

## Evaluation Of Prevalence Of Occupational Low Back Ache Among The Patient Attending The Tertiary Care Hospital

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Received: 17-12-2020 / Revised: 19-101-2021 / Accepted: 15-02-2021

### Abstract

**Background:** Low back pain is an silent epidemic. There is an increased prevalence of Low back pain among working population in developing countries. Increased forward bending and lifting heavy weight appears to be a significant risk factor, other being bad posture and weak core muscles. **Aim:** To evaluate the prevalence of low back ache among the patient attending our OPD. **Materials and Method:** Observational study was carried out in a tertiary care center and patients visiting the orthopedics OPD with back pain were asked about their work profile, age, sex, nutritional status and off duty work hours. **Result:** Overall incidence of low back pain in industrial workers was 43.92% among which 26.59% patients had back pain for more than 6 weeks. Low back pain causes major disability than any other disease. **Conclusion:** It is one of the major cause for economic burden in developing countries. Better understanding of the work physiology and better back ergonomics can significantly reduce the incidence and prevalence of the disease.

**Keywords:** Low Back pain (LBP), Industrial workers, Occupational, Prevalence.

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### Introduction

Pain is a subjective sensation and an unpleasant emotional state felt in the mind, but identifiable as arising in a part of the body. Low back pain (LBP) is one of the most common complaint with which patient presents to the outpatient department. This disorder has many etiologies and can occur as a sign of an underlying pathology or could be the disease itself. It is a major cause of morbidity among industrial workers. Several studies[1-4]. have reported its incidence in general population and in other occupational settings. Low back pain is the most common work related disorder and around 40% of industrial workers are affected. Because of this high prevalence the World health organization named the first decade of the third millennium as the “decade of campaign against musculoskeletal disorders (as the silent epidemic)” (WHO, 2005). Work-related factors associated with LBP are physical and psychosocial in origin.<sup>5,6</sup>The workers in the industries have to lift heavy weights, stand for prolonged hours and with the bad back ergonomics are susceptible to develop LBP. The office staff due to prolong sitting in incorrect posture are at high risk of developing work related musculoskeletal disorders. The aim of this study was to find out the prevalence of low back ache among the patient attending our OPD and to find out the preventive measures for the same. Epidemiological studies report that the lifetime incidence of Low Back Pain (LBP) in Industrial workers to be approximately 60%. Epidemiological studies report that the lifetime incidence of Low Back Pain (LBP) in Industrial workers to be approximately 60% (Sevenson and Anderson, 1983; Lee et al, 2001)

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### Materials and Method

This prospective study was conducted at Department of Orthopedics, Nalanda Medical College and Hospital, Patna. The study was approved by institutional research and ethical committee. An informed and written consent was taken from all the participating subjects before the commencement of the study. The study was conducted over a period of one year from January 2019 to December 2019. The patients of low back pain at our institution belongs mainly to industry and/or are daily wage agricultural field workers. The study sample consisted of OPD patients reporting to the department of Orthopedics at Nalanda Medical College and Hospital, Patna with a chief complaint of Low Back Pain. All the patients coming were asked about chief complaint being low back pain. Low back pain was defined as lumbosacral pain, occurring below the 12th rib and above the gluteal folds[7,8]. The Patients falling under industrial category were asked questions based on self structured questionnaire. The questionnaire sought information on identification, demographic information, prevalence, posture, severity, back hygiene, duty hours, work profile, nutritional status, off duty status, and duration of LBP. The observation was made twice a week for 1 months (8 OPD sessions). All the patients were started on oral analgesics, physiotherapy sessions and those with severe pain and radiculopathy were evaluated further. Patients were followed up after 2 weeks and asked about the pain relief, Off duty hours and recurrence of similar pain. Patients were also asked about previous hospitalization for back pain. The data was tabulated and was subjected to statistical analysis using SPSS Software, Version 11.0.

### Results

There were in 1072 patients in total coming to the orthopedics OPD in 8 days, with an average of 134 patients per day (Table-1)

Table 1: OPD Patients

Day	Patients	Low backpain (Overall)	Patients working in industries	Agriculture worker	Percentage of patients of LBP among General
1	121	36	12	24	33.33%
2	105	18	11	7	61.11%
3	115	31	08	23	25.8%
4	136	22	14	08	63.63%
5	149	21	18	03	85.71%
6	127	26	17	09	65.38%
7	148	28	3	25	10.71%
8	171	32	11	21	34.37%
Total	1072	214	94	120	43.94%
Average	134	26.75	11.75	15	

The overall mean incidence of Low back pain among general patients was 19.96 % and out of those 43.92 % patients were industrial workers. All the industrial workers were male. Among the general population presenting to OPD with low back pain 39% were females (Graph - 2), and among that 61 % females were in age group of 25 to 65 years and 8 % above 65 years. Among the industrial workers presenting with LBP, maximum were among middle age group (25 to 45 years). 26.59 % industrial patients had back pain for more than 6 weeks and were subjected for further evaluation. 44% patients had pain for less than 2 weeks. 56 % of the patients had resolution of their back pain with course of analgesics and physiotherapy sessions. 18 % of the patients have taken self medication for back pain in past. In the work profile 71.28 % patients were involved in lifting heavy weights or working with machines in bent posture for prolonged hours (n=67) and 28.72% (n=27) sitting in offices. Among the acute event of back pain for less than a week; maximum patients were from the high physical demand work category. In physiotherapy clinic patients were taught about back ergonomics, back strengthening exercises, correct posture, and changes related to posture for specific work. The Overall admission rate for low back pain (current or past) among industrial patients were around 18%. Average workers with off duty hours of 1 week or more in past 6 months was 22.34% (n=21)

#### Discussion

LBP is a common problem in the working population in a developing country. Age, gender and work related profile with psychosocial factors influence the prevalence of LBP. In studies [9], lifting heavy machineries, prolonged sitting position and repetitive work were significant risk factors for LBP but lifting heavy weight significantly increased the risk of acute event of LBP among industrial workers. Among the psychosocial exposures, working continuously in the same posture remains to be a risk factor for LBP. This study suggests there is an etiological role of work strain for LBP. The prevalence of LBP was higher among the workers with high physical demand work as compared to sitting in office for prolonged hours. The results showed that high work demands, monotonous work profile, job strain, less job satisfaction were associated with both increased LBP prevalence and increased off duty hours. Smoking as a risk factor for LBP studied extensively [10]. Studies have found that smoking is associated with increase disc degeneration and thereby increasing the risk of low back pain. In a review, Lebouef-Yde C [11] suggested that smoking should be considered a weak risk factor but not a cause of LBP. In our study we did not consider smoking as a factor and that may be the limitation. The increased off duty hours increase the overall economic burden of the disease and also reduces the overall work satisfaction. In the developing world there has been a transition in the workforce from old, unskilled and uneducated workers to young educated males. This has changed the exposure at work and

the relationship between the employer and the employees. Industries should make newer policies and must spread awareness to create a good working environment and thereby leading the industrial and economical development.

#### Conclusion

It is one of the major cause for economic burden in developing countries. Better understanding of the work physiology and better back ergonomics can significantly reduce the incidence and prevalence of the disease.

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**Conflict of Interest: Nil**

**Source of support: Nil**