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Evaluation of patient safety in the emergency department of a general hospital Avaliação da segurança do paciente no serviço de emergência de um hospital geral Evaluación de la seguridad del paciente en el servicio de urgencias de un hospital general

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Objective: to identify patient safety actions adopted in an emergency service of a public hospital. **Methods:** descriptive, observational, cross-sectional study carried out in a hospital in the Southwestern region of the state of Bahia, in the first semester of 2021. The observation was carried out for ninety consecutive days, with the aid of a checklist and, for data analysis, Descriptive statistics. Results: 545 patients were considered, 62.9% male; 37.4% were hospitalized for 82 hours or more; 98.2% had identification; in 55.2% of the observations there was no easily accessible alcoholic solution; 37.5% of infusions were not identified; 54.3% were at risk of falling and 52.3% were at risk of pressure injuries. **Conclusion**: the results showed a long stay of patients and that they are exposed to risks arising from failures observed in items related to patient safety.

Descriptors: Emergency medical services; Checklist; Patient safety; Risk management; Nursing assessment.

Objetivo: identificar as ações de segurança do paciente adotadas em um serviço de emergência de um hospital público. Método: estudo descritivo, observacional, transversal realizado em um hospital no Sudoeste da Bahia, no primeiro semestre de 2021. A observação foi realizada por noventa dias consecutivos, utilizando-se uma lista de verificação, e para a análise dos dados utilizou-se a estatística descritiva. Resultados: considerou-se 545 pacientes, 62,9% do sexo masculino; 37,4% permaneceram por 82 horas ou mais no serviço; 98,2% estavam com identificação; em 55,2% das observações não havia solução alcoólica de fácil acesso; 37,5% das infusões não estavam identificadas; 54,3% possuíam risco de queda e 52,3% de lesão por pressão. **Conclusão:** os resultados evidenciaram uma longa permanência dos pacientes e que estes estão expostos a riscos decorrentes de falhas observadas nos itens relacionados a segurança do paciente.

Descritores: Serviços médicos de emergência; Lista de checagem; Segurança do paciente; Gestão de riscos; Avaliação em enfermagem.

Objetivo: identificar las acciones de seguridad del paciente adoptadas en un servicio de urgencias de un hospital público. Método: estudio descriptivo, observacional, transversal, realizado en un hospital del sudoeste de Bahía, en el primer semestre de 2021. La observación se realizó durante noventa días consecutivos, utilizando una lista de verificación, y se utilizó estadística descriptiva para el análisis de los datos. Resultados: Se consideraron 545 pacientes, el 62,9% de sexo masculino; el 37,4% permanecieron 82 horas o más en el servicio; el 98,2% tenían identificación; en el 55,2% de las observaciones no había solución alcohólica de fácil acceso; el 37,5% de las infusiones no estaban identificadas; el 54,3% tenían riesgo de caídas y el 52,3% de lesiones por presión. Conclusión: los resultados muestran una larga estancia de los pacientes y que están expuestos a riesgos derivados de los fallos observados en elementos relacionados con la seguridad del paciente.

Descriptores: Servicios médicos de urgencia; Lista de verificación; Seguridad del paciente; Gestión de riesgos; Evaluación en enfermeira.

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INTRODUCTION

ealth care can pose risks to patients. These risks, when they cause damage, such as impairment of some bodily function, injuries or diseases, are considered adverse events (AE)¹. AEs can cause high hospital costs, recurrent hospitalizations, increased morbidity and length of hospital stay, in addition to direct harm to patients, such as physical and mental sequelae and even death²⁻³.

In recent decades, discussions about patient safety and the reduction to an acceptable minimum of risks of unnecessary harm associated with health care have intensified⁴. It is understood that patient safety is related to the quality of care⁵⁻⁶, and that this culture of safety can be encouraged in health services.

In this perspective, the World Health Organization (WHO) created, in 2004, six goals to be incorporated by health institutions, namely: the correct identification of the patient; effective communication among the team; safety in the prescription, administration and use of medications; safe surgery; hand hygiene and prevention of infections and reduction of falls and pressure injuries⁷.

In Brazil, these actions were brought by the Ministry of Health, through resolution and ordinance aimed at actions for safety and improvement of care in health services¹.

