EMBRACEMENT ANALYSIS OF THE RISK CLASSIFICATION IN THE EMERGENCY UNITS

ANÁLISE DO ACOLHIMENTO COM CLASSIFICAÇÃO DE RISCO EM UNIDADES DE PRONTO-ATENDIMENTO ANÁLISIS DE LA ATENCIÓN SEGÚN LA CLASIFICACIÓN DE RIESGO EN PUESTOS DE EMERGENCIAS

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ABSTRACT

Objective: to evaluate the embracement services in the risk classification performed in emergency units. Method: this is a cross-sectional and quantitative study, carried out with 63 nurses who work in the emergency units of João Pessoa, Paraíba, Brazil. Data were collected through individual interviews conducted in the nurses' work environment, using a semi-structured questionnaire and the embracement of the risk classification analysis instrument, analyzed using descriptive statistics. Results: by assessing the dimensions of embracement of the risk classification instrument, it was observed that most nurses classified the "structure" as precarious (47.6%), the "process" as satisfactory (47.6%) and the "result" as equally satisfactory and precarious (42.9%). The individual analysis of each service showed that only one emergency unit classified the "structure" as precarious, and the other questions were considered satisfactory in the other Donabedian dimensions: process and result. Conclusion: embracement in the risk classification has fulfilled one of its main objectives, assisting the patient according to the severity of the case and not of his arrival order.

Keywords: User Embracement; Emergencies; Nursing Care; Emergency Nursing.

RESUMO

Objetivo: avaliar os serviços de acolhimento com classificação de risco realizados em unidades de pronto-atendimento. Método: trata-se de um estudo transversal e quantitativo, realizado com 63 enfermeiros que atuam nas unidades de prontoatendimento de João Pessoa, Paraíba, Brasil. Os dados foram coletados por meio de entrevistas individuais realizadas no ambiente de trabalho dos enfermeiros, mediante a utilização de um questionário semiestruturado e do instrumento de avaliação do acolhimento com classificação de risco, sendo analisados por meio de estatística descritiva. Resultados: mediante a avaliação das dimensões do instrumento de acolhimento com classificação de risco observou-se que a maioria dos enfermeiros classificou a "estrutura" como precária (47,6%), o "processo" como satisfatório (47,6%) e o "resultado" como igualmente satisfatório e precário (42,9%). A análise individual de cada serviço evidenciou que apenas uma unidade de pronto-atendimento classificou a "estrutura" como precária e as demais questões foram tidas como satisfatórias nas outras dimensões donabedianas: processo e resultado. Conclusão: o acolhimento com classificação de risco tem cumprido um dos seus principais objetivos, que é atender o usuário conforme a gravidade do caso e não por ordem de chegada.

Palavras-chave: Acolhimento; Emergências; Cuidados de Enfermagem; Enfermagem em Emergência.

RESUMEN

Objetivo: evaluar los servicios de atención con clasificación de riesgo en puestos de emergencias. Método: se trata de un estudio cuantitativo-transversal llevado a cabo con 63 enfermeros de puestos de emergencias de João Pessoa, estado de Paraiba, Brasil. Los datos se recogieron mediante entrevistas individuales realizadas en el entorno laboral de los enfermeros, utilizando un cuestionario semiestructurado y el instrumento de evaluación de la atención de pacientes según la clasificación de riesgo. Los datos se analizaron mediante estadísticas descriptivas. Resultados: al evaluar las dimensiones del instrumento de atención según la clasificación de riesgo, se

observó que la mayoría de los enfermeros clasificó la estructura como precaria (47,6%), el proceso como satisfactorio (47,6%) y el resultado como igualmente precario y satisfactorio (42,9%). El análisis individual de cada puesto mostró que sólo uno de ellos clasificó la estructura como precaria y que las respuestas sobre las otras dimensiones fueron consideradas satisfactorias: proceso y resultado. Conclusión: la atención de pacientes según la clasificación de riesgo cumple uno de sus principales objetivos: atender al usuario según la gravedad del caso y no por orden de llegada.

Palabras clave: Acogimiento; Urgencias Médicas; Atención de Enfermería; Enfermería de Urgencia.

