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FACTORS THAT INFLUENCE PATIENT SAFETY IN URGENCY AND EMERGENCY SERVICES: INTEGRATIVE REVIEW

FATORES QUE INFLUENCIAM A SEGURANÇA DO PACIENTE EM SERVIÇOS DE URGÊNCIA E EMERGÊNCIA: REVISÃO INTEGRATIVA

FACTORES QUE INFLUYEN EN LA SEGURIDAD DEL PACIENTE EN LOS SERVICIOS DE URGENCIA Y EMERGENCIA: REVISIÓN INTEGRADORA

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Objective: to identify the available evidence in the scientific literature about factors that interfere in patient safety in urgency and emergency services. Method: integrative literature review performed according to the following steps: identification of the theme and guiding question; establishment of inclusion and exclusion criteria for the study; search in the literature for primary studies; evaluation of the sample of studies included in the review, with data extraction; interpretation of results and presentation. Results: 1,449 publications were selected, which, after applying the inclusion criteria and detailed reading, comprised a set of eight publications. The texts revealed different aspects that influence patient safety in urgency and emergency services, categorized according to the content analysis technique: organizational factors; team communication failures and weaknesses in the medication process. Conclusion: multiple factors interfere in patient safety in the emergency environment, highlighting the moderate number of patients and work overload.

Descriptors: Patient Safety. Emergency Service, Hospital. Nursing.

Objetivo: identificar evidências disponíveis na literatura científica acerca de fatores que interferem na segurança do paciente em serviços de urgência e emergência. Método: revisão integrativa da literatura realizada conforme as etapas: identificação do tema e questão norteadora; estabelecimento de critérios de inclusão e exclusão para os estudos; busca na literatura de estudos primários; avaliação da amostra de estudos incluídos na revisão, com

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extração de dados; interpretação dos resultados e apresentação. Resultados: foram selecionadas 1.449 publicações que, após aplicação dos critérios de inclusão e leitura detalhada, compuseram um conjunto de oito publicações. Nos textos foram identificados diferentes aspectos que influenciam a segurança do paciente nos serviços de urgência e emergência, os quais foram categorizados de acordo com a técnica análise de conteúdo: fatores organizacionais; falhas na comunicação da equipe e fragilidades no processo de medicação. Conclusão: múltiplos fatores interferem na segurança do paciente no ambiente emergencial, destacando-se o moderado número de pacientes e a sobrecarga de trabalho.

Descritores: Segurança do Paciente. Serviço Hospitalar de Emergência. Enfermagem.

Objetivo: identificar la evidencia disponible en la literatura científica acerca de los factores que interfieren en la seguridad del paciente en los servicios de urgencia y emergencia. Método: revisión integradora de la literatura realizada de acuerdo con los siguientes pasos: identificación del tema y de la pregunta orientadora; establecimiento de los criterios de inclusión y exclusión para el estudio; búsqueda en la literatura de los estudios primarios; evaluación de la muestra de los estudios incluidos en la revisión, con extracción de datos; interpretación de los resultados y presentación. Resultados: se seleccionaron 1.449 publicaciones que, después de aplicar los criterios de inclusión y lectura detallada, compusieron un conjunto de ocho publicaciones. En los textos, fueron identificados diferentes aspectos que influyen en la seguridad del paciente en los servicios de urgencia y emergencia, que fueron clasificados de acuerdo con la técnica de análisis de contenido: factores organizativos; comunicación falla del equipo y debilidades en el proceso de medicación. Conclusión: múltiples factores interfieren en la seguridad de los pacientes en situación de urgencia, destacando el número moderado de pacientes y la sobrecarga de trabajo.

Descriptores: Seguridad del Paciente. Servicio de Urgencia en Hospital. Enfermería.

Introduction

Patient safety is currently considered by professionals in the area as a topic relevant to health practices, in order to avoid, prevent and/or mitigate risks and adverse events (AE) in patients at all care levels[1]. In this way, healthcare world organizations have approached safety as a direct component of care quality[2].

According to the World Health Organization (WHO), millions of patients suffer annually disabling injuries that result from errors in during health care[3]. In developed countries, one in every ten patients suffer some type of adverse event (AE) in hospital environments[3-4]. In Brazil, the Ministry of Health (MH) mentions that in 10% of recorded AE, 50% would be avoidable. Some of the most frequently reported events include clinical and surgical complications, falls from bed, medication errors and infections[5].

Adverse events are often associated with the individual human error[6]. However, in the scenario of urgencies/emergencies, working conditions, such as overcrowding of patients, high work load, interruptions in the care process and simultaneous management of multiple tasks should also be considered as error-triggering factors[7-9], which increase the complexity of the activities whose situations predispose to risks of adverse events[10].

