Rev Dor. São Paulo, 2017 oct-dec;18(4):327-31 **ORIGINAL ARTICLE**

Prevalence of acute pain in patients attending the emergency room

Prevalência de dor aguda em pacientes atendidos na unidade de pronto atendimento

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DOI 10.5935/1806-0013.20170124

ABSTRACT

BACKGROUND AND OBJECTIVES: Despite the importance of acute pain in the health-disease process, there are few studies about its prevalence in emergency services that function as a gateway to health services. The objective of this study was to evaluate the prevalence of acute pain in an emergency room setting.
METHODS: The data were collected from September 2016 to June 2017, using the medical records of patients treated in the emergency service in 2015. Considering the average of 8,000 visits per month, we adopted a random sampling process using categorical variables, and it was estimated a sample of 4,064 records.
RESULTS: The pain was present among older people (39.6 years) when compared to patients who had pain and other symptoms associated (37.0 years) (p=0.000). There was a higher concentration of demand for the service by women (55.3%) due to pain and other causes, and for acute pain, the demand was 50.1% of females. In risk classification, 86.6% was characterized not urgent, and 99.6% sought service on their own. Only 0.5% of patients affected by acute pain were referred to other services.
CONCLUSION: The study showed that the majority of the care demand at the emergency room is of little complexity and could be attended at the primary care unit. The pain is present in all types of care, and the objective is to relieve the pain, leading patients to look for an agile and decisive service.
Keywords: Acute pain, Emergencies, Emergency medical services, Health services, Pain perception.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Apesar da importância da dor aguda no processo saúde-doença, existem poucos estudos sobre sua prevalência em serviços de emergência que atuam como porta de entrada nos serviços de saúde. O objetivo deste estudo foi avaliar a prevalência de dor aguda em uma unidade de pronto atendimento.
MÉTODOS: Os dados foram coletados no período de setembro de 2016 a junho de 2017, por meio dos prontuários de pacientes atendidos no serviço de urgência no ano de 2015. Considerando a média de 8 mil atendimentos por mês, adotou-se um processo de amostragem aleatório com utilização de variáveis categóricas, calculou-se uma amostra de 4064 prontuários.
RESULTADOS: A dor se fez presente entre pessoas com mais idade (39,6 anos) quando comparado aos atendimentos que tiveram dor e outros sintomas associados (37,0 anos) (p=0,000). Observou-se maior concentração de procura do serviço pelas mulheres (55,3%) em atendimentos por dor e outras causas, e para algia aguda a procura foi de 50,1% para o sexo feminino. Na classificação de risco 86,6% foi caracterizado não urgente e 99,6% buscaram o serviço por conta própria. Apenas 0,5% dos pacientes acometidos pela dor aguda foram referenciados para outros serviços.
CONCLUSÃO: O estudo mostrou que a maioria dos atendimentos da unidade de pronto atendimento é de pequena complexidade e poderiam receber acompanhamento na Atenção Primária à Saúde. A dor se faz presente em todos os tipos de atendimento sendo o alívio o objetivo dessa procura, o que induz a busca por assistência ágil e resolutiva.
Descritores: Dor aguda, Emergências, Percepção da dor, Serviços de saúde, Serviços médicos de emergência.

INTRODUCTION

Pain is a multifaceted process involving sensory characteristics resulting from tissue and emotional injury. Acute pain is considered a physiological response, which acts as a warning sign, favoring the repair and reestablishment of the affected area. There is a possibility of chronicity if the painful process is prolonged, even with interventions to alleviate or cease it[1-4].
Pain is a serious public health problem; it is the main cause of absenteeism and the search for medical care, resulting in low productivity and costliness. The Brazilian Society for the Study of Pain (SBED) points out socioeconomic factors, stress, hormonal conditions, and age as the variables that influence its perception and its dimensioning[5,6].

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Submitted in August 02, 2017.
Accepted for publication in October 24, 2017.
Conflict of interests: none – Sponsoring sources: none.

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As of 2000, the pain started to be considered the 5th vital sign by Joint Commission on Accreditation on Healthcare Organizations (JCAHO), emphasizing the need to quantify, evaluate and record this signal; making it possible to observe the behaviors adopted by professionals and the effectiveness of these interventions.[7]

Pain is underdiagnosed as it is considered an inevitable consequence of health problems[7]. A recent study carried out in Brazil pointed out the pain prevalence in an emergency service of 45% of the assistances, which indicates the constant pain presence in health care[8-10].

Emergency care units (ECU) are emergency services, acting as a gateway, which must provide qualified, holistic and integrated assistance. This service should guarantee resolutive care for acute medical conditions, stabilization, and referral of greater complexity cases to specialized and primary services when there are no emergencies. Technologies available in these units are of small and medium size characterizing as a prehospital service[11-15].

