

Socio-demographic and physical-functional profile of low back pain patients assisted in Manaus-AM

Perfil sócio-demográfico e físico-funcional de pacientes com lombalgia atendidos em Manaus-AM

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ABSTRACT

BACKGROUND AND OBJECTIVES: Low back pain is a common pathological condition in the social environment, especially in industrialized societies, and is a frequent cause of morbidity and incapacity, being overcome only by headache in the scale of painful disorders which affect people. This study aimed at establishing the socio-demographic and physical-functional profile of patients with acute, sub-acute and chronic low back pain of specific and nonspecific origin, treated in a private physiotherapy institution of the city of Manaus/AM.

METHODS: This is a retrospective and descriptive study with quantitative approach, which has evaluated 151 medical charts, of which two were excluded for having less than 18 years of age, generating a database of 149 participants. Results were presented by descriptive statistics through central trend and variability measures, as well as by absolute and relative distribution.

RESULTS: The prevalence of low back pain was 17.3%, primarily affecting males (55%) and industrial production workers (25.2%) with mean age of 40.7±13.2 years. There were associated diseases in 51.6% (n=33). When submitted to palpation, 77.6% (n=85) have referred pain. According to body mass index calculation, 57.1% (n=28) of patients were considered overweighted; 90.0% (n=45) had abnormal postural pattern, 82.5% (n=80) had decreased lumbar spine-related movement amplitude and 55.3% (n=26) had decreased lumbar spine-related muscle strength.

CONCLUSION: Socio-demographic profile was characterized by male patients, as from the third decade of life and industrial production workers. Physical-functional profile was primarily characterized by patients with overweight and postural changes, pain at palpation and decreased lumbar region joint amplitude.

Keywords: Low back pain, Patients, Private sector.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A lombalgia é uma condição patológica comum no meio social, principalmente nas sociedades industrializadas, constituindo uma frequente causa de morbidade e de incapacidade, sendo superada apenas pela cefaleia na escala dos distúrbios dolorosos que afetam as pessoas. O objetivo deste estudo foi traçar o perfil sócio-demográfico e físico-funcional dos pacientes portadores de lombalgia aguda, subaguda e crônica de origem específica e inespecífica, atendidos em uma instituição privada de fisioterapia na cidade de Manaus/AM.

MÉTODOS: Estudo retrospectivo e descritivo com abordagem quantitativa. Foram avaliados 151 prontuários, dos quais 2 foram excluídos por serem menores de 18 anos, gerando um banco de dados de 149 participantes. A apresentação dos resultados ocorreu pela estatística descritiva através das medidas de tendência central e de variabilidade, bem como pela distribuição absoluta e relativa.

RESULTADOS: A prevalência da lombalgia foi de 17,3%, acometendo principalmente o gênero masculino (55%) e trabalhadores da área de produção industrial (25,2%) com média de idade de 40,7±13,2 anos. Há presença de doenças associadas em 51,6% (n=33). Submetidos ao exame de palpção, 77,6% (n=85) relataram dor. Foram classificados com sobrepeso, segundo o cálculo do índice de massa corporal 57,1% (n=28) dos pacientes; 90,0% (n=45) tinham padrão postural alterado, 82,5% (n=80) amplitude de movimento relacionada à coluna lombar diminuída e 55,3% (n=26) tinham força muscular relacionada à coluna lombar diminuída.

CONCLUSÃO: O perfil sócio-demográfico foi caracterizado por pacientes do gênero masculino, a partir da terceira década de vida e trabalhadores da área de produção industrial. O perfil físico funcional caracterizou-se por pacientes com sobrepeso, alterações posturais, dor ao exame de palpção e amplitude articular da região lombar diminuída.

Descritores: Dor lombar, Pacientes, Setor privado.