Aiming to contribute to actions for patient safety promotion in Brazil, in 2013, the National Program for Patient Safety (PNSP) was established through Decree n. 529/2013 of MH and Resolution of the Board (DRC) n. 36/2013, which established actions for patient safety in health services, through the deployment of protocols, Centers for Patient Safety (NSP) and systems of notifications of AE[3].

In urgency and emergency services, there are situations that require professionals' fast clinical reasoning and safe decision-making[11]. These events, coupled to the rigidity of care protocols, expose professionals to stressful situations that can result in deficits in the quality of emergency care[12]. In this aspect, the literature indicates that 50% of adverse events would be avoidable. Those most frequently occurring in emergency units can be prevented[13].

Considering the importance of systematic review studies, which are important instruments in the health area, once they synthesize the

researches on certain topic and are a method relevant to evidence-based practice[14], the guiding question was: "What factors influence patient safety in urgency and emergency services?"

This study aims to identify the scientific evidence available in the literature about factors that interfere in patient safety in urgency and emergency services.

Method

Integrative literature review (ILR) performed according to the steps proposed by a study[15] presenting research method to incorporate evidence in health and nursing, which are: identification of the theme and the guiding question, establishment of inclusion and exclusion criteria for studies, literature search for primary studies, evaluation of the sample of studies included in the review with data extraction, interpretation of results and presentation of the ILR. For the elaboration of the guiding question, the PCC strategy was used, an acronym for the terms "population", "concept" and "context"[16].

The searches for publications were conducted at the databases Scientific Electronic Library Online (SciELO), Latin-American and Caribbean Literature in Health Sciences (LILACS), Library of Medicine National Institute of Health (PubMed), SciVerse Scopus (Scopus), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Web of Science, through the combination of the controlled descriptors, selected from the database of Health Sciences Descriptors (DeCS), Medical Subject Headings (MeSH Database) and Cumulative Index to Nursing and Allied Health Literature (CINAHL), namely: "segurança do paciente", "serviço hospitalar de emergência", "patient safety" and "emergency service". At all bases, the descriptors were combined with the Boolean operator "AND".

The inclusion criteria were: primary study, addressing factors that influence patient safety in healthcare context of urgency and emergency services, published in Portuguese, Spanish or English, in the period from 2013 to 2017 (five years). There was exclusion of primary studies with less than 80% of statements in the checklist proposed by Caldwell, Henshaw and Taylor, used to assess the quantitative and qualitative work in terms of produced structure, which uses resources that are common to both the research methodologies and those that differ them[17].

Articles from the following modalities were excluded: literature review articles, experience reports, reflective articles, editorial, case study and repeated articles. After reading titles and abstracts, publications that did not address the study theme and/or duplicated were excluded. Furthermore, the selected articles were analyzed through a checklist[17]. Primary studies were excluded if they had less than 80% of affirmative answers in the instrument.

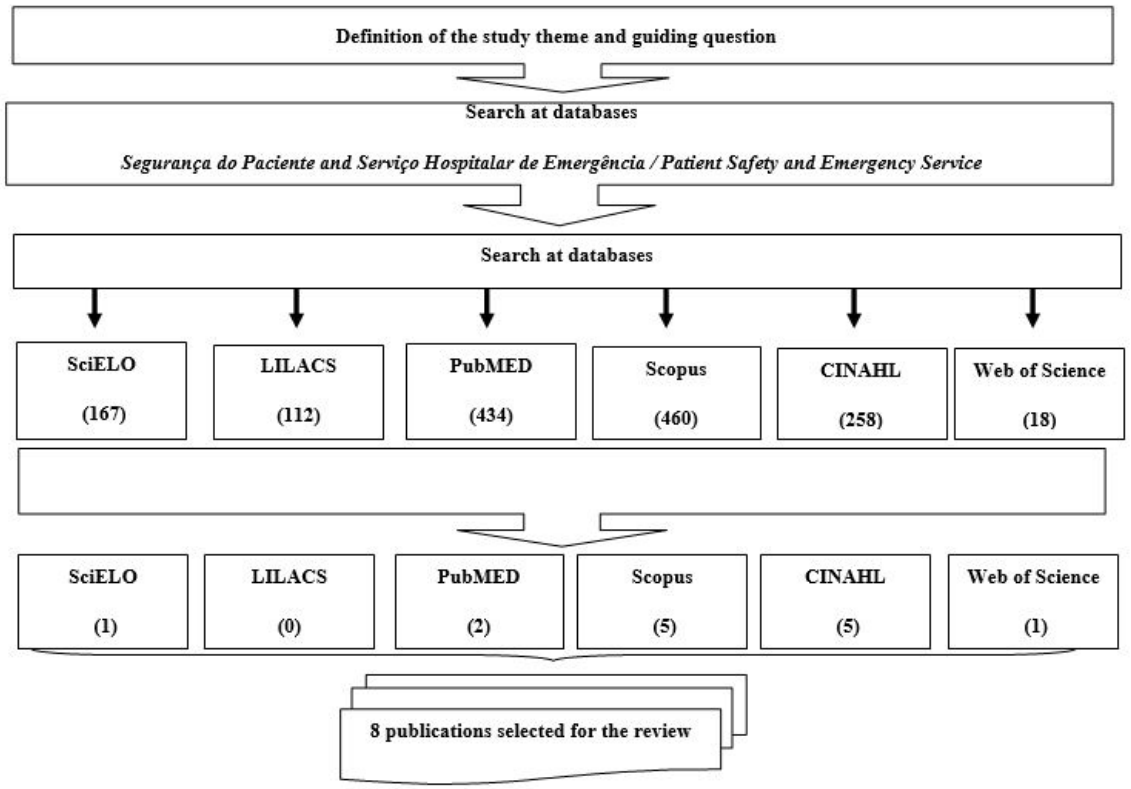
Data extraction used an instrument adapted and validated for Brazil[18]. Then, the data were categorized according to the thematic content analysis technique[19], which consists of the following stages: pre-analysis, consisting of the floating reading and familiarization with the selected texts; exploration of the material, with identification of meaning and categorization cores, as similarities in the findings; and treatment and inference/interpretation of the results, in order to answer the research question and the study objective.