Despite the creation of global and national goals for patient safety, they are still exposed to various risks when they enter health units. According to a survey by the Brazilian Institute for Patient Safety (IBSP), more than 220,000 people die in Brazil every year due to failures in hospital care⁸. It is evident that emergency services are considered critical environments for patient safety, characterized by a fast pace, overcrowding, high turnover, overwhelmed professionals and frequent interruptions in the care provided^{3,9}.

A systematic review carried out in 2019 showed between 6% and 8.5% of incidents related to patient safety in emergency services, of which 36-71% were preventable³. Thus demonstrating the importance of the patient safety culture in these services with the early detection of risks related to health care.

Safety checklists are essential tools in health services, as they ensure the standardization of care, improve communication between professionals, detect risks and reduce the chances of adverse events^{5,10}. Faced with the uniqueness of emergency services, timely and routine verification of risks to which patients are exposed becomes a protective barrier against possible harm arising from health care and contributes to the quality of care^{5,11-12}.

Thus, the present study aimed to identify the patient safety actions adopted in an emergency service of a public hospital.

METHODS

This is a cross-sectional, descriptive, non-participant systematic observational study with a quantitative approach, carried out in the emergency service of a public hospital of macroregional reference for medium and high complexity in the Southwestern region of the state of Bahia. Due to the pandemic, the emergency service also became a reference unit for the care of moderate to severe cases of COVID-19, exclusively receiving patients regulated by the Health Department of the State of Bahia (SESAB).

The study was carried out in the medication room and in the observation wards (female and male), places where patients remain in the emergency service, until they are referred to inpatient units, the Intensive Care Unit (ICU), or until they have other outcomes such as discharge or death. Patients who were in the stabilization room and the Acute Myocardial Infarction (AMI) care room were not included in the study, as they have unstable clinical conditions that require monitoring and follow-up differentiated from other sectors.

The collection was carried out during the first semester of 2021, for ninety consecutive days. The sample was of the convenience type, composed of patients who remained for six hours or more in the emergency service and were aged 18 years or older, excluding those who were in an environment intended for isolation at the time of collection, or who presented hemodynamic instability. Observation was performed only once for each patient.

The instrument used for collection was adapted from the study by Amaya et al¹¹, and consisted of two parts, the first contained information about demographic data, such as age, gender and clinical data, date of admission to the service and diagnosis; and the second was a Checklist of Items involving Patient Safety in Emergency Services. Information on clinical data regarding medical diagnosis was taken from medical records.

The checklist had 20 check boxes, divided into six categories: patient identification, medication administration, risk of falls, risk of infection, risk of pressure injury and surgical risk. For each verification item there were the answer options yes, no and not applicable (NA). The instrument was submitted to a pre-test for a period of one week, for necessary adjustments, totaling 23 check boxes, and the patients who took part in this stage were excluded from the final sample.

Data were entered into an electronic spreadsheet prepared in the Microsoft Excel 2010TM program. For the statistical analysis of the data, descriptive statistics were used, through absolute (No) and relative (%) frequencies for categorical variables and measures of central tendency and dispersion for the other numeric variables.

The study was submitted and approved by the Research Ethics Committee – CEP of the Universidade Federal da Bahia (CEP-IMS-CAT-UFBA), under Opinion No. 4,640,455.

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RESULTS

A total of 545 patients were considered, predominantly male (62.9%); of mixed race/color (36.6%) and mean age of 56.3 years. Patients were found mainly in the aisles of the medication room (68.1%); length of stay of 82 hours or more (37.4%), and the main diagnosis of external causes (28.3%), followed by diseases of the circulatory system (24.4%), as shown in Table 1.

Table 1. Sociodemographic and clinical variables. Emergency service of the General Hospital of Vitória da Conquista, 2021.

