

Evaluation of Prevalence of Low Back Pain Among Residents of Tabriz University of Medical Sciences in Relation with Their Position in Work

Tebriz Üniversitesi Tıp Bilimlerinde Görevli Asistan Doktorlar Arasında İş Yeri Pozisyonlarına Bağlı Olarak Yaygın Görülen Bel Ağrısının Değerlendirilmesi

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SUMMARY

Objectives

Lower back pain is one of the most common complaints among the general population and among health professionals. Multiple workplace-related risk factors may contribute to back pain among physicians. The aim of this study was to assess the prevalence of lower back pain among medical residents of different medical specialties and to evaluate the relevant risk factors.

Methods

A Dutch Musculoskeletal Questionnaire (DMQ) was completed by 125 medical residents. Part I concerned general demographic information, part II evaluated workplace-specific factors, and part III assessed the individual characteristics of lower back pain.

Results

The overall prevalence of lower back pain among residents was 56.8%, with 45.1% of men and 76.5% of women reporting lower back pain. A total of 94.4% of affected individuals believed that their lower back pain was related to their current job, and 72.6% claimed that the onset of lower back pain occurred after beginning medical work. Statistical analysis revealed a significant correlation between lower back pain and certain risk factors, such as working in the same position for long periods, repetitive movement (bending, twisting) of the lumbar region, working in uncomfortable postures, stress, walking, and standing for long periods. However, no significant relationship was found between lower back pain and heavy lifting, smoking, or prolonged sitting. The role of exercise as a protective factor in reducing the incidence of lower back pain was supported by the statistical analysis.

Conclusions

The prevalence of lower back pain among residents is high and is associated with a number of workplace-related risk factors.

Key words: Low back pain; resident; position.

ÖZET

Amaç

Genel popülasyon ve sağlık çalışanları arasında bel ağrısı en yaygın şikâyetlerden biridir. İş yerindeki çeşitli risk faktörleri doktorlar arasında görülen bel ağrısına sebep olabilir. Bu çalışmanın amacı, farklı tıbbi uzmanlık alanlarında görevli asistan doktorlar arasında bel ağrısı şikâyet sıklığını ve ilgili risk faktörlerini değerlendirmektir.

Gereç ve Yöntem

Alman Kas-İskelet Sistemi Rahatsızlık Anketi 125 asistan doktor tarafından dolduruldu. Anketin 1. bölümü genel demografik bilgiler ile ilgili olup 2. bölüm iş yerine özel risk faktörlerini, 3. bölüm ise bel ağrısının özel niteliklerini değerlendiriyordu.

Bulgular

Asistan doktorlar arasında görülen bel ağrısının genel sıklık derecesi %56,8'ken bel ağrısından şikâyetçi olan kadınlar %76,5'lik ve erkekler %45,1'lik bir dilimi oluşturdu. Bel ağrısı şikâyeti olan bireylerin %94,4'ü, bel ağrılarının mevcut işleri dolayısıyla ortaya çıktığına inanırken %72,6'sı bel ağrısının sağlık sektöründe çalışmaya başladıktan sonra başladığını iddia etti. İstatistiksel analiz, uzun süre aynı pozisyonda çalışmak, bel bölgesinin yinelenen hareketleri (eğilme, bükülme), rahatsızlık verici postür ile çalışmak, stres, yürümek ve uzun süre ayakta kalmak gibi çeşitli risk faktörleri ile bel ağrısı arasında bir bağlantı olduğunu ortaya koydu. Ancak, ağır kaldırmak, sigara içmek ve uzun süre oturmak ile bel ağrısı arasında önemli bir ilişki saptanmadı. Bel ağrısı şikâyetini azaltmak için uygulanan belirli egzersizlerin koruyucu özelliği bu istatistiksel analizle desteklenmiştir.

Sonuç

Asistan doktorlar arasında bel ağrısı şikâyeti yüksek olmakla birlikte iş yeri özel birçok risk faktörüyle de bağlantılıdır.

Anahtar sözcükler: Bel ağrısı; ikamet; pozisyon.