In relation to ethical aspects, there was no need for submission to the Permanent Human Research Ethics Committee (PHREC).

Results

The search returned 1,449 publications, which, after the application of inclusion and exclusion criteria, detailed reading of the titles, abstracts and full texts, comprised a set of eight publications, as seen in Figure 1.

Figure 1 – Flowchart of selection of primary studies according to the databases



Source: Created by the authors.

Regarding the language, most articles (n=5) were published in countries with predominance of English language, a fact that denotes the scarcity of publications concerning the topic in the Latin American context. Another important fact is that, among the selected articles, five were at the CINAHL database.

Concerning the type of research, six used quantitative approach, four used qualitative approach and none used quali-quantitative approach or mixed methods. Chart 1 shows the main information extracted from articles.

Chart 1 – Synthesis of primary studies included in the ILR (n=8) (continued)

Year/ Country/ Database	Title of the article	Objective	Main results	Conclusions
2014 Belgium CINAHL	The number of patients simultaneously present at the emergency department as an indicator of unsafe waiting times: a receiver operated curve-based evaluation[20]	To investigate whether the number of patients simultaneously present at the ED might be an indicator of unsafe waiting and at what threshold hospital-wide measures to improve patient outflow could be justified	The results were evaluated according to the Emergency Severity Index (ESI), which indicates the maximum waiting time for patients classified with scores ESI 1 and ESI 2, respectively, 10 minutes and 30 minutes. The average waiting time was 5 minutes for more severe patients and 12 minutes for less severe patients.	The number of patients in the emergency units is a moderate indicator of unsafety; Future initiatives to improve safe waiting times should not focus on the occupancy rate, but include other factors that affect waiting times.
2015 Swiss CINAHL	Contributing factors to errors in Swedish emergency departments[21]	To describe factors that contribute to the occurrence of errors in emergency services in Sweden.	There were errors in the care planning and/ or accomplishment, lack of supervision, failures in the work routine, errors in communication between professionals, lack of teamwork, high workload and difficulty in communicating with the patient. In addition, due to the lack of decision support and poor routine, there are errors in the screening, difficulty in flow with external systems, access and administration.	Errors in emergency services are multifactorial, including organizational and teamwork failures. Human factors were mainly related to diagnostic procedures and human behavior.
2014 Canada CINAHL	Detection and correction of prescription errors by an emergency department pharmacy service[22]	To describe the frequency and type of prescription errors detected by pharmacists in emergency services; and to determine the proportion of avoidable errors and the factors associated with prescription errors.	There were errors in 3.2% of the prescriptions. Among the types of errors, the following stand out: errors in dosage (28.3%), incomplete prescription (27.3%); wrong frequency (15.2%); wrong drug (11.1%); wrong route (1.0%) and others (17.2%). Pharmacists corrected most prescriptions with errors.	Errors are more likely to be identified in prescriptions for older patients, those with multiple medications and/or prescribed by emergency residents.

Chart 1 – Synthesis of primary studies included in the ILR (n=8)

(continued)