Variables	No	%
Sex		
Male	343	62.9%
Female	202	37.1%
Race/color		
White	154	28.2%
Black	122	22.4%
Mixed	254	46.6%
Asian	7	1.3%
No information	8	1.5%
Hospitalization section		
Male ward	112	20.5%
Female ward	62	11.4%
Aisle	371	68.1%
Time of permanence		
6 to 24 hours	99	18.2%
25 to 43 hours	74	13.6%
44 to 62 hours	104	19.1%
63 to 81 hours	64	11.7%
82 hours or more	204	37.4%
Diagnostic classification		
External causes of morbidity and mortality	154	28.3%
Diseases of the circulatory system	133	24.4%
Diseases of the nervous system	62	11.4%
Diseases of the digestive system	50	9.17%
Other diagnosis	146	26.8%

With regard to the box on the safety checklist, described in Table 2, in the patient identification category, the majority (98.2%) were identified, using bracelets (84.2%), however, observed it was found that in 14.2% they only had identification on printed sheets with the name posted on a stretcher, wall or armchair. The identifications had two or more pieces of information (85.8%) and the present risk classification (96.1%).

Regarding medication administration, 7.2% of patients reported being allergic to some medication, and only 12.8% had identified the allergy. For 37.5% of drug infusions observed at the time of data collection, they did not have identification. For the risk of infection category, it was found in 55.2% of the observations that there was no easily accessible alcoholic solution.

At the risk of falls, 46.6% were on articulated stretchers and 37.1% did not have the guardrails raised, most of which were chosen by patients or family members (70.8%). Due to the lack of beds, one patient remained in an armchair even after admission, without the proper protection of side rails. The application of the Morse scale showed a high risk of falls in 54.3% of the patients. Also, none of the patients had signs of the risk of falls and only 28.3% were instructed by the team about this risk.

For the risk of pressure injury (PI) assessed using the Braden scale, 52.3% had some risk, with a predominance of mild risk (26.6%), followed by moderate risk (13%) and high risk (12.7%). Although the majority had a risk of PI, no signs of this were observed at the time of the research.

With regard to safe surgery (6.8%) were in the preoperative period, of which all were fasting. None of the patients had the surgical site demarcated, but the standardization of the service is that this procedure is performed in the surgical center.

Table 2. Checklist items for patient safety in the emergency department. General Hospital of Vitória da Conquista, 2021.

Variables	Yes	No	Does not apply
PATIENT IDENTIFICATOIN			
Was the patient identified?	535 (98.2%)	10 (1.8%)	
Is the identification legible?	509 (95.1%)	26 (4.9%)	
Does the identification contain two or more pieces of	459 (85.8%)	76 (14.2%)	
information?			
Risk Level identified?	524 (96.1%)	21 (3.9%)	
ADMINITISTRATION OF MEDICINES			
Allergic patients?	39 (7.2%)	506 (92.8%)	
If allergic, is it identified?	5 (12.8%)	34 (87.2%)	
Are infusions identified?	263 (62.5%)	158 (37.5%)	
RISK OF INFECTION			
Alcoholic solution close to the patient?	244 (44.8%)	301 (55.2%)	
RISK OF FALL			
Signaled degree of risk for falls?	-	545 (100%)	
Patient/companion oriented about the risk for falls?	154 (28.3%)	391 (71.7%)	
Are rails raised?	342 (62.7%)	202 (37.1%)	1(0.2%)
RISK OF PRESSURE INJURY			
Is patient at risk for pressure ulcers?	285 (52.3%)	260 (47.7%)	
Signaled degree of risk?	-	545 (100%)	
SURGICAL RISK			
Preoperative patient?	37 (6.8%)	508 (93.2%)	
Fasting patient?	37 (100%)	-	
Demarcated surgical site?	-	37 (100%)	
Blood typing performed?	1 (2.7%)	36 (97.3%)	

DISCUSSION

The change in the epidemiological profile of infectious and contagious diseases to non-communicable chronic illnesses, such as illnesses of the circulatory system, and external causes of morbidity led to an increase in hospital visits, especially emergencies. The vulnerability of patients in this environment is evident and, often, critical conditions provide an unpredictable course of progression of the condition, since they are physiologically unstable and are at greater risk of developing adverse events⁴.

Despite the fact that the emergency room is not intended for hospitalization, there is evidence of the growing number of patients hospitalized there¹³. Overcrowding and prolonged length of stay associated with lack of equipment, inadequate physical structure and high workload of professionals become challenges for safe care, representing a risk to the patient^{3,14}.

