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MANCHESTER PRIORITY SYSTEM FOR NURSES TO IDENTIFY CLINICAL OUTCOMES IN HOSPITAL EMERGENCY CARE

Sistema prioridade de manchester para identificação pelo enfermeiro dos desfechos clínicos nos atendimentos de emergência hospitalar

Sistema de prioridades de manchester para que las enfermeras identifiquen los resultados clínicos en la atención de urgencias hospitalarias

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RESUMO

Objetivo: conhecer o perfil e a prevalência dos desfechos clínicos de pacientes atendidos em serviço de emergência hospitalar, com base na prioridade de Manchester. **Método:** estudo transversal, realizado em hospital privado de Goiânia-Goiás, com base na análise de 900 prontuários de pacientes atendidos entre 2019 e 2021. Foram incluídos prontuários com informações completas sobre idade, sexo, data e turno de atendimento, tempo de permanência, sinais e sintomas, classificação de risco e desfechos clínicos. Os dados foram coletados eletronicamente e analisados de forma descritiva. **Resultados:** foi prevalente a faixa etária 56 a 75 anos (31,2%), sexo masculino (59,8%), período diurno (67,9%), prioridade pouco urgente/verde (38,9%) e alta hospitalar (77,9%). O menor tempo médio de permanência foi dos classificados com prioridade emergência (1h23) e o maior para casos urgentes (7h28). **Conclusão:** os resultados apontam necessidade de melhorias na gestão do fluxo de pacientes e maior acurácia na aplicação da classificação de risco.

DESCRITORES: Emergências; Enfermagem em emergência; Serviço hospitalar de emergência; Adulto; Medição de risco.

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ABSTRACT

Objective: to understand the profile and prevalence of clinical outcomes of patients treated at hospital emergency services, based on the Manchester priority. **Method:** cross-sectional study, carried out in a private hospital in Goiânia-Goiás, based on the analysis of 900 medical records of patients treated between 2019 and 2021. Medical records with complete information on age, sex, date and shift of care, length of stay, signs and symptoms, risk classification and clinical outcomes were included. Data were collected electronically and analyzed descriptively. **Results:** the age group 56 to 75 years (31.2%), male (59.8%), daytime (67.9%), low-urgent/green priority (38.9%) and hospital discharge (77.9%) were prevalent. The shortest average length of stay was for those classified as emergency priority (1h23) and the longest for urgent cases (7h28). **Conclusion:** the results indicate the need for improvements in patient flow management and greater accuracy in the application of risk classification.

DESCRIPTORS: Emergencies; Emergency nursing; Hospital emergency service; Adult; Risk assessment.

RESUMEN

Objetivo: conocer el perfil y la prevalencia de los resultados clínicos de los pacientes atendidos en los servicios de urgencias hospitalarios, según la prioridad de Manchester. **Método:** estudio transversal, realizado en un hospital privado de Goiânia-Goiás, basado en el análisis de 900 historias clínicas de pacientes atendidos entre 2019 y 2021. Historias clínicas con información completa sobre edad, sexo, fecha y turno de atención, duración de la estancia, signos y síntomas, clasificación de riesgo y resultados clínicos. Los datos se recopilaron electrónicamente y se analizaron descriptivamente. **Resultados:** predominaron el grupo etario de 56 a 75 años (31,2%), género masculino (59,8%), horario diurno (67,9%), prioridad baja-urgente/verde (38,9%) y egreso hospitalario (77,9%). La estancia media más corta fue para los clasificados como prioridad de emergencia (1h23) y la más larga para los casos urgentes (7h28). **Conclusión:** los resultados indican la necesidad de mejoras en la gestión del flujo de pacientes y una mayor precisión en la aplicación de la clasificación de riesgo.

DESCRIPTORES: Emergencias; Enfermería de emergencia; Servicio hospitalario de urgencias; Adulto; Medición de riesgos.

INTRODUCTION

Hospital emergency departments are environments characterized by unpredictability and urgency, receiving patients every day in critical conditions and with acute clinical conditions that require rapid care. These sectors operate with high turnover, intense workload and an increasing demand for complex care, often exacerbated by the lack of accurate clinical records and the need to perform procedures under pressure, with frequent verbal orders. In this context, accurate and agile care is crucial to avoiding adverse outcomes and optimizing the care provided by healthcare professionals.[1-3]

To manage this dynamic flow and quickly identify patients at risk of clinical deterioration, nurses use risk classification (RC), based on a specific protocol. Among the classification systems, the Manchester Triage System (MTS) stands out. It is widely used in hospital emergencies because it allows patients to be categorized based on 55 flowcharts that guide the definition of five levels of clinical priority. This approach facilitates the rapid identification of the most serious cases, allowing hospital resources to be directed more appropriately.[4-6]

The STM can improve the nursing process, contributing to the development of the first stage (nursing assessment) by integrating qualified listening, anamnesis and physical examination when patients are admitted. As well as enabling a more complete assessment, the system helps to identify patients at greater risk of complications or death at an early stage, helping healthcare institutions to monitor and continuously improve the quality of care. It is possible to align clinical practice with nursing theories and develop institutional indicators that ensure the safety and effectiveness of the care provided.[7-8]