Year/ Country/ Database	Title of the article	Objective	Main results	Conclusions
2014 Australia CINAHL	Complexities of medicines safety: communicating about managing medicines at transition points of care across emergency departments and medical wards[23]	To explore how healthcare professionals, patients and family members communicate about drug management at care transition points in two Australian public hospitals.	Four categories: (1) *Contextual Care Environment:* disorganized environment and constant interruptions in the Emergency Unit affected communication between patient/family and team; (2) *Care responsibilities:* little attention to patients due to emergency care, delay and/or non-administration of medications or self-administration without the team's knowledge; (3) *Awareness of responsibility for safety*: lack of information on the use of medicines during assistance moments; (4) *Interprofessional communication:* in care transition, information was not transmitted accurately.	Drug errors are common at care transition points. Drug management at transition points involves a complex interaction of resources. This interaction infiltrated different environments and affected both patient care and the communication ability between health professionals.
2014 Brazil PubMed	Incidents: instrument management assistance for patient safety in emergency room[24]	To characterize health care incidents that occurred in the Emergency Room of a university hospital belonging to the Network of Sentinel Hospitals.	75 incidents were detected, of which, 38.7% (29) related to the organization of the service (failures in notes, prospect and provision of materials and patient evasion) and 61.3% (46) referred to care (care omission, medication error, lack of humanization, infections, falls and failures in procedures/techniques).	There was a deficiency in the records regarding the consequences of the incidents for patients, professionals and the institution, which, added to underreporting, hindered decision-making and the development of preventive and control strategies.
2015 Spain SciELO	Regional Study of Patient Safety Incidents (ERIDA) in the Emergency Services[25]	To assess patient safety incidents in urgency services in the region	There was at least one incident in 47 (11.95%) patients and, in 3, two incidents occurred. Some causal factors were: medication errors (adverse reactions, wrong medication, incorrect frequency and lack of adherence to treatment), communication failures (doctor-patient, nurse-patient and nurse-doctor), management failures (wrong patient identification and prolonged waiting), failures in diagnosis (diagnostic error and delay), failures in care (inadequate technique and inadequate maintenance of catheters).	Most errors were not potentially fatal, but the causes that supported these errors varied.

Chart 1 – Synthesis of primary studies included in the ILR (n=8) (conclusion)

Year/ Country/ Database	Title of the article	Objective	Main results	Conclusions
2016 Australia Scopus	Associations of work characteristics, employee strain and self-perceived quality of care in Emergency Departments: A cross-sectional study[26]	To investigate simultaneously the associations between multiple contextual characteristics of the work of emergency units, well-being of employees and quality of care.	Emotional exhaustion and professional irritation showed a high correlation with the quality of self-perceived care. After adjusting for the type of contract, the increased exhaustion correlated with lower evaluations of the quality of care [B = 0.30 (95% CI 0.57; 0.03)]; high level of irritation was related to decreased perception of quality of care [B = 0.37 (95% CI 0.63; 0.11)]. Adverse work conditions were associated with low perception of the quality of care.	Reliable care in the emergency unit depends on the team's perception of the work environment and the mental well-being. Supervisory support, adequate staffing and stress reduction are important starting points for efforts to improve the quality of care.
2017 Sweden *Web of Science*	Physicians' and nurses' perceptions of patient safety risks in the emergency department[27]	To describe the perception of doctors and nurses in emergency units regarding risks to patient safety.	Categories: (1) high workload – excessive demand from patients and simultaneous care of more than one seriously ill patient; (2) lack of control – multitasking and interruptions while performing the care, professionals with little experience in emergency; (3) communication failures – lack of information on patient admission and transmission of cases; (4) organizational failures – lack of beds, inadequate human resources, delimitation of responsibilities in the assistance process and record failures on electronic medical records.	Safety depends on a complex and multifactorial system that provides risks for the patient in the emergency units. The relationship between risk factors is little known and needs to be explored in research focusing on the interaction between clinical processes, especially with a high workload.

Source: Created by the authors.

Discussion

There emerged three categories: Organizational Factors, Team Communication Failures and Weaknesses in the Medication Process.

Organizational Factors

This category originated from six studies[19-20,23,25-27] addressing the interference of the working environment in care safety, expressed by the hectic dynamics of labor and scarcity of institutional/care regulations, which hinder the management of emergency services. One of the studies highlights the need for optimization of research methodologies to elucidate other work characteristics of Emergency Units (EU), such as high work load and interruptions during the implementation of care, which affect patient safety[20]. It also highlights strategies for understanding human behavior in organizational systems and the development of methods that reveal latent conditions of errors[20].

The study carried out in Australia[26] found a high level of emotional exhaustion in EU professionals related to the contextual environment of care and excessive demand of patients. This is a reality experienced in studies from other countries, which also point to the lack of specialists in emergency shifts, diversity and complex clinical conditions of patients, shortage of beds for hospitalization and occupational stress of the team[28]. In an analyzed study[27], organizational failures showed a relationship with the lack of beds for hospitalization and insufficient level of personnel, factors that resulted, respectively, in poor care provision, discharge delays and increased waiting time for the first evaluation.

Also regarding the factors present in the EU environment, a research conducted in Belgium pointed to the high number of patients present in the ward as an indicator of moderate unsafety in assistance. Overcrowding resulted in unsafe waiting time, i.e., delays in the definition and implementation of therapeutic procedures[20]. According to the Emergency Severity Index (ESI), the unsafe waiting time occurs when patients requiring immediate interventions wait for more than 10 minutes for the call in the EU or 30 minutes for patients in high-risk conditions, such as, active thoracic pain, suspicion of acute coronary artery disease, signs of cerebral vascular accident, immunosuppressed with fever or severe pain/difficulty.