The predominance of males in emergency services was also evidenced by a study carried out in a teaching hospital in the state of Ceará¹⁵. In general, there is a low demand from men for prevention services, which leads to complications such as cerebrovascular accident (CVA) and Acute Myocardial Infarction (AMI)¹⁵; in addition, men are involved in accidents due to external causes such as traffic accidents and assaults¹⁶.

In the goals proposed for patient safety, correct identification is essential from the moment one enters health facilities, with a search for standardization of data, such as white wristbands with at least two identifiers^{6,11}. The isolated use of plates present in the beds should be discouraged due to the high turnover¹⁷.

Present in the majority, risk classification is also an important tool for patient safety, as it facilitates the organization of care by prioritizing the most serious ones, avoiding the aggravation due to lack of timely assistance, especially in the context of overcrowding of emergency services².

Medication administration in emergency services requires special care on the part of the team; the accelerated dynamics of the service and the need for rapid administration of drugs to control hemodynamic instability can cause possible harm to patients. In this sense, it is necessary to investigate the history of allergies, as well as correctly identify the solutions administered¹¹.

The results found corroborate work carried out in a public hospital in the state of Pernambuco, which showed that more than 30% of infusions were not identified¹⁸. The correct identification of infusions is essential for the safe administration of medications, as it ensures rapid identification of the drug used, in case of allergic reactions or drug interactions¹¹.

Although emergency services have an increased focus on the clinical stability of the patient and the performance of diagnostic tests, it is essential that infection control measures

are carried out on a regular basis by the team. The absence of easily accessible alcoholic solution dispensers is a limiting factor for one of the simplest and most effective actions in the control of nosocomial infections, which is hand hygiene¹⁹.

The present study points to a high number of patients at high risk for falls, similar results were found in research carried out in the emergency service of a hospital in the state of Rio Grande do Sul²⁰. The particularities of emergency services, such as the physical structure, overcrowding of aisles with reduced mobility, in addition to narrow, high stretchers and in many cases without guardrails, increase the risk of falls and consequent immediate harm to the patient^{20–22}.

Early risk assessment and stratification is an important strategy for preventing falls in emergency services²¹. Studies show that the Morse Scale is effective and highly sensitive in classifying the risk of falling²⁰⁻²¹, however, as important as its use is the classification signal, so that the entire team is aware, as well as guidance to patients and companions.

Like falls²⁰, the incidence of PI is directly related to the quality of care, and is responsible for prolonging the length of hospital stay, increasing hospital costs, in addition to generating physical and psychological suffering for the patient¹³. In work carried out in the female and male hospitalization wards of this same sector studied, it showed an incidence of PI of 9.3%²³, data that reinforce the importance of risk stratification and adoption of appropriate measures from the moment the patients are admitted to the emergency services

In this study, there was a limitation in the assessment of safety related to surgery, since the data collection shift was different from that intended for most surgeries. Measures for a safe surgery should start from admission, with correct identification, guidance for the patient and family, and the performance of standardized basic exams in each unit²⁴.

CONCLUSION

The results showed a long stay in the emergency service, with exposure to risks, resulting from failures observed in items related to patient safety. The identification made on printed sheets and posted on the wall, the absence of an allergy alert, the absence of signs of the risk of falls and pressure injuries, and the absence of a dispensers of alcholic solution near the patient, were highlights.

It is considered as a limiting factor of this research the collection of data in a single moment and mostly in the afternoon, a fact that may not demonstrate all the risks to which patients are exposed in busier periods such as the morning shift or with a reduction in the work team at night.

In turn, the results obtained will be important for the formulation and implementation of protocols and training aimed at patient safety, in a service with adverse and peculiar situations such as emergency

Despite advances in patient safety, there are still gaps for the implementation of effective measures and that research is focused on critical units or inpatient units and that there are particularities related to the emergency service that need to be considered.

It is suggested that new studies assess the incidence of adverse events related to each of the proposed safety goals and the adoption of methodological designs that allow the association of variables and/or establishment of a cause and effect relationship.

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Taciana Melo do Nascimento contributed to the design, collection and analysis of data and writing. **Lorena Rodrigues de Carvalho** collaborated in the design, data collection and revision. **Patrícia da Silva Pires** participated in the design and revision. **Ana Paula de Freitas Oliveira** worked on the revision.

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