INTRODUCTION

Emergency units (UPA in Portuguese) are fixed prehospital care services that operate 24 hours a day, and every day of the week, with a multi-professional team for urgent and emergency care. UPA is an establishment of intermediate complexity, with an organized health care network, articulated with primary care, the mobile emergency care service, home care, and hospital care, providing adequate care to patients and their family members.

The embracement of patients in emergency services should be through the use of protocols that stratify and classify their risk, seeking the prioritization of care according to the severity of the case.² Based on the *Política Nacional de Humanização* (PNH), the *Ministério da Saúde* (BR) proposed the implementation of the embracement assessment of the risk classification (EARC),³ with the nurse as the responsibility for patient assessment.

The picture and the risk classification is a dynamic process that requires the identification of patients who need immediate treatment, through the use of a protocol previously established in the health service, providing assistance focused on the level of complexity required for each case.⁴

The EARC ensures the humanization in care, the accessibility, and the achievement of more dignified and less exclusive service to the patients and their family members.⁵ Based on the predefined criteria, the EARC is performed through the use of a color system for classification of care priorities, according to the potential risk, health problems and/or suffering of the patients. The colors are red as emergency; yellow as urgent; green as little urgent; and blue as not urgent.^{3,4}

The application of the EARC in the Nursing context may mean the possibility of contributing to the organization of the work process, with more professional autonomy and timely intervention according to the risk situation and the adequate sizing of material and human resources.^{6,7}

Because of the high demand for urgent and emergency care provided at the UPAs, it is necessary to use the EARC as a tool to expedite the care of critically ill patients who require immediate care, promoting the quality of service and the speedy resolution of problems.⁴ Although there is a gradual increase in the number of emergency health services implementing the EARC in the country, there are still few studies evaluating the dynamics of this process of patient care,⁵ especially at the UPAs.

Thus, this study aims to evaluate the embracement services with risk classification performed at UPAs.

MATERIAL AND METHOD

This is a cross-sectional and quantitative study, conducted with nurses working at the UPAs of *João Pessoa*, *Paraíba*, Brazil. These health services operate every day of the week, 24 hours a day, through spontaneous demand and medical regulation, as effective in the care of urgencies and emergencies. This municipality has three UPAs located at strategic points, providing full coverage of the city's inhabitants and surrounding municipalities, which were inaugurated as UPA I in 2011, UPA II in 2014 and UPA III in 2016, using the Manchester triage system as a protocol to classify the risk presented by each individual.

The study population was all nurses working in the UPAs, corresponding to 84 professionals. The sample size was defined using the finite population calculation with known proportions, based on a 5% error margin (error = 0.05) with a 95% reliability (α = 0.05, which provides Z0,05/2=1,96). When considering the proportion of participants of 50% (p = 0.5), the total was 63 nurses, with 24 (38%) of UPA I, 19 (30.2%) of UPA II and 20 (31.8%) of UPA III.

The participants were randomly selected, and the inclusion criteria adopted was: having an active employment relationship with one of the UPAs and having been working as a nurse in this service for at least three months. Workers who were on vacation, sick leave or maternity leave during the data collection period were excluded from the study.

Data were collected between September and October 2017, through individual interviews conducted in the nurses' work environment, using a semi-structured questionnaire and the embracement assessment instrument with risk classification (EARC). This instrument has 21 items arranged in a five-level Likert scale, assessing the Donabedian dimensions corresponding to structure (items 1 to 7), process (items 8 to 14), and result (items 15

to 21). The scores range from one to five and adopt the following values: strongly disagree (value 1), disagree (value 2), not agree or not disagree (value 3), agree (value 4) and strongly agree (value 5).8

Twelve of the 21 questions are positive, and nine are negative. Thus, in the data processing phase, the values of items that correspond to the negative form were initially inverted (items 03; 04; 05; 07; 09; 16; 18; 19 and 20) to account for the overall scores.⁸

Data were compiled and analyzed using the Statistical Package for Social Sciences (SPSS) for Windows, version 22.0, and were analyzed using descriptive statistics. The representativity indices were verified based on the following parameters to evaluate the dimensions: great = 31.5 to 35 points; satisfactory = 26.2 to 31.4 points; precarious = 17.5 to 26.1 points; and insufficient = 7 to 17.4 points. The overall assessment of EARC used the following rating: great = 94.5 to 105 points; satisfactory = 78.7 to 94.4 points; precarious = 52.5 to 78.6 points and; insufficient = 21 to 52.4 points.⁸

The study was conducted by the Resolution 466/2012 of the *Conselho Nacional de Saúde*, and the Research Ethics Committee of the *Centro Universitário de João Pessoa* approved it under CAAE 71793517.0000.5176 and Opinion 2.255.680. The participants were duly informed about the justification of the research, its purpose, risks, and benefits, the procedures to be performed, ensuring the confidentiality of the information provided and signed the Informed Consent Form.