INTRODUCTION

Low back pain is a common pathological condition in the social environment, especially in industrialized societies. According to the literature, it is estimated that approximately 70 to 85% of the world population feel or shall feel low back pain in some stage of life¹. In Brazil, approximately 10 million people have incapacity associated to low back pain

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and at least 70% of the population shall have some low back pain episode along life². Reported prevalence of low back pain in Brazil varies from 60 to 80% in total, and people aged between 50 and 59 years have the highest prevalence³. Low back pain is a frequent cause of morbidity and incapacity, being second only to headache in the scale of pain disorders. However, in primary care, a specific cause for low back pain and sciatic pain is found only in 15% of cases⁴.

There are several reasons for low back pain, among them inflammatory or degenerative diseases, tumors, congenital defects, muscle weakness, and rheumatic predisposition, among others. In the approximate distribution of causes, it is observed that degenerative diseases are responsible for about 45% of the total, mechanical changes for about 25%, metabolic disorders for about 10%, myofascial and psychic disorders for about 10%, and inflammatory diseases and visceral causes for about 4% and finally, infectious and neoplastic causes about 1% each. However, some studies try to show the association of low back pain by means of different factors, such as age, gender, smoking, alcoholism, body weight, social class, education level, practice of physical and labor activities⁵.

Low back pain diagnosis is difficult, especially due to the lack of reliable correlation between clinical and imaging findings, partially due to the complexity of the innervation of the region, except for radiculo-medullary affections, because muscle contractions, frequent and painful, are not followed by demonstrable histological injury, and due to the difficulty in interpreting painful phenomena⁶.

Common mechanical low back pain management is always conservative, is effective in all recovery aspects and is less expensive than surgery⁷, consisting in rest, local heat, anti-inflammatory drugs, analgesics and neuromodulators. However, rest in the acute phase is effective but should not be prolonged due to the deleterious action of inactivity on the locomotor system⁸.

In light of the above, especially with regard to epidemiologic data, and taking into consideration the need for studies establishing the socio-demographic and physical-functional profile of low back pain patients in the Northern region of Brazil, especially Manaus/AM, one of the largest Brazilian industrial pole (Free Zone of Manaus – ZFM). This study aimed at establishing the socio-demographic and physical-functional profile of patients with acute, sub-acute and chronic low back pain, of specific and nonspecific origin, treated in a private physiotherapy institution of the city of Manaus/AM, to offer subsidies for their prevention.

METHODS

This is a retrospective and descriptive research with quantitative approach, carried out in a private physiotherapy institution in the city of Manaus/AM in 2014.

Available evaluation card records of patients of both genders meeting the following inclusion criteria were used: above 18 years of age, patients submitted to treatment of acute,

sub-acute and chronic low back pain of specific and non-specific origin, from January 2009 to June 2013. Evaluation cards not meeting any of the above-mentioned criteria were excluded.

The following variables were analyzed to establish the socio-demographic profile: gender, age and profession. To establish the physical-functional profile the following variables were analyzed: clinical diagnosis, practice of physical activity, associated diseases, major complaint, sign or symptom at palpation, body mass index (BMI), postural pattern, movement amplitude (MA) and muscle strength.

Sample size was estimated in 73 participants, considering estimated population of low back pain patients of approximately 50 to 80%, according to published epidemiologic studies⁸.

Initially, 151 records were evaluated, of which 2 were excluded for being below 18 years of age, generating a database with 149 patients. Records were stored in Microsoft Excel 2010 spreadsheets.

Results were presented with descriptive statistics through central trend (mean and median) and variability (standard deviation and amplitude) measures, as well as with absolute and relative distribution (n - %) with confidence interval of 95% and sample error of 5% ($p < 0.05$). Age symmetry was evaluated by Kolmogorov-Smirnov test.

This study was approved by the Research Ethics Committee, Fundação de Hematologia e Hemoterapia do Amazonas - HEMOAM, under opinion 566.617.

RESULTS

Initially, 151 records were evaluated, of which 2 were excluded for being below 18 years of age, generating a database with 149 patients.

