communication between professionals and in transfer of care.	Goal 2 – Improve communication between health professionals.	Periodically reassess the patient.	OG	OG	OG	C
		Review the routines of effective communication.	OG	OG	C	NS
		Implement therapeutic/discharge plan.	OG	OG	C	NS
		Raise awareness in the multiprofessional team through PEH.	OG	OG	OG	OG
		Systematize a critical result communication routine.	NA	OG	OG	OG
Failure in medication chain.	Goal 3 – Improve safety in the prescription, use and administration of medications.	Define a high-risk medication dispensing and alert routine.	NA	NS	OG	C
		Implement single dose.	NS	NS	OG	NA
		Institutionalize clinical pharmacy.	OG	OG	OG	NA
		Institute the participation of leaders in decisions of purchase of permanent materials.	OG	OG	OG	NA
Failure in safe surgery process.	Goal 4 – Ensure surgery with correct intervention site, correct procedure and correct patient.	Deploy a safe surgery check list.	OG	OG	OG	C
		Adjust the surgical schedule (preoperative/pre-anesthetic evaluation and consent form).	OG	OG	OG	OG
		Adequate number of members in the Surgical Center team.	OG	OG	OG	OG
		Implement surgical performance indicators.	OG	OG	OG	OG
		Acquire new equipment and instruments.	NA	OG	OG	OG
Infections associated with care.	Goal 5 – Clean hands to avoid infections.	Strengthen Hand Hygiene Protocol.	C	C	C	C
		Implement performance management by indicators.	OG	OG	OG	OG
		Carry out educational and periodic actions.	C	C	C	C
Failure in prevention of falls and pressure injuries.	Goal 6 – Reduce the risk of falls and pressure injuries.	Enhance protocol against falls.	NA	C	OG	C
		Institute preventive measures for falls described in the Nursing Care Systematization.	NA	OG	OG	OG
		Strengthen the periodic re-evaluation of the risk of falls.	OG	OG	OG	OG
		Develop a protocol for prevention of pressure injuries (specific care plan for prevention of pressure injuries).	OG	OG	OG	OG
		Implement performance management by indicators.	OG	OG	OG	OG

C: complete; OG: ongoing; NS: not started; NA: not applicable.

One of the problems identified was overcrowding, pointed out by all hospitals as a result of structural and process fragility.

Overcrowding is a systemic imbalance in health units that has an impact on care quality and patient safety and on unsatisfactory care results. Its causes are low performance of the health system, characterized by factors such as unavailability of enough hospital beds, inadequate number of professionals, inefficiency of care by health professionals, delay in consultations and diagnoses, difficulties in transferring patients, and increased length of stay^(15,16).

In addition, according to managers, primary care should be the gateway to the health system; however, this does not happen due to limitations such as the population's preference for punctual and quick assistance and the difficulty in accessing Basic Health Units, especially because of service hours and response capacity⁽¹⁷⁾.

Proposals were presented to overcome overcrowding and face structural problems and processes, especially to improve occupancy rates and length of stay for patients, instituting or improving bed management. Furthermore, the improvement in the transfer flow, presence of a leadership, adequate risk classification, agility in care interventions, use of protocols, implementation of indicators, training, and performance evaluation are considered good practices^(3,16).

The proposals presented in management projects to overcome the problems are in line with previous studies on the theme, as the one carried out in South Korea, where the dimensioning of personnel was associated with patient safety, concluding that adequacy of staff is imperative for care quality and safety⁽¹⁸⁾. However, it is also important to consider the definition and evaluation of institutional protocols related to technology, including the notification of adverse events resulting from technological factors⁽¹⁹⁾.

As for structural evaluation, there are relevant obstacles to physical, material, financial and organizational resources that are hindering the guarantee of patient safety⁽¹⁶⁾. The implementation of proposals that involve such aspects tend to face more difficulties considering that, in the context of public emergency services, the governance over staff hiring, adjustments in the physical structure and release of funds to purchase materials and inputs lies with central-level managers⁽¹⁴⁾.

The problems of the Process dimension were predominant, showing deficiencies in clinical governance, which has risk management feasible from the perspective of patient safety goals as one of the pillars⁽²⁰⁾.

Most of the proposed actions were put into practice with the support of senior management, which shows

the commitment of leaders with solving problems and improving the quality of care. The consolidation of the proposals, however, may be weakened by the lack of personnel, the absence of an institutional policy aimed at patient safety, and the lack of adherence by the care team⁽¹³⁾.