RESULTS

Sixty-three nurses with a mean age of 33.97 years old participated in this study. There was a higher prevalence of women (85.7%), with specialist titles (87.3%), who completed their degree six years ago or more (47.6%), with experience in the area of urgency and emergency between zero and two years and six years or more (36.5% for both) and who worked in the service for a maximum of two years (44.4%) (Table 1).

Regarding the dimensions of the EARC instrument, most nurses classified the "structure" as precarious (47.6%), the "process" as satisfactory (47.6%) and the "result" as equally satisfactory and precarious (42.9%) (Table 2).

Regarding the individual EARC of each service, the "overall assessment" was classified as satisfactory for the three UPAs. Regarding the dimensions, only the "structure" of UPA I was represented as precarious, and UPAs I and II were satisfactory. The "process" and "result" dimensions were classified as satisfactory for the three UPAs (Table 3).

Table 1 - Socio-demographic characterization of nurses, *João Pessoa*, PB, Brazil (2017)

Variables	n	%				
Gender						
Female	54	85.7				
Male	9	14.3				
Education level						
Graduation	8	12.7				
Specialization	55	87.3				
Graduate time	Graduate time					
0 to 2 years	9	14.3				
3 to 5 years	24	38.1				
6 years or more	30	47.6				
Urgency and emergency working experience						
0 to 2 years	23	36.5				
3 to 5 years	17	27.0				
6 years or more	23	36.5				
Service time						
0 to 2 years	28	44.4				
3 to 5 years	9	14.3				
6 years or more	26	41.3				
Total	63	100.0				

Table 2 - Dimensions of the embracement assessment of the risk classification, *João Pessoa*, PB, Brazil (2017)

	Classification						
Dimensions	Great			ictory	Precarious		
Structure	9	14.3	24	38.1	30	47.6	
Process	8	12.7	30	47.6	25	39.7	
Result	9	14.3	27	42.9	27	42.9	

Regarding the distribution of the answer to the EARC items of each dimension according to each UPA, the "structure" had an overall average measured higher between the items welcoming environment (4.21) and patient/companion comfort (4.11), being UPA II the service with the highest averages in most items.

Regarding the "process" dimension, the overall average measured was higher among the non-severe case evaluation (4.38), patient safety and comfort (4.37), emergency care (4.22) and information about waiting time (4.06), being UPA III the service with the highest averages in most items. Regarding the "result" dimension, the highest averages were represented by the items risk classification (4.52) and integration between the health team (4.05), and UPA II was the service with the highest averages in most items (Table 4).

Table 3 - Sum of averages measured, representativeness of the assessment of each dimension, and the overall assessment of EARC in each UPA. *João Pessoa*, PB, Brazil (2017)

Embracement with UPA I		UPA II		UPA III		
Risk Classified	AM*		AM*		AM*	Assessment
Structure	25.47	Precarious	27.87	Satisfactory	27.70	Satisfactory
Process	27.42	Satisfactory	26.62	Satisfactory	28.05	Satisfactory
Result	27.05	Satisfactory	27.95	Satisfactory	27.35	Satisfactory
Overaal Assessment	79.74	Satisfactory	82.45	Satisfactory	83.10	Satisfactory

^{*}AM: Average measured.