Nurses who apply RC face the challenge of combining care and management activities in a high-pressure environment. They are expected to have a practice based on clinical reasoning and decision-making, providing care that responds to urgent demands safely and with quality. By prioritizing the severity of cases, RC optimizes work organization, fosters communication between teams and facilitates patient flow, favoring more favorable outcomes and greater effectiveness in referrals for hospitalization.[8-9]

The positive factors of RC include prioritizing severity, sustaining care, organizing nursing management work, fostering communication and conducting care, all of which point to outcomes with high outflows and referrals for hospitalization. There is a need for nurses to be committed

to RC and registration, minimizing time spent on activities that are dissonant with the purpose of emergency work, and consequently placing less of a burden on nurses.[8]

This study aimed to understand the profile and prevalence of clinical outcomes of patients treated in a hospital emergency unit, using the Manchester RC.

METHOD

This is a cross-sectional study carried out in an emergency unit of a private hospital in Goiânia-GO. Secondary data was used from the medical records of patients seen between 2019 and 2021.

The sample was selected by random sampling: 300 records per year, totaling 900 records. Records containing complete information on age, gender, date and shift of care, length of stay, signs and symptoms recorded in the nursing consultation, priority according to the STM and clinical outcomes such as discharge, internal hospitalization, external hospitalization and death were included. Internal hospitalization is understood to mean the transfer of patients to internal sectors of the hospital, such as wards, operating rooms, hemodynamics and intensive care units, while external hospitalization consists of the transfer of patients to sectors of another hospital.

Data was collected using an electronic Google form made up of objective questions with closed and open answer options, designed by the researchers to cover the variables. The information was extracted from electronic medical records through on-site access. The data was entered into Microsoft Excel spreadsheets and later organized into tables and charts for descriptive analysis.

The research was approved by the Research Ethics Committee (CEP) of the Federal University of Rio de Janeiro (UNIRIO) as the coordinating institution (opinion 5.325.444), and by the Federal University of Goiás (UFG) as a co-participating institution (opinion 5.488.660), guaranteeing the security of the information in accordance with Resolutions 466/2012 and 510/2016.

RESULTS

The prevalent age group was 56 to 75 years old (31.2%), and males (59.8%), attended during the daytime (67.9%), from 7 a.m. to 7 p.m., assessed as not very urgent/green (38.9%) and discharged from hospital (77.9%) (Table 1).

Table 1 - Characterization of visits to a hospital emergency unit between 2019 and 2021 (n=900). Goiânia, GO, Brazil, 2022

Variables	n	%
Age (years)		
15 to 18	11	1,22
19 to 35	164	18,2
36 to 55	270	30,0
56 to 75	281	31,22
76 to 95	168	18,7
96 to 101	6	0,7
Gender		
Male	538	59,8
Female	362	40,2
Shift		
Daytime	611	67,9
Evening	289	32,1
STM priority*		
Emergency	1	0,1
Very urgent	10	1,1

Variables	n	%
Urgent	174	19,3
Less urgent	350	38,9
Not urgent	37	4,1
No classification	328	36,5
Outcome		
Discharge	701	77,9
Death	1	0,1
Internal hospitalization	185	20,6
Outpatient	13	1,5

* Manchester Triage System

With regard to the characterization of the average time taken to receive care, which corresponds to the time from the opening of care at the reception desk of the emergency unit (EU) until the clinical outcome is recorded in the system, of the outcomes in relation to the priority level of the STM, the emergency/red classification had the shortest duration (1h23), with "death" as the outcome. The very urgent/orange priority stood out with outpatient hospitalization (4h33). Individuals classified as urgent/yellow with progression to outpatient hospitalization stayed longer in the EU (7h28) (Table 2).

Table 2 - Average length of stay related to the outcome and priority level of the Manchester triage system (n=900). Goiânia, GO, Brazil, 2022

Outcome	Priority Level/Color						Average
	Emergency (red)	Very urgent (orange)	Urgent (Yellow)	Less urgent (Green)	Non-urgent (Blue)	No Classification	
Discharge	-	2,38	3,24	-	3,11	3,03	3,34
Death	1,23	-	-	-	-	-	1,23
Intern.* Internal	-	3,3	3,27	3,25	7,14	3,18	4,02
Intern.* external	-	4,33	7,28	6,35	-	5,09	6,16
Average	1,23	3,33	4,59	5,20	5,12	4,16	-

* Intern: hospitalization

In the less urgent/green CR, the outcome was predominantly outpatient hospitalization (6h35). In the urgent/blue priority, the longest time was allocated to patients who evolved to internal hospitalization (7h14). As for the outcomes of unclassified medical records, outpatient hospitalization stood out (5h09).

With regard to the priorities mentioned, less urgent patients had the longest average length of stay (5h20). As for the outcomes, outpatient hospitalization stood out (6h16).