Still in this context, risk management, identified as vulnerability, is relevant when it comes to instructing professionals on how to detect risks early, with a view to implementing the patient safety culture⁽²¹⁾. Thus, the incident notification system is an important tool for changing processes and mitigating future errors and damages, and should be simple and appropriate as to encourage health professionals to report adverse events^(19,22,23).

In sync with that, the problems related to patient safety goals exposed the need to mitigate risks through the management of the therapeutic plan, adjustments in safety protocols, better signaling of care risks, adjustments in effective communication, better interfaces between healthcare support units, administrative and assistance tasks, and promotion of educational actions. Compliance with specific protocols, associated with security barriers in the systems and PEH are initiatives applicable to this reality⁽⁶⁾.

Regarding processes, the evolution of proposals related to infection control stands out, being prioritized when considering hand hygiene as an essential factor for the successful reduction of infections related to health care. Furthermore, this goal has been emphasized worldwide since the campaign "WHO Save Lives: Clean Your Hands", in 2009, strengthening its fulfillment^(24,25).

Investment in educational actions for professionals and patients is essential for the overcoming of challenges and promotion of timely safety measures^(7,8), as occurred in the process now analyzed.

PEH is an educational strategy that allows to transform care practices through critical reflection and facing of reality problems, thus directing professionals in the search for information and implementation of action plans to improve both processes and outcomes⁽⁸⁾. In our study, the methodology of problematization made it possible to mobilize knowledge and experiences, recognize and assess the gaps for a collective construction of strategies aimed at a safer health care.

With the mobilization of professionals in the training process, risks were listed and corrective and preventive strategies were defined. This mobilization is important, as detecting and managing risks provides information to decision makers and can promote support for a safer environment.

In the Outcomes dimension, in addition to overcrowding, the lack of analysis of care results and indicators, a common situation in health institutions, appears as a problem. The implementation of the proposed actions should be discussed with discretion, since it occurred in the short term.

It is urgent to establish a structure and routine for the collection and periodic critical analysis of indicators, so that the results are reliable and in line with the reality of institutions⁽¹⁶⁾. Reflection on the work process based on valid and legitimate information is the only way to achieve better results⁽¹⁹⁾. Therefore, process and outcomes indicators are determined to guide decision-making and maintain the proposed improvements.

Despite access to data such as length of stay, number of surgeries performed and number of admissions to the emergency service, the institutions pointed out flaws in the evaluation processes, both in the performance of the multidisciplinary team and in the results, expressed as insufficiency or absence of indicators.

The continuous improvement of care quality requires systematic evaluations of the care provided to users of health services, which requires skills from the professionals to analyze the work process and make decisions aimed at care safety, changes in values, attitudes, perceptions and behaviors, and also the commitment and engagement of all involved^(13,19).

One of the limitations of the study was the period of data collection, which occurred in 2015. But despite the elapsed time, it was observed in the referenced researches that the situational diagnosis carried out in this study remains current.

CONCLUSION

The results point to weaknesses in all Donabedian dimensions, implying overcrowding and exposure to care risks. In the Structure dimension, failures in equipment and inputs, inadequacy of the physical structure and in the number of members in staff were identified, to which the proposals were to define contingency plans, favor team integration, adapt the physical structure and movement of personnel.

In the Processes dimension, the failures in the provision of PEH, in bed and risk management are highlighted. Proposals were aimed to implement new protocols, therapeutic plans, risk classification system, discharge schedule/plan, the Internal Regulation Center (IRC), a quality management service, an incident notification and bed management system, periodic reassessment of patients, standardization of service workflows, monitoring

of indicators and promotion of a safety culture. In the Outcomes dimension, failures were identified in the analysis of indicators, with all proposals relating to structure and processes.

Failures were identified in all patient safety goals. The proposals and actions to overcome the problems addressed practices recommended in the literature and were all aimed at structural adjustments, implementation of bed management, IRC, protocols and contingency plans, as well as actions recommended by ANVISA to achieve the goals of patient safety.

The mobilization caused by the training process was essential for the adequacy to ensure care quality and patient safety through the planning of actions based on the perception of the health professionals of the institutions, which are supported by scientific knowledge.

In this study, PEH, when made possible in a training process for leaders, allowed the assessment of the hospital context and the participation of professionals in decision-making by identifying the risk factors related to patient safety and care processes.

Although there was no evaluation of results, when listing problems and proposing solutions for their organizational reality, the managers defined strategies aimed for the quality of care in emergency services, contributing to the detection and reduction of adverse events and the adoption of corrective measures in health units.

In this way, this study was able to promote a reflection among healthcare professionals and managers on redefining processes to promote patient safety in emergency services. They listed, in advance, the problems that are common to other healthcare units and institutions, with emphasis on the creation of protocols and guidelines essential to patient safety.

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