

# A Study Of Patients With Low Back Pain Who Underwent Surgical Treatment

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## Abstract

Back pain is known as an important cause of debilitation of the working adult population in all countries, especially industrialized nations. Cigarette smoking and strenuous physical activity are recognized factors involved in the etiology of the back pain syndrome. Identification of risk factors of back pain can assist the physicians in taking preventive measures and rehabilitating patients. This 7-year study deals with some of the risk factors of back pain.

This is a seven-year study of 450 patients with back pain who ultimately underwent surgical treatment. Demographic factors such as age, gender, occupation and type of physical activity (including jobs which require strenuous activity, clerical jobs and those which involve long standing hours) were classified and studied. The established diagnoses of patients which had been confirmed by surgical and pathological findings were extracted from their medical records. Data were analyzed using SPSS software.

450 patients were studied. 58.2% of patients were men and 41.8% were women (1.3:1). 40% of patients were aged between 21 and 40 and 36% were aged between 41 and 60 years. Only 24% of patients were over 60 and below 20 years of age. 29.4% of patients were laborers or porters, 8.2% had jobs with long working hours and 25.5% had clerical jobs. In this study the cause of patient referral was intervertebral disc hernia in 53.3% of cases, spinal stenosis in 12.6% of cases, trauma in 11.1% of cases and spinal column in 10% of cases. 76% of patients in this study were aged between 20 and 60 years, most of whom were men, at the height of their physical activity. Given the similarity of findings of this study and those of other studies, it is recommended that the risk of back pain be more precisely identified and that suitable jobs be chosen for different individuals accordingly, in an effort to reduce the incidence of the debilitating complications of back pain.

## INTRODUCTION

Back pain is recognized as the most common cause of adult debilitation in all countries<sup>1</sup>. In Britain, the number of patients presenting to outpatient clinics with back pain has increased by five times and the costs of hospitalization have been two-folded<sup>2</sup>. Back pain poses a challenge both to patients and physicians<sup>3</sup>. It is especially noted in industrialized nations as a common cause of debilitation<sup>5</sup>. There is a statistically meaningful relation between back pain and risk factors such as cigarette smoking, drinking alcohol and physical activity<sup>4</sup>. Since many patients with back pain ultimately undergo surgical treatment<sup>4</sup>, identification and elimination of the causes back pain can lead to improvement of the patients' condition. Back pain has been referred to in different studies as a syndrome which can be prevented by several factors including changes in the patients' lifestyle<sup>6,7</sup>.

Back pain is more prevalent among young men<sup>7</sup>; hence identification of risk factors can contribute to better treatment of patients and their return to normal life. This is a 7-year study of patients with back pain who ultimately underwent surgical treatment.

## MATERIALS AND METHODS

This is a cross sectional 7-year study of 450 patients with back pain who were admitted to Kashani hospital, Isfahan, between 1991 and 1998. The patients' medical records were studied and evaluated in respect of being or not being complete, established diagnosis and sociological indices, i.e. gender, age and occupation. The patients' occupations were classified according to the amount of physical activity involved.

- Group A: occupations which do not involve much physical activity, i.e. clerical occupations.

- Group B: Occupations involving strenuous physical activity and carrying heavy objects, i.e. laborers, and porters.
- Group C: Occupations involving long standing hours, i.e. barbers and military personnel.
- Group D: others

The patients' established diagnoses, as confirmed by pathology and post-operation reports fell into 7 categories, namely intervertebral disc hernia, spinal stenosis, trauma (sprains and fractures), tumors (benign), spondylolisthesis and spondylosis, congenital defects (spina bifida) and psychogenic diseases (spondyloarthropathies and infections). Collected data were analyzed using SPSS software. Central indices and indices of dispersion were defined according to variables.

**RESULTS**

Of the 450 patients with back pain who presented to Kashani hospital between 1991 and 1998, 58.2% were men and 41.8% were women. 40% of patients were aged between 21 and 40 years, 36% were aged between 41 and 61 years, 16.7% were aged 60 years and over and only 3.11% were below 10 years of age. 29.4% of patients had jobs involving excessive physical strain (porters, laborers), 25.5% had clerical jobs and 18.2% had jobs with long working hours. 26.8% of patients had other occupations. Intervertebral disc hernia was the cause of back pain in the majority of patients (53%). Back pain was due to congenital defects of the vertebral column in the minority of patients. Back pain treated with surgery was 1.3 times more frequent in men than in women (Table.1).

**Figure 1**

Table 1: Frequency and percentage of positive surgical findings in patients with back pain

Type of finding	Frequency	Percentage
Intervertebral disc hernia	240	53.33%
Spinal stenosis	57	12.66%
Trauma	50	11.11%
Tumors	45	10%
Spondylosis	12	2.66%
Congenital Defects	5	1.11%
Psychological diseases	41	9.11%

**DISCUSSION**

This 7-year study was conducted in Isfahan's Kashani

Hospital to learn the sociological characteristics of patients with surgically treated back pain. 76% of patients were aged between 21 and 60 years. Only 34% of patients were older than 60 or younger than 20 years. In all countries back pain in the adult population is most prevalent between the ages of 20 to 50. In Britain the costs of treatment and hospitalization due to back pain have doubled in the past decade. Given the statistically meaningful relationship between physical activity and back pain, the higher frequency of back pain in non-industrialized developing countries can be attributed to the intensity of physical activity in such nations. This explains the 52.3% prevalence of intervertebral disc hernia observed in this study. Spinal stenosis which is caused by trauma and aging and depends on the type of occupation was seen in only 12.66% of patients. Hence it can be concluded that unregulated and inappropriate physical activity has caused intervertebral disc hernia in 66% of cases. In this study, back pain was 1.3 times more prevalent in men than in women. This can also be accounted for by men's higher level of physical activity in developing countries. Identification of risk factors such as age, gender and type of occupation and instituting preventive measures, as well as rehabilitation of patients can lead to a meaningful reduction in the incidence of debilitating back pain. In light of the fact that youth constitute the majority of the active work force in the society, it is recommended that risk factors of back pain be more precisely identified in order to accelerate the rehabilitation of affected patients.

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