Some Important Determinants of Chronic Low Back Pain: An Observational Study

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Abstract

Background
Chronic low back pain is a very common phenomenon globally. It is one of the major causes of Disability Adjusted Loss of Years (DALY’s).

Objective
To determine some important determinants of Chronic low back.

Methodology
An observational study was carried out at a private spine clinic amongst the patients with complaint of low back pain. The pre-tested, pre-designed, semi-structured questionnaire was used for collection data.

Statistical Analysis
Mean Standard Deviation, Proportions and Percentages.

Results
Total 652 study participant were participated in study. Amongst the study participants 436 were males and 216 were females. 464 (71.88%) were working in the IT/Software industry followed by 104 (15.95%) were housewife. Majority of study subjects had pain during some activity (40.49%). 176 (26.99%) of the study participants had pain in the morning hours. Prolonged sitting was the most common aggravating factor for the pain. Rest was most common relieving factor. In 284 (43.56%) study participants sleep was disturbed. 224 (34.35%) study participants were using two wheelers. 396 (60.74%) study participants had desktop activity more than 36 hours per week.

Conclusion Recommendation
Male gender, Occupations related to prolonged computer use, use of two wheelers for travelling were the most important determinants. Ergonomics applications, less use of two wheelers should be recommended for avoidance low back pain.

Keywords
Low Back Pain; Determinants; Demographic; Other

Introduction
Chronic low back pain is a very common condition, about 90% of people suffering from it at some point in their lives [1]. In many countries chronic low back pain is the most common cause of long term disability in middle age [2].

Chronic low back pain is a major health problem, not only because of the high prevalence and incidence of low back problems but also because of the important consequences for disability, the use of health services, sickness absence and early retirement [3]. Back pain also
accounts for many lost working days [4, 5]. The problem in developing countries is compounded by ignorance to report for early treatment and occupational compulsions in rural area [6].

According to Borenstein, low back pain should be viewed as a medical disorder, with the goal being to return to regular physical activity as quickly as possible and to enable the patient to receive the most beneficial care at optimal times [7].

This study was carried out with an objective to determine some of the important determinants of chronic low Back Pain.

Materials and Methods
This observational study was carried out in a private spine clinic in Pune city of Maharashtra state, India.

All the patients visiting the clinic with chief complaint of chronic low back pain were informed about the objectives of the study. The patients who had given written informed consent were included in the study. All the study participants were given a self-administered structured questionnaire to which consisted information like demographic details including age, gender, occupation etc and details about the low back pain like timing of pain, aggravating factors, relieving factors, and character of pain. The questionnaire also included personal history of sleep, any addictions. Details regarding travelling, type of vehicle and desktop use were also included in the questionnaire.

Statistical Analysis
The data was entered into the MS-Excel sheet. The statistical analysis included mainly the descriptive statistics like proportions and percentages.

Ethical Aspects
The study was conducted according to Guidelines of the Helsinki Declaration and of Good Clinical Research Practice. The research study was approved by independent ethical committee. All the study participants were told about the nature and outcome of study and written informed consent was taken.

Results
In the present study total 652 patients with low back pain were participated.

Of these 436 (66.87%) were males and 216 (33.13%) were females. Male gender was an important demographic parameter for low back pain.

In the present study, majority of the study participants were from the age-group of 31-40 years that 208 (31.90%) followed by 21-30 years (27.61%). 80 subjects were above 60 years and only 2 were less than 20 years of age. The proportion of low back pain was increasing with age especially found to be higher in middle age-groups.

Majority of the study participants were occupied in Information Technology/Software industry 464 (71.88%), followed by house-wives 104 (15.95%). Others included students, farmers. Jobs related sitting or standing for longer hours had majority of patients.

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Occupation</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>IT/Software</td>
<td>464 (71.16)</td>
</tr>
<tr>
<td>2.</td>
<td>House-wife</td>
<td>104 (15.95)</td>
</tr>
<tr>
<td>3.</td>
<td>Students</td>
<td>40 (6.13)</td>
</tr>
<tr>
<td>4.</td>
<td>Business</td>
<td>32 (4.91)</td>
</tr>
<tr>
<td>5.</td>
<td>Agriculture</td>
<td>12 (1.84)</td>
</tr>
</tbody>
</table>

In the present study pain was experienced mainly during some activity (40.49%) or after the activity (19.02%). Diurnal variation in the pain was also observed. Majority of the study subjects had pain in the morning hours (26.99%) followed by evening hours (14.72%).

Prolonged sitting (46.01%), bending (44.78%), prolonged standing (31.29%) and walking (31.29%) were the most important aggravating factors of low back pain in the current study.

348 (53.37%) study participants preferred to rest to relieve low back pain while 220 (33.74%) study participants used some analgesic medication for relief.
In majority of the study participants (84.05%) aching type of pain was felt.

Sleep was disturbed due to low back pain in 284 (43.56%) study participants.

Two wheeler exclusively for travelling was used by 224 (34.35%) study participants while 252 (38.35%) used both two wheelers and four wheelers for travelling alternatively.

396 (60.74%) of the study participants had desktop activity more than 36 hours per week. It clearly suggested that occupations like IT/Software and prolonged sitting was an important determinant of low back pain in the present study.

### Discussion

Postural back pain is a major public and occupational health. Although medical costs for back pain are high, hidden costs like absenteeism and reduced productivity are significant. Early identification of clinical, psychosocial and professional risk factors is important to prevent the progression to chronic low back pain [8].

The literature on the epidemiology of low back pain is accumulating, but for the most part, studies are restricted to high-income countries, therefore little is known about the epidemiology of LBP in the rest of the world [9].

In India majority of the studies conducted on low back pain are related to occupational health. The studies on general population or patients visiting to the out patients departments of the hospitals or clinics are negligible.

As per the hospital based study conducted by Sharma et al, Out of 11234 patients reporting to our outdoor during June 2001 to June 2002, 2594 patients (23.09%) had low back pain, amongst the low back pain patients, 67% had psychosocial issues, 57% were in blue-collar jobs, 26% had to change/leave their profession, and 38% did not enjoy their present job [6].

### Conclusion and Recommendation

To determine the various parameters in chronic low back pain patients is extremely essential in formulating the strategy for management and prevention of low back pain. Present study stress on important demographic, occupational and other predictors of low back pain in general population. Major prospective studies covering large population are recommended for determining more predictors of chronic low back pain.

### References