Table 4 - Distribution of the embracement assessment items of the risk classification according to each UPA. *João Pessoa*, PB, Brazil (2017)

Dim on i	OVERALL	UPA I	UPA II	UPA III	
Dimensions/Items	AM*	AM*	AM*	AM*	
Structure					
1 Patient/companion comfort	4.11	3.89	4.08	4.11	
2 Welcoming environment	4.21	4.15	4.20	4.00	
3 Regular meetings and training	3.42	3.52	3.08	3.65	
4 Privacy of the consultations	3.91	3.57	3.95	4.15	
5 Companion reception	3.63	3.00	4.20	3.55	
6 Environment signals	3.92	3.73	4.16	3.80	
7 Communication in the team	3.92	3.57	4.16	3.95	
Process					
8 Assessment of non- severe cases	4.38	4.21	4.25	4.70	
9 Knowledge of EARC conduct	3.25	3.10	3.29	3.35	
10 Relationship between leadership and followers	3.68	4.00	3.54	3.55	
11 Patient safety and comfort	4.37	4.10	4.52	4.45	
12 Flowchart discussion	3.35	3.52	2.91	3.70	
13 Emergency care	4.22	4.26	4.12	4.30	
14 Information about waiting time	4.06	4.21	4.00	4.00	
Result					
15 Capable professionals	3.94	3.94	3.83	4.05	
16 Humanization in the assistance	3.83	3.63	4.0	3.80	
17 Health team integration	4.05	4.05	4.16	3.90	
18 Review of waiting cases	3.48	3.68	3.41	3.35	
19 Risk classification	4.52	4.42	4.66	4.45	
20 Referral/Counter-referral	3.73	3.36	4.00	3.75	
21 Satisfaction with EARC results	3.95	3.94	3.87	4.05	

DISCUSSION

The nurses assessed the quality of service from the Donabedian dimensions that follow the concepts of structure, process, and result. Each dimension is addressed below.

STRUCTURE DIMENSION

The structure is the human, physical, and financial resources used to provide health care, as well as financing and organizational plans. Most nurses considered the dimension "structure" precarious. However, when the averages measured of each service were taken separately, the evaluation was "satisfactory" in two UPAs and "precarious" in only one UPA.

The items with the highest score were "welcoming environment" and "patient/companion comfort." This assessment becomes relevant due to the growing concern with the quality of health care of the population, especially in emergency services, such as the UPAs, providing institutional changes in the physical and organizational structure through the implementation of actions and strategies proposed by public policies.¹⁰

Promoting a comfortable environment is also one of the concerns of the institution, which is within the PNH, through good sanitation facilities, drinking fountains, privacy and individuality in customer service, and a pleasant environment structure, with professionals able to effectively attend the complaints from patients and their families.³

The item with the lowest score was the "regular meetings and training." Professionals working in the urgency and emergency area must undergo constant training updates, identifying imminent risk situations, correctly assessing critically ill patients and generating referrals quickly and effectively.¹¹ It is also necessary to perform continuous and permanent education actions for the training of the professionals of the teams at the UPAs, promoting safe and better quality practices in the provision of patient care.¹²

The item that evaluates "companion reception" obtained the lowest average, which corroborates two studies that also evaluated the EARC in emergency hospital services, evidencing low averages in this item, which may be related to the lack of institutional investments to improve the reception for the companions. ^{13,14} Thus, improvements in the physical space should be promoted by joining more comfortable seats, entertainment areas, and strengthening the bond of trust between the professional and the patient's companion.

PROCESS DIMENSION

Most participants considered this dimension as "satisfactory" when evaluated it generally and individually in each service. This dimension is related to health activities involving professionals and patients.⁹

In the items of this dimension, the "assessment of non-severe cases" was the best evaluated, which refers to the commitment of nurses to perform a humanized practice and to allow the care of all patients seeking health services, according to their needs and their risks.¹³ The professionals should promote qualified listening to patients complaints, ensuring that all are addressed from the assessment of their risk, severity, and vulnerability, based on the assumptions established by PNH.³

Items 11, 13 and 14, which deal with the safety and comfort of the patient; the service in its severity order and not according to the order of arrival; and patient information about the likely waiting time, respectively, were also positively analyzed. Thus, it is important to consider the trust attributed to the service that when it occurs positively, it can facilitate patient adherence to health treatment and recovery. From the risk classification and the demand on the service, the welcoming professional has the idea of how long the patient will have to wait for care, informing timely and acting effectively.