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Introduction

Lower back pain is one of the most common complaints among the general population^[1] as well as among healthcare professionals. In the general population, point prevalence of 12-33%, annual incidence of 22-65%, and lifetime prevalence of 11-48% have been reported.^[2] The annual prevalence of lower back pain among healthcare professionals is approximately 77%.^[3]

The working conditions for physicians have been considered as a major risk for the development of musculoskeletal disorders (MSD).^[4] Important risk factors for MSD include prolonged standing and sitting, poor posture, heavy lifting, pushing or pulling of objects, bending and twisting, or heavy physical work. Nevertheless, these factors differ according to each physician specialty.

Unfortunately, most epidemiological studies on this topic have been conducted in developed countries and do not necessarily reflect the specific risks associated with healthcare work. The occupational hazards associated with lower back pain have not been examined thoroughly within the medical community, particularly in developing regions.

The aim of this study was to investigate the prevalence of lower back pain and the associated risk factor among residents within the emergency medicine, surgery, internal medicine, radiology, dermatology and neurosurgery departments relative to the general population.

Materials and Methods

This cross-sectional study included 125 residents (emergency medicine, surgery, internal medicine, radiology, dermatology, and neurosurgery) out of the total population of 194 residents at the Imam Reza Hospital of Tabriz University of Medical Sciences in the northwest health center of Iran. The study was approved by the Ethics Committee of the Tabriz University of Medical Sciences, Tabriz, Iran. All subjects participated voluntarily and the exclusion criteria consisted of trauma to the lumbar area or vertebral fractures. Finally, senior residents of all specialties were excluded due to a study break coinciding with the period in which the questionnaire was distributed.

In order to standardize the study methods, the Dutch Musculoskeletal Questionnaire (DMQ) was translated into Persian. After the verification of the translation by the Research Committee Experts of Tabriz University of Medical Sciences, the DMQ was distributed to residents. Because of the comprehensive nature of the questionnaire, only the part of the questionnaire specifically relating to the study topic of our study was selected and modified. The resulting question-

naire was composed of three parts. The first part concerned demographics (28 questions about age, sex, weight, height, etc.). Part II concerned workplace-specific factors (eight questions) while part III consisted of questions assessed the characteristics of the subject's lower back pain (11 questions). Instructions on completion of the questionnaire and the purpose of the study were provided to the participants.

Following completion of the questionnaires the data were divided into two categories. The term positive group was used for subjects who had experienced lower back pain during the past 12 months, whereas subjects who did not have lower back pain during the past 12 months were designated as the negative group. Univariate analysis with the t-test and chi-square test (SPSS 14 software) were used for comparing occupational risk factors between the positive and negative groups. The overall prevalence of lower back pain and prevalence among each specialty field was calculated. A P-value less than 0.05 was considered statistically significant.

Results

In this study, 150 medical residents (emergency medicine, surgery, internal medicine, dermatology, radiology and neurosurgery) from Tabriz University of Medical Sciences, Tabriz, Iran, completed a questionnaire regarding lower back pain between 1 June 2013 and 31 August 2013. A total of 25 cases were excluded from the initial sample for the following reasons: 23 were senior residents, one had a history of major trauma to the lumbar area, and one had a history of vertebral fracture. Of the 125 participants included in the final study population, 73 (58.4%) were male while 52 (41.6%) were female.

The prevalence of lower back pain during the previous 12 months was 56.8% among all residents (prevalence of lower back pain according to specialty is summarized in Table 1). Among residents, 48.1% of the emergency medicine residents, 75% of the dermatology residents, 90.9% of the internal medicine residents, 100% of the surgery residents, and 80% of the neurosurgery residents believed that lower back pain was attributable to their current work.

Gender was a significant risk factor for lower back pain, with 76.9% of women and 45.2% of men reporting lower back pain in the previous year ($p=0.004$). The mean age among individuals reporting lower back pain was 33.44 years, while the negative group had a mean age of 33.81 years. The mean BMI (body mass index) among individuals with lower back pain was 24.61 compared to 24.87 among individuals who did not report lower back pain (Table 3).

No significant relationship was found between incidence of lower back pain and heavy lifting ($p=0.54$), smoking

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