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The Lumbar Pain Incidence in an Urgent Care Center

Ocorrência de Lombalgia em uma Unidade de Pronto Atendimento

Ocurrencia de Lombalgia en una Unidad de Pronto Atencion

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ABSTRACT

Objective: The study's purpose has been to assess the occurrence of low back pain in patients assisted by an Urgent Care Centre and its associated factors. **Methods:** It is a cross-sectional study with a quantitative approach that was carried out at an Urgent Care Centre from *Petrolina* city, *Pernambuco* State. The data were collected from the patients' medical records who were assisted over 2015 showing either complaints or diagnosis of low back pain. The analysis was performed through descriptive statistics, and also the multivariate binary logistic regression model in order to estimate the Odds Ratio. **Results:** The findings have shown that ¼ of the patients had lumbar pain. Men (56.7%) represented more than half of the patients, where the patients' age average was 39.7 years old (SD=15.7), and 99.2% demanded care spontaneously without any referral from others healthcare services. **Conclusion:** Stimulating preventive practices turns out to be an important alternative targeting the reduction of low back pain cases, as well as the adoption of an effective treatment not only based on pain mitigation.

Descriptors: Low Back Pain, Worker Health, Primary Health Care, Health Promotion Practice.

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RESUMO

Objetivo: Avaliar a ocorrência de lombalgia em pacientes atendidos em uma Unidade de Pronto Atendimento e fatores associados. **Métodos:** Estudo transversal, de abordagem quantitativa, realizado na Unidade de Pronto Atendimento (UPA), no município de Petrolina-PE. Os dados foram coletados dos prontuários de pacientes atendidos em 2015 com queixa ou diagnóstico de lombalgia. A análise ocorreu por meio de estatística descritiva e através do modelo de regressão logística binária multivariado para estimativa das razões de chance (Odds Ratio – OR). **Resultados:** ¼ dos pacientes apresentaram dor lombar. Os homens (56,7%) representam mais da metade dos atendimentos, a média de idade dos pacientes foi de 39,7 anos (Desvio padrão - DP 15,7), 99,2% buscaram atendimento espontaneamente sem encaminhamento de outros serviços de saúde. **Conclusão:** O estímulo a práticas preventivas é uma alternativa importante para contribuir na redução dos casos de lombalgia, além da adoção de um tratamento efetivo baseado não só na paliação.

Descritores: Lombalgia, Saúde do trabalhador, Atenção Primária à Saúde, Promoção da Saúde.

RESUMEN

Objetivo: Evaluar la ocurrencia de lumbalgia en pacientes atendidos en una Unidad de Pronto Atención y factores asociados. **Métodos:** Estudio transversal, de abordaje cuantitativo, realizado en la Unidad de Pronto Atención (UPA), en el municipio de Petrolina-PE. Los datos fueron recolectados de los prontuarios de pacientes atendidos en 2015 con queja o diagnóstico de lumbalgia. El análisis se realizó por medio de estadística descriptiva ya través del modelo de regresión logística binaria multivariado para estimación de las razones de oportunidad (Odds Ratio - OR). **Resultados:** ¼ de los pacientes presentaron dolor lumbar. Los hombres (56,7%) representan más de la mitad de las atenciones, la media de edad de los pacientes fue de 39,7 años (Desviación estándar - DP 15,7), el 99,2% buscó atención espontáneamente sin encaminamiento de otros servicios de salud salud. **Conclusión:** El estímulo a prácticas preventivas es una alternativa importante para contribuir en la reducción de los casos de lumbalgia, además de la adopción de un tratamiento efectivo basado no sólo en la paliación.

Descriptores: Lombalgia, Salud del Trabajador, Atención Primaria a la Salud, Promoción de la Salud.