In the items "flowchart discussion" and "relationship between leadership and followers," there was neutrality regarding the score. A study with the same purpose obtained the same result and revealed that these data might highlight weaknesses in the EARC since when there is no good dialogue and relationship between leaders and followers, the communication can be compromised between professionals, causing damage to the quality of care. This study proposed that leaders develop spaces for dialogue between the team and to welcome responses for improvements, favoring the implementation of changes.¹⁰

The item with the lowest score was "knowledge of EARC conduct." This item concerns the knowledge of EARC by professionals working in the service. The low score may be related to the few "regular meetings and training" that take place in the service. Thus, these units need to seek improvements and invest in staff training.¹²

The nurses are the most suitable professional for the EARC. Therefore, they need to know the protocols that surround this theme. In this sense, it is important to implement regular training for professionals who perform risk classification, given that the higher the qualification and the greater the number of hours practiced in this activity, the more reliable results will be obtained.¹⁶

RESULT DIMENSION

This dimension was also considered "satisfactory" when evaluated generally and individually in each service. According to the Donabedian dimensions, the results are the changes obtained in the health status of the patients, based on the measures adopted, being the final element of the care provided.⁹

The item "risk classification" was the best evaluated, in which patients are treated according to the severity and not in order of arrival. Thus, it is clear that the services are occurring as recommended and, despite the need for changes in these services, professionals are concerned with welcoming the patients, not restricting their access only to reception or excluding them.

As recommended by the PNH, the risk classification is a tool that ensures immediate patient care that manifests high risk as one of its main objectives. It is essential to perform the EARC to organize the flow of care, so the care is provided according to priority criteria, regardless of the order of arrival at the health service.^{3,13}

"Humanization in care" was one of the items of the "result" dimension with the lowest score. One of the goals of humanization is to provide quality care through a welcoming environment to promote care and favorable working conditions for professionals.¹⁰ Also, its priority is to reduce queues and waiting times for care, guaranteeing reliable information to the patients about their care and about the professionals who work in the service, participative management and regular implementation of permanent education actions.³

Item 20 about the referral of low complexity cases to the basic health network, received one of the lowest scores, verifying the need for improvements in the referral system and counter-referral of patients. The low score evidenced in this item could be justified by the urgency services with a good resolution, assisting all patients who seek the service, and often not needing to refer them to low complexity services.

One of PHN guidelines states that emergency rooms should be responsible for referral and counter-referral, facilitating the resolution of urgent and emergency cases and

promoting the patient access to safe transfers to other health care services.³ On the other hand, a study on the management of UPAs in the state of *Paraná* reported that referral of patients to primary care services and family health units is satisfactory, and patients are referred to these locations, when necessary, with the help of an electronic system called *E-Saúde*, which acts as a referral and counter-referral instrument.¹⁷

Many patients are unaware of the true purpose of UPAs and go to this service resulting in overcrowding, reducing the quality of care and increasing health costs, using it as a gateway to the system.¹³ Thus, the cases that could be addressed in primary care compromises the performance of emergency services.

The item with the worst assessment was the "review of waiting cases," which is the need for training of nurses and reorientation of care practices related to the EARC, seeking to sensitize them to the observation of patients waiting for medical care in UPAs. Given the clinical condition of the patient may worsen over time, the regular evaluation of each individual is essential.^{10,18}

CONCLUSION

This research found that only one UPA classified the "structure" as precarious and the other issues were considered satisfactory in the other Donabedian dimensions: process and result. The embracement with risk classification has fulfilled one of its main objectives of assisting the patient according to the severity of the case and not in order of arrival.

However, there are spaces for many improvements in the structure, the process, and the result dimensions. As a leader and responsible for performing the risk classification, the nurse should be aware of the classification protocols, seeking improvements both for the service and for its service to the patient, through different studies. Although the high demand for care is evident, which in many cases can hinder the performance of qualified listening, the nurse should be aware of each case, listening to the patient's complaints and presenting a critical and clinical view to perform risk embracement and stratification properly.

Only the participation of nurses is considered a limitation of this study, attenuating the amplitude of the evidenced conclusions. Thus, it is suggested to increase the number of participants, as well as the inclusion of other professionals who are also directly or indirectly part of this activity. The EARC is an important tool for the construction of care networks and should receive a different view, seeking to provide a better quality of care to the patient

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