The following socio-demographic results were found: predominance of males, 55.0% (n=82) as compared to females, 45.0% (n=67); mean age of 40.7 ± 13.2 years with minimum of 18 and maximum of 76 years of age; prevailing age groups were from 30 to 39 years, 37.5% (n=54) and from 40 to 49 years, 23.6% (n=34); prevalence of production-related professions. Age was absent in 3.4% of 149 evaluated records and profession was absent in 30.9%. Professions distribution is shown in table 1.

Table 1. Distribution of professions of low back pain patients (n=103)

Professions	n	%
Domestic services	14	13.6
Autonomous/commerce	6	5.8
Administrative area	6	5.8
Health professional	2	1.9
Production area	26	25.2
Retired	3	2.9
Unemployed	1	1
Other	45	43.7

With regard to physical-functional profile, low back pain patients had the following characteristics: clinical low back pain diagnosis, 18% (n=25); 45.3% (n=43) have stated performing some physical activity; presence of associated diseases in 51.6% (n=33) of cases, and most prevalent disease was hypertension, 42.4% (n=12); more than half have stated using drugs, 69.1% (n=85); most recurrent primary complaint was lumbar region pain, 68.8% (n=99); submitted to palpation, 77.6% (n=85) have reported pain; 57.1% (n=28) were classified as overweighted, according to BMI; changed postural pattern, 90.0% (n=45); movement amplitude (MA) related to shortened lumbar spine, 82.5% (n=80); muscle strength related to shortened lumbar spine, 55.3% (n=26). Distribution of physical-functional profile variables is shown in table 2.

Table 2. Physical-functional profile (n=149)

Variables	n	%
Clinical diagnosis – AD=16 (10,7%)		
Tension/hypomobility	1	0.8
Herniated disk	19	14.3
Degenerative spondyloarthritis	2	1.5
Low back pain	25	18
Other	87	65.4
Associated diseases – AD=85 (57.0%)		
Diabetes (2)	5	15.2
Hypertension (3)	12	42.4
Cardiopathy (4)	2	6.1
Pneumopathy (6)	1	3
Other (8)	19	57.6
Primary complaint – AD=7 (4.6%)		
Neck pain	9	6.3
Chest pain	4	2.8
Back pain	99	68.8
Back pain irradiated to LLLL	31	21.5
Paresthesia	1	0.7
Other	6	4.2
Palpation – AD=40 (26.8%)		
Pain at palpation	85	77.6
Tension	6	5.5
Trigger-points	1	0.9
No pain at palpation	17	15.5
BMI – AD=101 (66.9%)		
Low weight	0	0
Normal weight	13	26.5
Overweight	28	57.1
Obese	8	16.3
Postural pattern – AD=99 (66.4%)		
Unchanged	5	10
Changed	45	90
MA – AD=52 (34.9%)		
Unchanged	17	17.5
Limited	80	82.5
Muscle strength – AD=102 (68.5%)		
Unchanged	21	44.7
Decreased	26	55.3

AD = Number of absent data in the evaluation record; LLLL = lower limbs; BMI = body mass index; MA = movement amplitude.

DISCUSSION

Among records evaluated in this study, 17.3% had low back pain, which is different from most studies. Authors have observed 40% of individuals with low back pain from a total of 80, in a study aiming at finding possible relationships between low back pain and lumbar-pelvic motor control deficit in jiu-jitsu fighters¹⁰. Another study¹¹, evaluating prevalence of spinal pain and associated factors in 972 adults from the city of Pelotas RS, has observed prevalence of 40% of low back pain. A different research¹² evaluating with a questionnaire 115 people among employees, students and professors of the Centro Universitário UNIEURO, has found higher scores, with prevalence of 46%; however, data comparisons should be seen with care, since the study is with a sample of specific workers, who do not represent general population. Epidemiologic data from other countries show higher low back pain prevalence than that observed in Brazil. This difference may be explained by the lack of methodological rigor and of standardization of criteria adopted for pain classification in some Brazilian studies¹³. Also, in our study, diagnostic was retrospective and in medical records, which might have also influenced results.

