Investigation of low back pain in a non-hospital population of the coastline of the State of São Paulo*

Investigação da lombalgia em população não hospitalar no litoral paulista

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SUMMARY

BACKGROUND AND OBJECTIVES: Low back pain is a prevalent complaint of multifactorial origins. To date, there have been no studies on the prevalence and characteristics of low back pain in the city of Santos, in the coastal region of the State of São Paulo, Brazil. The objective of the present study was to assess the profile of middle-aged individuals with low back pain from the general population aged 40-59 years, regarding gender, body mass index, regular physical activity and load handling.

METHOD: The study design was prospective, exploratory and transversal, comprising 200 adults aged between 40 and 59 years, randomly selected as the study population. These individuals were sequentially approached by the researchers and asked whether they would agree to answer a medical questionnaire. No indication of the intention of researching low back pain was given before the individuals had agreed to participate.

RESULTS: Out of 200 individuals (78 males and 122 females), 159 of them (60 males and 99 females) answered that they had experienced at least one significant and limiting episode of low back pain in their lives. A subgroup of 109 individuals (37 males and 72 females) had sought medical care for this painful episode. There were no statistically significant differences regarding gender, body mass index or number of hours sitting down at work and the presence of low back pain. There was a small positive correlation between low back pain and load handling at work, as well as a slight negative correlation between low back pain and regular physical activity.

CONCLUSION: Low back pain was a highly prevalent condition in otherwise healthy individuals in our region.

Keywords: Low back pain, Pain, Physical activity.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A lombalgia é uma queixa prevalente de origem multifatorial. Até hoje não existem estudos sobre a prevalência e as características da lombalgia na cidade de Santos, no litoral do estado de São Paulo, Brasil. O objetivo deste estudo foi avaliar o perfil de indivíduos de meia idade com lombalgia na população entre 40 e 59 anos de idade, com relação ao sexo, índice de massa corporal, atividade física regular e manuseio de carga.

MÉTODO: Estudo prospectivo, exploratório e transversal, envolvendo 200 adultos com idades entre 40 e 59 anos, escolhidos aleatoriamente. Os indivíduos foram abordados sequencialmente pelos pesquisadores que perguntaram se concordariam em responder a um questionário médico. Nenhuma indicação da intenção de pesquisar a lombalgia foi dada antes que as pessoas concordassem em participar.

RESULTADOS: Dos 200 indivíduos (78 homens e 122 mulheres), 159 deles (60 homens e 99 mulheres) responderam que haviam passado por pelo menos um episódio importante e limitante da lombalgia em suas vidas. Um subgrupo de 109 pessoas (37 homens e 72 mulheres) havia buscado tratamento médico para esse episódio doloroso. Não houve diferença estatisticamente significante em gênero, índice de massa corporal ou número de horas sentadas no trabalho e a presença de lombalgia. Houve uma pequena
correlação positiva entre lombalgia e manuseio de carga
no trabalho, bem como uma pequena correlação negativa
entre lombalgia e atividade física regular.

CONCLUSÃO: A lombalgia foi uma condição altamente
prevalente em pessoas saudáveis de nossa região.

Descritores: Atividade física, Dor, Lombalgia.

INTRODUCTION

Chronic low back pain is an important health care pro-
blem, affecting 5%-30% of adults in different large pop-
ulation studies1,2, including Brazil3. The prevalence of
this condition seems to be constantly rising4 in all ethnic
groups5, generating higher medical and societal costs6.
Obesity seems to be an independent risk factor for low
back pain7, while a sedentary lifestyle8 and occupatio-
nal postures9 do not seem to be independently related
to this chronic condition. Distorted beliefs regarding the
disease10 and claims for financial compensation11 are
highly prevalent among individuals with chronic low
back pain. Therefore, there is an undisputable need for
an educational program as part of the patients’ treat-
ment12. In addition to the high prevalence of low back
pain and the inherent difficulties in its assessment, pro-
per definitions for chronicity and recurrence have not
been clearly established13.

To date, there are no published studies on low back pain
in the population of otherwise healthy individuals in
the city of Santos, State of São Paulo, Brazil. The aim
of the present pilot work was to assess the prevalence
of low back pain leading to medical consultations in a
group of adults in their fourth and fifth decades of life,
living in Santos, SP. In addition to the positive or nega-
tive history of low back pain, body mass index (BMI),
occupational factors, and regular exercising were in-
vestigated among these individuals.

METHOD

This study was approved by the Ethics Committee of
Universidade Metropolitana de Santos, under the num-
ber 006/2010. All participants were residents of the the
city of Santos, state of São Paulo, and volunteered to
answer the questions. They gave their consent to the
use of the data obtained, provided that confidentiality
was guaranteed.