INTRODUCTION

Pain is a physiological feature, which acts as a warning sign during an injury, is present through the perception of the painful signal by the neurons and transmission to the nervous system. There is usually remission of painful impulses in acute pain, however, pain may be intensified or maintained for a prolonged period without involution, characterizing chronic pain.[1]

In order to intervene in acute pain, the organism produces protective responses causing changes that promote the elimination of the pain stimulus, prevents the injury and reestablishes the homeostasis, however when these responses remain acting for a long time they can cause irreversible changes.[2]

Lumbar pain, as know as, Low Back Pain (LBP) is characterized by severe or moderate pain in the lumbar region of the spine. It is multifactorial and may be linked to pathological, sociodemographic, behavioral and ergonomic factors.[3] There are some factors that imply the onset of LBP, such as behavioral factors, such as sedentary lifestyle, and occupational factors through the development of activities with repetitive movements or positioning vicious.[4]

LBP has become a worldwide public health issue, in Brazil according to the I*nstituto Brasileiro de Geografia e Estatística (IBGE)* [Brazilian Institute of Geography and Statistics], about 27 million adults have spine diseases, resulting in relinquishment from daily activities and high demand in health services.[5,6]

The Urgent Care Centre (UCC) is a fixed pre-hospital emergency service that supports organizing the Brazilian healthcare services. It acts in the stabilization, control, and regulation of patients. Its objective is to provide service of medium complexity, agile and resolutive.[7,8]

LBP is characterized as one of the main causes of absenteeism and the search for health care, revealing the onerousness both for the companies with which the individuals have employment relationship and for the health services, for the recurrent search. Aiming to assist in the creation of actions aimed at the prevention of this pathology, this research had as objective to assess the occurrence of LBP in patients assisted by an UCC and its associated factors.

METHODS

It is a cross-sectional study with a quantitative approach that was carried out at an UCC from *Petrolina* city, *Pernambuco* State, over the period from September 2016 to June 2017.

The data were collected from the patients' medical records who were assisted by the UCC over 2015, after receiving the letter of consent and term of the institution's grant, randomly selected records were selected, and only the records of those who presented the information from the collection instrument were included.

The target population consisted of an average of eight thousand visits per month, using a random sampling process, adopting a prevalence of 50%, a confidence of 95% and a sampling error of 5% constituting the sample. The selection of the sample was made through the search of medical records with complaints of acute pain treated in the UCC, making a total of 923 patients.

A database was built with information gathered through the collection instrument in Microsoft Excel 2010, where the patients' medical records showing either complaints or diagnosis of LBP were selected, then constituting a total of 261 medical records.

Data were collected through an instrument written by the authors that included the following variables: age, gender, manner of attendance, risk classification, the weekday of the care, the trimester of the care, also if there was any referral to another healthcare service and its location.

The analysis was performed through descriptive statistics for LBP patients by means of the frequency distribution for the categorical variables and measures of central tendency and dispersion for the numerical variables. The associations between the variables were calculated using the multivariate binary logistic regression model to estimate Odds Ratio (OR) values with their respective Confidence Intervals (95% CI), considering the values of $p<0.05$. Data were analyzed using the Stata Software 12.0.

Since this was a study with secondary data originating from the patients' medical records, it was not necessary to present the Informed Consent Term. The present study was approved by the Research Ethics Committee from the *Universidade do Estado de Pernambuco*, under the Legal Opinion No. 1.714.672 in 2016.

RESULTS AND DISCUSSION

Table 1 shows the characteristics of the assisted patients by having either complaints or diagnosis of LBP in the UCC from *Petrolina* city over 2015. Considering the 923 patients with acute pain 261 (¼) had LBP. The mean approximate time in which the patients sought the service having LBP was 13.9, while the average age of the patients affected by this symptom included older adult patients (39.7 years old) (Standard Deviation – SD=15.7).

In regards to gender, men stand out (56.7%) by being present in more than half of the assistances. Only 0.8% of the patients having LBP required the *Serviço de Atendimento Móvel de Urgência (SAMU)* [Emergency Mobile Care Service] to go to the service place, while 99.2% sought care spontaneously without a referral from other healthcare services.

Here, 83.1% of the patients received the green risk classification, 54.0% of the assistances were during the week. In relation to the period of the year, 53.6% sought unity in the first semester. The third quarter stood out with 34.5% of the assistances. Only one patient needed a referral to another healthcare service, this service being the Primary Health Care (PHC).