A literature review portrayed that the unsafe waiting time causes problems such as unfavorable results to the treatment and to the evolution of the patient, greater suffering for the family, high tension in the care team and work environment prone to stress. This is a problem that requires urgency, because it generates a delay in diagnosis and treatment, factors that may lead to increased mortality[29]. Also in relation to organization, a national survey on the nursing work organization cites some instruments that can be used by the service to keep the organization of the ward, such as: regulations, organization chart, systematization of techniques, routines and control systems, as well as permanent educational activities for the team[30].

The intense work pace in the emergency services makes the professionals susceptible to excessive failures while performing their tasks, a circumstance that might negatively affect the assistance results[11]. Other studies[19,31] indicate the absence of organizational planning and exchange of information on the patient during care implementation as factors that deviate the professional's attention at work. Considering these factors, one of the articles analyzed in this review[25] suggests that unnecessary disruptions hinder the organization of assistance, as they facilitate the occurrence of incidents in the process of drug administration, such as errors in administration and adverse reactions.

In the Brazilian scenario, a cross-sectional survey carried out in the region of the Federal District, focused on medication errors, also revealed that interruptions during care implementation and high number of patients

during the work shift are factors that contribute to the increased risk of error[32]. To minimize disruptions, the authors suggest the identification of work constraints and the need to develop interventions to manage interruptions, which essentially must have a minimum negative impact on the performance[33].

Team Communication Failures

In this category, four studies[21,23,26-27] portrayed the failures of communication between professionals as one of the factors that interfered negatively in patient safety, because they commonly contribute to errors in health care. When generating gaps in the sharing of information, care continuity can be compromised, especially in care transitional stages, considering that, if relevant information for care provision are unknown to the team, the patient may be exposed to risk situations, such as allergy drug administration.

Evidence from the literature indicates a lack of communication or improper communication between the multiprofessional team as aspects that interfere with the fluidity of the labor process and hamper the construction of common goals and objectives[6].

One of the studies analyzed[23] aimed to explore how health professionals, patients and family members communicate. It found that the effective communication between professional, patient and/or companion is also indispensable in the care process in urgency and emergency, since information on the health history contributes to the clinical management, in addition to enabling pro-active actions in patients and/or companions.

This finding confirms a research performed in Brazil, whose goal was to know the opinion of doctors working in EU, which discussed the importance of doctor-patient communication. The authors stated that lack of information on the patient negatively affected the clinical decision-making process due to lack of access to important data on the patient's health and disease[34].

Also concerning communication as an element of patient safety, the transitional stages of health care need managerial routines related to the transmission of information, such as shift change. In the EU, the routine shift changes also suffer the influence of peculiarities of this work environment and, even with the flexibility shown by a team adapted to the routines, the process of dynamic and inconstant work and the high demand of patients hinder the quality of the process known as handoff[35].

The handoff, which consists of the moment of the work process when clinical information is transferred between professionals of different functions and/or wards, is an important tool in the management of care risks, because it provides professionals the opportunity of directly transmitting information on the patient that will ensure care quality and safety[33]. Nevertheless, the literature[27] indicates procedural failures in the handoff characterized by frequent interruptions that imply the loss and/or misinterpretation of information.

A recent literature review[36] summarized data on managerial and assistance actions for the promotion of patient safety in hospital services and showed a predominance of strategies for error notification and scarcity of actions aimed at improving communication between the members of the health team.

Therefore, although the health work is essentially relational, communication is still fragile. Furthermore, this study identified the medication process as a potential determinant for the occurrence of adverse events to the patient.

Weaknesses in the Medication Process

The category appeared in three studies of the sample[21,24,26] characterized by improper prescription, absence of notes, incorrect records and inadequate checking of medicines. In this aspect, a study of this review[26] warns that medication errors tend to be more frequent in EU due to the hectic work dynamic and to the ineffectiveness of information systems, which have incomplete data on the patient. Nonetheless,

in health care, the errors identified do not occur in isolation. With this, both the institution and professionals must be directly involved in the discovery of latent conditions that favor the occurrence of adverse events in care[14].

The results obtained in one of the analyzed studies[22] emphasize the errors related to the drug administration and absent checking of medications by nursing. In another publication[37], the most frequent types of errors in the measurement process refer to prescription and administration, such as wrong/unauthorized drug, wrong dosage, extra dose, drug prepared incorrectly, wrong administration technique, wrong patient and wrong route. According to the authors, such errors result from a deficit of performance, procedure or protocol not adequately followed, knowledge deficit, ineffective communication, verbal prescription, calculation errors and inadequate monitoring.