Despite the importance of acute pain in the health-disease process, there are few studies on its prevalence in emergency services that act as a gateway to health services.

This study aimed to evaluate the prevalence of acute pain in an ECU, enabling the professionals to know the measures that provide a more qualified assistance to the pain processes.

METHODS

This is a retrospective and quantitative study, carried out from September 2016 to June 2017, at the ECU, in the city of Petrolina, Pernambuco, Brazil.

Data were collected from medical records from individuals who were treated at the emergency department in 2015. Based on an instrument created by the authors, the following variables were collected: age, gender, date and time of assistance, diagnosis, risk classification, referral to another service and which service it is.

Ministry of Health proposed the risk classification as a mechanism for the health services organization, aiming to provide agile care, based on the standardization of the behaviors through care protocols[16]. Manchester is the most widely used protocol in the world today; when used properly, is considered the safest classification method[17].

In the researched unit, the risk classification was performed by means of a Manchester protocol adaptation. The users are classified by color, and each one represents the waiting time for the assistance, according to the need. In the red classification are those in emergency situations, needing to be assisted immediately (zero minutes); orange, when very urgent (10 minutes); yellow, when presenting as urgent (60 minutes); green, featuring little urgency, which can wait for a longer period (120 minutes); and blue, which represents non-urgent (240 minutes), that is, those patients that can wait or be referred to Primary Health Care (PHC)[17].

Attendances records were analyzed in a random way to ensure the sample's representativeness and included the records of patients that contained the collection instrument variables and excluded those that did not contain the necessary information.

Considering the target population of an average of 8 thousand attendances per month, adopting 95% confidence, 5% sample error, and 50% prevalence, for a random sampling process was adopted with the use of categorical variables, a sample of approximately 367 medical records was calculated. However, it was decided to carry out the collection in each month, selecting 4,064 medical records.

This study was approved by the Ethics Committee of the University of the State of Pernambuco, under opinion No. 1,714,672 of 2016.

Statistical analysis

Data were tabulated in Microsoft Excel 2010 and were divided into two categories: acute pain – when the symptom was an only pain; and other assistance when the pain was associated with other symptoms and analyzed using Stata 12.0 software. The analysis was done through descriptive statistics and frequency distribution. Dependent variable tested was represented by the patient's record of acute pain in the medical records. Being this one expressed categorically, the association with the independent variables was determined using Pearson's Chi-square, Fisher's Exact and Mann-Whitney non-parametric tests.

RESULTS

Table 1 shows the results obtained through sociodemographic indicators of the patients assisted in prompt service. Regarding the age average, the pain was present in older individuals (39.6 years) when compared to other assistance (37.0 years) (p=0.000). With regard to gender, a higher concentration of service demand by women (55.3%) was observed in assistances due to other causes. In acute pain, the values were equal, 50.1% female and 49.9% male (Table 1).

Table 2 shows the characteristics of the assistance period. The quarter and the shift that stood out in the assistances directed to the treatment or relief of pain were the third quarter with 36.7% and the morning shift (33.3%). For the other types of assistance, the second quarter (29.9%) and night shift (33.4%) prevailed. The occurrence of weekend assistance, regardless of motivation, did not present a significant difference (p=0.652).

Table 3 highlights the characteristics of the assistance given to the individual according to their complaints and behaviors. Regarding the risk classification, there was no discrepancy between the assistances for pain and other types of assistance; the green classification was highlighted in both cases, with 86.6 and 77.0%, respectively. Only 0.5% of the assistances to people with pain and 1.2% of other types of assistance were referred to other services, although they did not present significant statistics (p=0.081).

Table 1. Sociodemographic characteristics of the patients assisted at an emergency care unit. Petrolina, PE, 2015

	Other assistances		Acute pain		Total		p value
Age average (standard deviation)	37.0±18.5		39.6±17.4		37.6±18.3		0,000**
	n	%	n	%	n	%	
Gender							
Female	1,737	55.3	462	50.1	2,199	54.1	0.005*
Male	1,404	44.7	461	49.9	1,865	45.9	

*Pearson's Chi-square test, **Mann-Whitney test.

Table 2. Assistance period of the patients assisted at an emergency care unit. Petrolina, PE, 2015

	Other assistances		Acute pain		Total		p value
	n	%	n	%	n	%	
Quarter of assistance							
First	921	29.3	218	23.6	1,139	28	0.000*
Second	938	29.9	154	16.7	1,092	26.9	
Third	764	24.3	339	36.7	1,103	27.1	
Fourth	518	16.5	212	23	730	18	
Assistance at the weekend							
No	1,823	58	528	57.2	2,351	57.9	0.652*
Yes	1,318	42	395	42.8	1,713	42.2	
Assistance shift							
Morning	880	28	307	33.3	1,187	29.2	0.001*
Afternoon	966	30.8	302	32.7	1,268	31.2	
Night	1,050	33.4	258	28	1,308	32.2	
Dawn	245	7.8	56	6	301	7.4	

*Pearson's Chi-square test.