The study design was prospective, exploratory and
cross-sectional. Two hundred adults aged between
40 and 59 years were randomly selected as the study
population. These individuals were standing in queu-
es, shopping or walking around the streets, etc., when
they were sequentially approached by the researchers
and asked whether they would agree to answer a med-
cal questionnaire. There was no immediate indication
that the nature of the study was related to low back
pain, in order to avoid bias (individuals with pain mi-
ght be more prone to answering a questionnaire on the
subject). Only individuals in general good health and
fully capable of walking were included in the study.

All data were collected individually by two medical
students, who had been trained to carry out this stu-
dy. Demographic data (gender and age) were obtained.
Personal histories of low back pain, including any re-
quirement to attend a medical consultation due to this
condition, were investigated. In addition, respondents
were asked to state their height and weight, so that BMI
could be calculated, and their professional history was
obtained, including the number of hours spent sitting
in a chair, or whether the work required load handling.

Finally, each individual’s exercise activity was recor-
ded, considering only regular physical activity (more
than once a week).

Mean values and standard deviations (SD) were used
for continuous variables. Student’s t-test was used to
assess the significance of differences. The degree of
linear agreement between parameters was calculated
using the Pearson correlation coefficient. Values were
considered to be significant when p≤0.05. Odds ratios
were expressed with their 95% confidence interval
(CI).

RESULTS

From the initial group of 200 individuals (78 males and
122 females), 159 of them (60 males and 99 females)
answered that they had experienced at least one signi-
ficant and limiting episode of low back pain in their
lives. A subgroup of 109 individuals (37 males and 72
females) who had sought medical care for this painful
episode (whether acute or chronic) was then selected
for analysis.

Statistical analysis on the subgroups showed that there
were no higher odds for a given gender to have low
back pain or to seek medical help in the event of this
condition. Likewise, there were no higher odds for indi-
viduals with BMI ≥ 25 kg/m2 to present low back pain
(OR = 0.868; 95% CI: 0.468 to 1.609) or, if presenting
it, to seek medical help (OR = 1.172; 95% CI: 0.6184
to 2.222). There were no statistically significant differences in the number of hours per day that individuals spent sitting down at work (5.12 ± 3.56 for individuals without pain, 5.7 ± 3.44 for those with pain who had sought medical care, and 5.38 ± 3.07 for those with pain who had not sought medical care).

The chance that an individual with low back pain would handle loads at work was marginally higher than for individuals who did not handle loads at work (OR = 1.805; 95% CI: 0.761 to 4.279). There were no differences in the characteristic of seeking medical care among individuals handling loads at work and having low back pain, i.e. medical care was equally sought (or not) by those who presented low back pain and handled loads regularly at work (OR = 0.9461; 95% CI: 0.477 to 1.876). Another marginally significant result was observed in relation to regular physical activity, since the individuals without any low back pain had a slightly higher chance of regularly exercising (OR = 1.7063; 95% CI: 0.929 to 3.133).

**DISCUSSION**

A recent Brazilian review of the literature highlighted the socioeconomic impact and the multifactorial characteristics of low back pain. Their review discussed in detail what the requirements were for a multidisciplinary team to attend these patients, the need to understand the financial gains from the disease, the family’s influence on perpetuating the pain, as well as the beliefs and catastrophic attitudes of patients. Along with other factors involved in the etiology of this condition, low back pain is indeed a very difficult condition to manage and treat. In fact, it is rare to observe low back pain specifically triggered by only one factor or condition.

The effect of low back pain in the quality of life has also been recently reported in a Brazilian population. The aim of the present work was to start an investigation on the factors associated with low back pain in our region, comprising a population aged 40-59 years. It was expected that the age selection limited low back pain to a smaller group of etiological categories. The subject of our study was highly relevant, since 54.5% of the study population had, at least once in their lives, sought medical care for low back pain. A recent Danish study concluded that disabling low back pain is exceedingly rare before the age of 50, while a North-American group reported that general disc diseases were the most important cause of low back pain in middle-aged adults. Another recent paper, this time from Spain, discusses the high prevalence of low back pain in several age groups, highlighting the low quality of life and high levels of depression in those individuals suffering from spinal pain. It is therefore relevant to have Brazilian studies analyzing the prevalence and characteristic of middle aged adults with low back pain in different regions of the country.

It was somewhat surprising not to find a clear relationship between low back pain and any of the parameters studied in this pilot project. Gender, BMI and the number of hours spent sitting at work did not correlate with the presence of low back pain or the perceived need for medical care. However, the correlation between low back pain and BMI has been challenged by others, and the correlation between low back pain and a sedentary lifestyle is far from clear. The marginal positive relation between low back pain and load handling at work suggests that occupational hazards need to be much better investigated in population studies. Likewise, the marginally negative relationship between regular physical activity and low back pain equally suggests that assessment of body postures and muscle strength may be important for further research work. Future studies with larger populations may clarify whether these findings are really relevant.

**REFERENCES**


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