Also in relation to the causes that generate medication errors, one of the articles selected in this review[22] states that the patient's age, more than one prescribed medication and prescription held by residents are factors associated with errors in medical prescriptions. In the same direction, a research carried out in the year 1998[38] in a tertiary hospital in the United States had already observed that first-year medical residents had higher rates of prescription errors than the residents with longer experience did. These findings suggest that the presence of trainees and/or little experience in service explain, in part, the higher rate of errors in the Emergency Department.

The literature inserted in this category[22] outlines that the age, in particular the elderly, tends to have more comorbidities and greater number of medications, which may result in contraindications and interactions, which complicate the process of prescription. In situations of more than one prescribed medication, the complexity of the prescription increases as the number of medications increases, thus raising the potential for error. Another cross-sectional and descriptive analysis held in a University Hospital mentions that the largest number of errors were found in prescriptions of residents in emergency medicine, because they have less experience with the breadth of EU services and are less familiar with medications, dosages, dosing regimens and treatments[39].

In addition to errors in the prescription of medicines, the administration and the records related to this step can also pose a risk to the patient, when not performed properly. A descriptive, retrospective study developed in the emergency department of a University Hospital in Brazil[24], which is part of the sample included in this review, indicates the absence of annotations and the inadequate checking of drugs as care omission. Moreover, exploratory descriptive study, performed in Australia, reports that medication failures occur more frequently in the EU, due to the high number and/or the lack of identification of patients, allergy status and omission errors, allied to a deficit of nursing workers[14].

In two studies analyzed[20,24], for mitigation of risks related to medication errors, the authors recommended the systemic error approach, because it may reveal failures in the process. They add that the pharmacists can play an important role in the identification and reduction of prescription errors. Another study[20] mentions that the interdisciplinary work with the services available in the pharmacy ward reduces the damage associated with errors. Therefore, the process of medication in the emergency ward involves peculiarities that may lead to the occurrence of errors. These, in turn, tend affect patient safety and quality of care[40].

The reduced number of publications focused on urgency and emergency services was a limitation presented by the study. In this way, the research performed constituted an important gap identified and exploited.

Conclusion

The communication between the team and the management of medicines are factors that induce the errors in the EU. In this way, there is need to develop strategies aimed at

understanding human behavior in organizational systems, as well as methods and/or tools that reveal the latent conditions of errors in these spaces.

The results of this integrative review contribute to health care practice, once they indicate factors that interfere in the safe care provision, which can sensitize managers from health institutions regarding patient safety in an urgency and emergency environment, and subsidize the planning of risk mitigation strategies and safety promotion in these spaces. In the research context, this study highlights the unsafety factors present in the literature and indicates the need to expand the research on this topic given its complexity and the particularities of the EU environment. Furthermore, regarding education, this study contributes to the debate on patient safety since college, considering that the theme is of great importance to the panorama of national and international health.

Collaborations:

1 – conception, design, analysis and interpretation of data: Eloyne Tavares da Silva, Laura Misue Matsuda, Gabriela Machado Ezaias Paulino, Nadia Raquel Suzini Camillo, Ana Carolina Simões and Andressa Martins Dias Ferreira;

2 – writing of the article and relevant critical review of the intellectual content: Eloyne Tavares da Silva, Laura Misue Matsuda, Gabriela Machado Ezaias Paulino and Andressa Martins Dias Ferreira;

3 – final approval of the version to be published: Eloyne Tavares da Silva, Laura Misue Matsuda, Gabriela Machado Ezaias Paulino and Andressa Martins Dias Ferreira.

References

1. Fonseca CN, Guerra TRB, Dehoul MS, Souto Maior MCG. Segurança do paciente em uma grande emergência do SUS: como assegurar a prática? Academus Rev Cient Saúde [Internet]. 2016 [cited 2018 Jun 15];1(2). Available from: https://smsrio.org/revista/index.php/reva/article/view/144
2. Silva AJ, Pinto MC. Avaliando o impacto da estratégia de segurança do paciente implantada em uma unidade de clínica médica de um hospital universitário sob a perspectiva da dimensão da atenção à saúde. Rev Adm Saúde. 2017;17(66):1-15. DOI: http://dx.doi.org/10.23973/ras.66.10
3. Brasil. Ministério da Saúde. Documento de referência para o Programa Nacional de Segurança do Paciente. Brasília (DF); 2014. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/documento_referencia_programa_nacional_seguranca.pdf.
4. Kohn LT, Corrigan JM, Donaldson MS. To Err Is Human: Building a Safer Health System. Washington (DC): National Academies Press; 2000.
5. Lorenzini E, Santi JAR, Baó ACP. Segurança do paciente: análise dos incidentes notificados em um hospital do Sul do Brasil. Rev Gaúcha Enferm. 2014;35(2):121-7. DOI: http://dx.doi.org/10.1590/1983-1447.2014.02.44370
6. Duarte MCS, Queiroz ABA, Büscher A, Stipp CAM. O erro humano no cotidiano da assistência de enfermagem em terapia intensiva. Rev Latino-Am Enfermagem. 2015;23(6):1074-81. DOI: http://dx.doi.org/10.1590/0104-1169.0479.2651
7. Brixey JJ, Robinson DJ, Johnson CW, Johnson TR, Turley JP, Patel VL, et al. Towards a hybrid method to categorize interruption and activities in health care. Int J Med Inform. 2007;76(11-12):812-20. DOI: http://dx.doi.org/10.1016/j.ijmedinf.2006.09.018
8. Laxmisan A, Hakimzada F, Sayan OR, Green AR, Zhang J, Patel V. The multitasking clinician: decision-making and cognitive demand during and after team handoffs in emergency care. Int J Med Inform. 2007 Nov-Dec;76(11-12):801-11. DOI: http://dx.doi.org/10.1016/j.ijmedinf.2006.09.019
9. Bernstein SL, Aronsky D, Duseja R, Epstein S, Handel D, Hwang U, et al. The effect of emergency department crowding on clinically oriented out comes. Acad Emerg Med. 2009 Jan;16(1):1-10. DOI: http://dx.doi.org/10.1111/j.1553-2712.2008.00295.x.
10. Cielo C, Camponogara S, Pillon FBR. A comunicação no cuidado à saúde em unidade de urgência e emergência: relato de experiência. J Nurs Health.