DISCUSSION

The results of this study corroborate the findings of research carried out in hospital emergency departments in the South and Northeast, where elderly patients predominate, especially those aged between 60 and 79. The greater demand for care from this age group can be attributed to the exacerbation of pre-existing chronic illnesses. On the other hand, emergency rooms located in the Southeast region of Brazil have a higher prevalence of care for younger individuals (aged between 18 and 39), mainly due to traumatic accidents.[10-11]

The predominance of male patients in this study also reflects the results of studies carried out in states such as Rio Grande do Sul (63.33%), Alagoas (55.5%) and Curitiba (52.9%). This trend may be related to cultural and behavioral factors, such as men's less frequent search for preventive health services, which makes them more likely to seek care at more advanced stages of their clinical conditions. This behavior increases the incidence of lethality in male patients in emergency situations.[9,14]

Regarding the shift of care, this study confirms the predominance of care during the daytime, similar to other studies which indicate frequencies of between 56.6% and 75.1% in southern Brazil. The greater concentration of visits during this period can be explained by the availability of complementary exams and specialized consultations, which make it easier to solve health problems in a single location.[15]

With regard to the STM, most patients were classified as low urgency/green, reflecting results similar to those found in other emergency services in the Southern macro-region, where this classification represents between 62.2% and 70.2% of attendances. The high occurrence of low-urgency cases may be associated with a lack of information about the flow of care networks, the convenience of using nearby emergency services, and the recent implementation of reception of acute cases at other points of care. In addition, some low-urgency care may be the result of over-triage, indicating the need for a more precise assessment of the application of the STM.[14,16-20.]

The occurrence of low-urgency care may be related to different reasons, such as the incipient dissemination of information about the flowchart of care networks; the convenience of the user in being attended to immediately, as it is a service closer to their home, work or school; the characteristic of emergency care; the recent implementation of the reception of acute cases at other points of care and the necessary training of professionals.[21]

Among the reasons given in the literature to justify the high occurrence of care without clinical priority are the temporary inoperability of the software; immediate referrals of patients for stabilization, justifying the low records of the red clinical priority[21] and similarity with the white classification, a priority implemented in certain EUs in Brazil to classify patients seeking care for procedures (dressing changes, removal of stitches and administration of medication), exams and return visits.[6,16]

These results highlight the need to strengthen nurses' clinical reasoning when establishing clinical priorities. For this action, it is recommended that there should be an exclusive nurse to carry out the nursing consultation and CR, in order to overcome the barriers of the reception process with risk assessment[6,4] and direct care to priority cases, since the environment is translated into conditions with a high risk of death.[14,16,21]

The high prevalence of outcomes such as hospital discharge, recorded both in Rio Grande do Sul[10,15,19] and in this study, reflects the resoluteness of care and the predominance of low severity cases.

With regard to average length of stay, patients classified as urgent or very urgent had a length of stay of more than four hours. This prolonged time can be explained by the need for complementary exams, specialist opinions and the delay in regulating vacancies. Although the literature indicates that high-urgency patients demand more resources and are at greater risk of hospitalization, the data in this study suggests that low-urgency cases also result in long lengths of stay due to these factors. To mitigate this problem, it is recommended to invest in human resources training and efficient bed management.[18]

On the other hand, the literature points out that patients classified as high urgency (emergency and very urgent) demand more attention, planning and nursing care, require more resources during their time in hospital and are more likely to be admitted to hospital (6.05%).[18] This statement differs from the data presented in this study, indicating a high length of stay for low urgency priorities. However, the long length of stay is justified by diagnostic investigations; waiting for specialist opinions, test results, regulation of vacancies in the system, the release of an inpatient bed and transportation to move the patient. In order to reverse these long stays in the EU, investments in trained human resources and commitment to bed management are needed.[22]

CONCLUSION

This study made it possible to identify the profile and prevalence of clinical outcomes of patients treated in a

hospital emergency unit, according to the Manchester Triage System risk classification. The majority of patients were aged between 56 and 75, predominantly male and classified as low urgency. These findings indicate that the hospital emergency department has absorbed a significant demand for cases that could be treated in primary care units.

The prevalent outcome was hospital discharge, showing that many of the treatments were resolutive and of low complexity. However, the average length of stay, especially in low urgency cases, showed an overload in emergency services, possibly caused by waiting for complementary tests, regulation of vacancies and release of beds.

These results suggest the need to improve accuracy in the application of the STM, to avoid overtriage and ensure that emergency resources are prioritized for more serious cases. In addition, there is a demand for greater investment in training nursing professionals and in bed management, in order to optimize patient flow and reduce the length of stay in the unit. In view of this demand, there is a need to provide users with information about the healthcare network.

The limitation of this study is restricted to the time frame selected, comprising the first two years of the COVID-19 pandemic in Brazil. In this sense, it is recommended that future studies be carried out to compare the characterization of this scenario of care provided before, during and after the pandemic.

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