With regard to gender, there has been higher prevalence of low back pain among males, corresponding to 82 individuals (55%), while females were 67 (45%), confirming Abreu & Ribeiro¹⁴ data who studied a population inserted in the Social Security Professional Rehabilitation Program of the city of São Luís/MA, having analyzed 88 medical records of people in medical leave, where 83 (94.3%) were males. However, our study is different from results found by Antunes et al.¹⁵ which show female prevalence, 140 (72.5%), as compared to males, 53 (27.5%). The mean age was 40.7±13.2 years, and observed age of 18 and maximum of 76 years. Similar result was found by Abreu & Ribeiro¹⁴ who have obtained mean age of 41 years and by Martins¹⁶, who has identified a high prevalence of low back pain in 41 years old individuals.

According to Almeida et al.¹³, low back pain is a common pathological condition in the social environment, especially in industrialized societies, which may explain its prevalence in males in our study, considering that Manaus/AM is one of the largest Brazilian industrial poles and most workers from this sector are males.

According to Khouri et al.¹⁷, prevalence increases with age, affecting a larger number of individuals during the sixth decade of life, and affecting approximately 80% of the world population. Braga et al.¹⁸ have reported that low back pain affects the economically active population causing major impact on their health, thus being a reason for absenteeism.

Among observed professions, production had the highest prevalence, which is different from the study by Hoffman¹⁹ who, in evaluating the prevalence of back pain in elderly patients submitted to physiotherapy in a clinic in the city of Concórdia/SC, has observed prevalence of pain both in females and males, in agriculture and general services workers. According to a descriptive research²⁰ in a production sector of

a Food Industry in the city of Marília/SP, limited to a specific sector where 30 male workers were interviewed, 14 workers (46.6%) have referred some musculoskeletal symptom in some spinal segment, prevailing low back pain (33.3%). Authors state that musculoskeletal symptoms in spinal segments are closely related to postures and movements adopted at work, such as trunk bending, trunk torsion, and picking, putting and dragging heavy material.

Pain at lumbar palpation was present in 77.6% of evaluated records. A study carried out in three health centers and one private hospital from Campinas, with 34 nulliparous pregnant women divided in two groups (one with 17 pregnant women submitted to Global Postural Reeducation (RPG) and the other group following routine guidance for low back pain control, with gestational age between 20 and 25 weeks and low back pain complaint, has found that 10 women from the RPG group and seven from the control group had pain at lumbar muscles palpation²¹. In a study by Ramírez & Lemus²², with 67 students of the second year of a physiotherapy course, from March to August 2010, 6.3% of students have referred pain at lumbar palpation.

It is possible to state that low back pain is directly related to muscle strength loss, because according to Conceição & Karolczak²³, people with low back pain in general have muscle unbalance, such as weakness or shortening, characterized by intra-articular regions of hypomobility and hypermobility.

Among evaluated records, 90% showed postural pattern changes. In a study by Signoret & Parolina²⁴, 16 adult male "capoeira" players from the city of São Paulo had spinal changes and approximately 56% had lumbar hyperlordosis. In a study with 288 students of the Federal Teaching Network of Florianópolis (156 males and 132 females), aged between 15 and 18 years, the prevalence of sagittal postural deviations in the lumbar spine was high, reaching 53.8% of evaluated students²⁵.

According to Rumaquella & Santos Filho²⁰, remaining in the standing position for long periods generates lumbar muscles fatigue, associated to trunk torsion and flexion movements and load transportation, which contributes for more frequent low back pain and may cause several spinal problems. This confirms our results, where most people affected by low back pain were industry workers who have as typical activities remaining for long periods in the same position, such as: carry load, make trunk rotational movements and many repetitive movements, being this, probably the major reason for postural pattern changes.

CONCLUSION

Socio-demographic profile was characterized by male patients, as from the third decade of life and workers of industrial production area.

Physical-functional profile was characterized by patients with

overweight, postural changes, pain at palpation and decreased joint amplitude in lumbar region.

As proposal for future studies, it is suggested that, in addition to aspects evaluated in this study, other variables involved in low back pain process, such as pain at palpation, postural pattern, MA and muscle strength, are investigated in further details.

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