2013;3(2):204-12. DOI: http://dx.doi.org/10.15210/jonah.v3i2.3398

11. Crossetti OGM, Bittencourt DGKG, Lima AAA, Góes MGO, Saurin G. Elementos estruturais do pensamento crítico de enfermeiros atuantes em emergências. Rev Gaúcha Enferm. 2014;35(3):55-60. DOI: http://dx.doi.rg/10.1590/1983-1447.2014.03.45947

12. Rossetti CA, Gaidzinski RR, Bracco MM. Determinação da carga de trabalho e do dimensionamento da equipe de enfermagem em um pronto-socorro pediátrico. Einstein. 2014;12(2):217-22. DOI: http://dx.doi.org/10.1590/S1679-45082014AO2945

13. Gallotti RMD. Eventos adversos: o que são? Rev Assoc Méd Bras. 2004;50(2):109-26. DOI: http://dx.doi.org/10.1590/S0104-42302004000200008

14. Souza TM, Silva DM, Carvalho R. Revisão integrativa: o que é e como fazer? Einstein. 2010 jan-mar;8(1):102-6. DOI: http://dx.doi.org/10.1590/s1679-45082010rw1134

15. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. Texto Contexto Enferm. 2008;17(4):758-64. DOI: http://dx.doi.org/10.1590/S0104-07072008000400018

16. Stillwell SB, Fineout-Overholt E, Melnyk BM, Williamson KM. Evidence-based practice, step by step: asking the clinical question: a key step in evidence-based pratice. Am J Nurs. 2010 Mar;110(3):58-61. DOI:10.1097/01.naj.0000368959.11129.79

17. Caldwell K, Henshaw L, Taylor G. Developing a framework for critiquing health research: an early evaluation. Nurse educ today. 2011 Nov;31(8):e1-e7. DOI: http://dx.doi.org/10.1016/j.nedt.2010.11.025

18. Ursi ES, Galvão CM. Prevençãoo de lesões de pele no perioperatório: revisão integrativa da literatura. Rev Latino-Am Enfermagem. 2006;14(1):124-31. DOI: http://dx.doi.org/10.1590/S0104-11692006000100017

19. Bardin L. Análise de conteúdo. Lisboa: Edições 70; 2011.

20. Bergs J, Verelst S, Gillet BJ, Deboutte P, Vandoren C, Vandijck D. The number of patients simultaneously present at the emergency department as an indicator of unsafe waiting times: a receiver operated curve-based evaluation. Int Emerg Nurs. 2014;22(4):185-9. DOI: http://dx.doi.org/10.1016/j.ienj.2014.01.002

21. Källberg SA, Göransson EK, Florin J, Östergren J, Brixey JJ, Ehrenberg A. Contributing factors to errors in Swedish emergency departments. Int Emerg Nurs. 2015;23(2):156-61. DOI: http://dx.doi.org/10.1016/j.ienj.2014.10.002

22. Stasiak P, Afilalo M, Castelino T, Xue X, Colacone A, Soucy N, et al. Detection and correction of prescription erros by an emergency department pharmacy service. CJEM. 2014 May;16(3):193-206. DOI: 10.2310/8000.2013.130975

23. Manias E, Gerdtz M, Williams A, Dooley M. Complexities of medicines safety: communicating about managing medicines at transition points of care across emergency departments and medical wards. J Clin Nurs. 2014 Jan;24(1-2):69-80. DOI: http://dx.doi.org/10.1111/jocn.12685