Table 3. Characteristics of assistance and conduct of the patients assisted at an emergency care unit. Petrolina, PE, 2015

	Other assistances		Acute pain		Total		p value
	n	%	n	%	n	%	
Risk classification							
Blue	22	0.7	4	0.4	26	0.6	0,000**
Green	2,419	77	799	86.6	3,218	79.2	
Yellow	655	20.9	117	12.7	772	19	
Red	45	1.4	3	0.3	48	1.2	
Referred to another service							
Yes	38	1.2	5	0.5	44	1.1	0.081*
No	3,102	98.8	918	99.5	4,020	98.9	
Referral service							
Of greater complexity	15	39.5	3	60	18	40.9	0,634**
Basic health unit	24	60.5	2	40	26	59.1	
Reason for referral							
It was not an emergency	22	56.4	2	40	24	54.6	0,646**
Severity or need for support	17	43.6	3	60	20	45.5	
Origin/demand							
Referenced demand	103	3.3	4	0.4	107	2.6	0,000**
Spontaneous demand	3,038	96.7	919	99.6	3,957	97.4	

*Pearson's Chi-square test, **Fisher's Exact test.

From the pain-related assistances, 60.0% required referral to units with the availability of specialized support, whereas in other types of care, only 39.5% were referred to units that are more complex and 56.4% did not present urgency. In both the other types of assistance and in the assistance services due to acute pain, the population assisted was by spontaneous demand, 96.7 and 99.6%, respectively (p=0.000).

DISCUSSION

The main demand in health care is from women in adulthood, whether in the promotion, treatment or prevention, a fact related to the lower pain threshold of the female gender, coupled with endocrine, cultural and emotional factors[18]. In the present study, women sought care in a greater proportion than men did in several complaints. In pain, the assistance demand was compatible in both cases; this refers to the fact that the objective characteristics of pain are present, regardless of gender[19,20].

Similar studies showed that the patients' age average seeking assistance in a hospital emergency service was 41.6 years[21,22]. Increased age provides a greater incidence of painful symptoms and risk for both acute and chronic pain[22].

In this research, the pain had a greater incidence in adult patients, proving the idea of pain progression with increasing age. Pain characteristics in the elderly are distinguished from the young and may be associated with changes in life, making the elderly less sensitive to pain stimuli[19].

There is a trend in service demand by morning and afternoon, which together account for more than half of the assistance. This fact can be related to periods of the workday with the need to explain the absence in service. At night time (night and dawn) these individuals are, theoretically, free of their obligations, providing rest availability, restoring health; this also applies to weekends, in which the data did not present significant statistics in this study. Assistance seek was higher in the third quarter of the year, and although this result was statistically significant, there is no data that explains the specific motivation for service demand at this time of the year.

Standardization of risk classification protocols in health services is of utmost importance, integrating assistance and ensuring the use effectiveness of this instrument[17]. Most patients assisted at the researched unit received the green classification, referring to the importance of the communication with users regarding the service operation and the need for improvement of the professionals regarding the conduct of painful processes evaluation, guaranteeing the right to assistance's humanization[7,19,20].

This study showed similarity with another study, with regard to demand and referrals[23]. There is an inadequacy related to the attendance evidenced by the percentage of spontaneous demand in both acute pain category (99.6%) and in other assistances (96.7%).

Only a small portion of the assistances analyzed were referenced for other services, a fact evidenced by the referrals number to other health units; from patients with pain, only 0.5% received referral, a small percentage compared to the total number of patients affected by acute pain syndrome (923), confirming that most cases (99.5%) have a resolution in this service. These references' reason and location were not statistically significant.

As the difficulty found during the research development is highlighted, the failure to fill in the medical records of patients classified as blue because they did not have the necessary information to collect them and the sample size in relation to the development time of the work.

CONCLUSION

This study made it clear that the occurrence of acute pain in ECU's patients was the unanimous complaint, being present in both men and women with a minimal variation. Most ECU assistances is a low level of complexity and could receive follow-up in the PHC. Population seeking assistance in this service by spontaneous demand needs clarification regarding both the network operation and the service mission. Characteristics that induce the search for assistance are the agility possibility and greater resolution. Pain evaluation is usually unobserved in the health services, once in general the concern is only with relief and not with the discovery and treatment of the cause. As pain has been present in all types of assistances such as signs, symptoms or morbidity, it is important that professionals receive guidance to better managing pain relief. The use of protocols for pain assessment is essential to assist in the behaviors adopted by the team, guaranteeing humanization in the face of painful processes.

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