Table 1 - Characteristics of the patients assisted in an UCC unit by having LBP, *Petrolina* city, Brazil, 2015.

	Average	SD	95% CI*	
Approximate time	13.9	5.1	13.3	14.5
Age	39.7	15.7	37.8	41.7
	n	**%**	**95% CI****	
Gender				
Female	113	43.3	37.2	49.3
Male	148	56.7	50.7	62.8
Origin				
SAMU	2	0.8	-0.3	1.8
Spontaneous demand	259	99.2	98.2	100.3
Risk classification				
Blue	2	0.8	-0.3	1.8
Green	217	83.1	78.6	87.7
Yellow	42	16.1	11.6	20.6
Weekdays				
Workday	141	54.0	47.9	60.1
Weekend	120	46.0	39.9	52.1
Semester of the year				
Second semester	140	53.6	47.6	59.7
First semester	121	46.4	40.3	52.4
Trimester				
First	68	26.1	20.7	31.4
Second	53	20.3	15.4	25.2
Third	90	34.5	28.7	40.3
Fourth	50	19.2	14.4	24.0
Referral to another healthcare service				
Yes	1	0.38	-0.4	1.1
No	260	99.62	98.9	100.4
Healthcare service				
PHC	1	100.0		
Total	261	100.0		

***95% CI -** Confidence Interval of 95% to average.

****95% CI -** Confidence Interval of 95% to proportion by assuming the binomial distribution.

Table 2 shows in the binary logistic regression analysis the Odds Ratio (OR) values analyzed in a multivariate model (adjusted OR). The variables gender, age, approximate time, weekend and trimester of the year did not present factors associated to LBP. Only the gender variable remained significant in the model. Hence, males were more likely to develop LBP when compared to females.

Table 2 - Multivariate analysis of the LBP-associated factors in an UCC unit. *Petrolina* city, Brazil, 2015.

	OR adjusted	95% CI		*p*-value
Gender				
Male	1.36	1.0	1.84	0.047
Female	1.00			
Age	1.00	0.9	1.01	0.707
Approximate time	0.99	0.9	1.01	0.289
Weekend				
Yes	1.11	0.8	1.51	0.483
No	1.00			
Trimester of the year				
First	1.00			
Second	0.97	0.6	1.54	0.895
Third	0.89	0.6	1.31	0.562
Fourth	0.78	0.5	1.21	0.259

Herein, LBP was present in people with an average age of 39.7 years old, corroborating other studies in which the average age was from 31 to 59 years old.[9-11] This prevalence in older people may be related wear due to spinal overload, adoption of vicious postures, sedentary lifestyle, and lifelong activities.[12-3]

A study carried out with adolescents brought a considerable prevalence of 49.9%, addressing the need to act in the prevention and early treatment, then avoiding that this aggravation may become a chronic issue in adulthood.[13-5]

In this study, the prevalence of LBP was higher in males (56.7%). Several factors justify this occurrence as the overload resulting from the activities carried out by men as a result of low schooling, which restricts the options to jobs that require

the use of force.[16-7] Machado et al. (2004) affirm that among people of higher education there is a lower predisposition to musculoskeletal diseases.[18]

Some studies have a higher incidence of LBP in female subjects (50.0% to 100.0%).[9,10,19] This fact is due to anatomical, hormonal characteristics, lower threshold for pain, double working hours, positioning and performing repetitive activities of women.[11]

The UCC unit addressed here is located in the *Vale do São Francisco* region. This region has as a main source of income the irrigated agriculture; a good part of the population has as occupation the manual labor in farms in this region. It is common the adoption of incorrect and uncomfortable posture by people who work in this area, over time this condition leads to the onset of LBP. A survey conducted brought the prevalence of LBP in 55.4% of male farmers.[20]

The search for care was higher at lunchtime, represented in this study by the approximate mean time of care (13.9). This fact can be explained by the need to justify absence at work, as well as by the overload in the morning during their activities and the need for care to return to work. Given the aforementioned, it is necessary to invest in preventive and compensatory activities, such as work-related gymnastics, to avoid greater damages and absence in the work environment, reducing costs with treatments and increasing their productivity.[19]