24. Paranaguá TTB, Bezerra ALQ, Santos ALM, Silva AEBC. Incidentes: instrumento de gerenciamento da assistência para a segurança do paciente em pronto socorro. Enferm Global [Internet]. 2014 [cited 2018 May 15];(34):219-31. Available from: http://scielo.isciii.es/pdf/eg/v13n34/pt_administracion1.pdf

25. Alcaraz-Martínez J, Aranaz-Andrés JM, Martínez-Ros C, Moreno-Reina S, Escobar-Álvaro L, Ortega-Liartef JV, et al. Estudio Regional de Incidentes Derivados de la Atención (ERIDA) em Urgencias. Rev Calid Asist. 2017;32(1):285-92. DOI: https://doi.org/10.1016/j.cali.2015.12.011

26. Weigl M, Schneider A. Associations of work characteristics, employee strain and self-perceived quality of care in Emergency Departments: A cross-sectional study. Int Emerg Nurs. 2017;30:20-24. DOI: https://doi.org/10.1016/j.ienj.2016.07.002

27. Källberg AS, Ehrenberg A, Florin J, Östergren J, Göransson KE. Physicians' and nurses' perceptions of patient safety risks in the emergency department. Int Emerg Nurs. 2017;33:14-19. DOI: 10.1016/j.ienj.2017.01.002

28. Pham CJ, Alblaihed L, Cheung SD, Levy F, Hill MP, Kelen DG, et al. Measuring Patient Safety in the Emergency Department. Am J Med Qual. 2014 Mar-Apr;29(2);99-104, DOI: https://doi.org/10.1177/1062860613489846

29. Bittencourt RJ, Hortale VA. Intervenções para a superlotação nos serviços de emergência hospitalar; uma revisão sistemática. Cad Saúde Pública. 2009;25(7):1439-54. DOI: http://dx.doi.org/10.1590/S0102-311X2009000700002

30. Lima SBS, Erdmann AL. A enfermagem no processo da acreditação hospitalar em um serviço de urgência e emergência. Acta Paul Enferm. 2006;19(3):271-8. DOI: http://dx.doi.org/10.1590/S0103-21002006000300003

31. Johnston A, Abraham L, Greenslade J, Thom O, Carlstrom E, Wallis M, et al. Review article: Staff perception of the emergency department working environment: Integrative review of the literature. Emerg Med Australas. 2016 Feb;28(1):7-26. DOI: https://doi.org/10.1111/1742-6723.12522

32. Volpe CRG, Melo EMM, Aguiar LB, Pinho DLM, Stival MM. Risk factors for medication errors in the electronic and manual prescription. Rev Latino-Am Enfermagem. 2016 Aug;24:e2742. DOI: https://doi.org/10.1590/1518-8345.0642.2742

33. Antonelli RC, Bellucci Junior JA. Gerenciamento de enfermagem em serviço hospitalar de emergência: revisão integrativa da literatura. Semina ciênc biol saude. 2014 jul/dez;35(2):137-46. DOI: https://doi.org/10.5433/1679-0367.2014v35n2p137

34. Farley HL, Baumlin KM, Hamedani AG, Cheung DS, Edwards MR, Fuller DC, et al. Quality and safety implications of emergency department information systems. Ann Emerg Med. 2013;62(4):399-407. DOI: https://doi.org/10.1016/j.annemergmed.2013.05.019

35. Frush K. Whyandwhento use CT in children: perspective of a pediatric emergency medicine physician. Pediatr Radiol. 2014;44(Suppl 3):409-13. DOI: https://doi.org/10.1007/s00247-014-3122-x

36. Siman AG, Cunha SGS, Brito MJM. Ações de enfermagem para segurança do paciente em hospitais: revisão integrativa. Rev enferm UFPE. 2017;11(Supl 2):1016-24. DOI: https://doi.org/10.5205/reuol.10263-91568-1-RV.1102sup201718

37. Pham CJ, Andrawis M, Shore DA, Fahey M, Morlock L, Pronovost PJ. Are temporary staff associated with more severe emergency department medication errors? J Healthc Qual. 2011 Jul-Aug;33(4):9-18. DOI: https://doi.org/10.1111/j.1945-1474.2010.00116.x

38. Lesar TS. Errors in the use of drug dosage equations. Arch Pediatr Adolesc Med. 1998;152(4):340-4. DOI: https://doi.org/10.1001/archpedi.152.4.340

39. Velho MTAC, Haeffner LB, Santos FG, Silva LC, Weinmann ARM. Residência médica em um hospital universitário: a visão dos residentes. Rev Bras Educ Méd. 2012;36(3):351-7. DOI: http://dx.doi.org/10.1590/S0100-55022012000500009

40. Oliveira RC, Camargo AEB, Cassiani SHDB. Estratégias para prevenção de erros na medicação no setor de emergência. Rev Bras Enferm. 2005;58(4):399-404.DOI:10.1590/s0034-71672005000400004

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