Assistance at the study service was mostly (99.2%) by spontaneous demand, in other words, the user affected by LBP sought health assistance on his own, without a referral from another service of the *Sistema Único de Saúde (SUS)* [Brazilian Unified Health System]. This refers to the importance of multidisciplinary care for patients with pain created by the creation of the National Program of Assistance to Pain and Palliative Care, through the Administrative Rule No. 19 from the Ministry of Health, January 3rd, 2002 and by the publication of the Administrative Rule No. 3.150, December 12th, 2006 that reinforces the care for pain with an interdisciplinary character, since only an effective and continuous follow-up will contribute to the reduction of the assistance of these individuals to the emergency services.[21-2]

Service resolution is proven through referral data since 99.62% of cases of LBP did not require referral to other health services. This demand had its complaints remedied in the unit itself, however, it is worth noting the non-urgent nature of these services and the need to follow up these individuals through the PHC and referral to specialists in order to reduce frequent assistance in emergency services by exacerbation of pain.

Risk classification is a mechanism created to prioritize the handling of more urgent cases, guaranteeing a higher quality of care provided. The Manchester protocol, the most commonly used risk classification method in the world today, is based on classification by means of signs and symptoms, organizes care so that the patient does not wait for more than the time needed, avoiding the aggravation of the situation. In this protocol, users are classified by color and each color has a maximum time to receive service: blue (240 minutes), green (120 minutes), yellow (60 minutes), orange (10 minutes) and red (0 minutes).[23]

The majority (83.1%) of the patients affected by LBP were classified as green, according to the modified Manchester protocol used in the unit. This refers to the constant exacerbation of LBP and the difficulty of finding a specialized follow-up, as there is a propensity to seek care to relieve the pain sensation due to the difficulty of finding an effective treatment easily. The UCC, being a non-urgent service, does not have the resources to treat this patient; these users receive urgent care and need to following up their treatment in other services such as PHC or services of greater complexity.

The visits occurred in greater quantity on weekdays (54.0%), in the second half (53.6%). The weekends are days destined to rest allowing improvement of the pain, without the need of demanding the healthcare services. According to Rodrigues and Jesus [201-?], rest is very beneficial in LBP, but in excess, it can lead to even more musculoskeletal problems.[24] In the second half of the year, people tend to be more tired due to wear and tear due to ergonomic and occupational characteristics accumulated during the first semester.

The LBP affects several factors, the negative impact is more relevant in the socioeconomic scope, since the individual that lives with the pain stimulus can cause temporary or prolonged incapacities. A sedentary lifestyle is a risk factor for the development of LBP as it reduces flexibility and mobility of the joints and is a very important factor for the absence of health. In this way the practice of physical activities acts as a protection, provided that it is performed with follow-up to avoid major injuries, allowing more efficient movements with the correct use of the musculature.[13,19,24]

CONCLUSIONS

Lumbar pain represents ¼ of the pain presented by the patients in the UCC unit. Thus, it is necessary to adopt measures that minimize this occurrence due to their high degree of incapacity. Being a man was a risk factor for the development of LBP in the present study, a fact that may be associated with occupational characteristics in which men are usually more often inserted than women.

The PHC can work to prevent LBP through lifelong education for young people, based on guidance on risk factors and the creation of strategies to prevent bad habits from determining the occurrence of this type of injury in adults.

The large number of visits by LBP in this service indicates that it is essential to know the users about the purpose of this unit to reduce the assistance of minor and non-urgent cases, as this way overcrowding would be avoided, guaranteeing an even more responsive service. The unit presented a high-resolution rate of LBP cases.

Bearing in mind the aforesaid, the focus should be on prevention and not on pain mitigation, because living pro-

longed time with painful issues cause irreversible changes in the body and the individual starts to live with pain for life, then increasing costs with Social Security, medical licenses and disability pensions.

This research was limited to bringing only the occurrence and possible contributing factors for the development of LBP. This investigation aims to encourage other studies to helping reduce this morbidity.

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