JIOM Nepal. 2020 Dec;42(3):87-91.

Clinical Profile of Patients Presenting with Low Back Pain to Out Patient Department of a Tertiary Level Hospital

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Submitted : Oct 13, 2020
Accepted : Dec 5, 2020

ABSTRACT

Introduction

Low back pain is experienced by most of the people at some point of life. In our setting, there are very limited data on low back pain. This study aims to elaborate demographic and clinical profile of patients presenting to outpatient department of Orthopedics, in Tribhuvan University Teaching Hospital with complaints of low back pain.

Methods

A descriptive cross-sectional observational study was carried out in 150 patients who presented with complaints of lower back pain in outpatient department of Orthopedics of TU Teaching Hospital from May to November 2019. The demographics including age, gender, occupation, and clinical data- duration of symptoms, body mass index, VAS score and radiculopathy along with Body Mass Index of each patient were recorded in a proforma separately.

Results

Out of total 150 patients, male: female ratio was 1:1.9. The average age of patients was 42.1 years The average height, weight and body mass index of patients were 157 cm, 61.81kg and 24.83kg/m2 respectively. The mean visual analogue score of patients was 5.41. Occupationally, predominant number of patients were housewives (41.3%). Seventy nine patients (52.7%) had low back pain alone. Seventy one patients (47.3%) had low back pain associated with radicular symptoms, out of which 74.6% had unilateral radiculopathy.

Conclusion

Low back pain is most commonly seen in fourth decade of life. More females as compared to males are affected with low back pain. The radiculopathy associated with low backache is mostly unilateral.

Keywords

Body mass index, low back pain, radiculopathy, visual analogue score

INTRODUCTION

Low back pain (LBP) is the commonest orthopaedic problem. About 20-30% of the new referrals in the orthopaedic outpatient clinic are the cases of low back pain.[1]

It is most prevalent between the ages of 25 and 55. Between 60-80% of the general population will suffer from low back pain someday and that between 20-30% are suffering from it at any given time.[1,2] The annual worldwide LBP incidence in adults has been reported to be 15% and point prevalence 30%.[3] Males are more likely to incur back pain than females but females may be more likely than males to have low back pain that lingers into chronicity.[4]

The prevalence of low back pain has been found to increase with age and to be more common among females in the geriatric age group. Various physical factors such as lifting heavy weights, repetitive job, prolonged static posture, awkward posture, and obesity have been found to be associated with low back ache.[5]

In accordance with the report of World Health Organization in 2002, low back pain constituted about 37% of all the occupational risk factors which occupies the first rank among the disease complications caused by work. Low backache is the most common health problem in the United States and is the leading cause of disability for persons younger than age 45. The prevalence of low backache in Indian population has been found to vary between 6.2% (general population) to 92% (construction workers).[5-8]

There are regional variations in its patterns of presentation around the globe. There are only a few studies on demographic and clinical aspects of low back pain in Nepal. This study was carried out to elaborate demographic and clinical profiles of patients presenting with low back pain to the tertiary care hospital.

METHODS

The study was descriptive cross-sectional observational. The study was conducted after obtaining approval from Institutional Review Committee (IRC) of Institute of Medicine. It was performed in the outpatient department of Orthopedics and trauma surgery in Tribhuvan University Teaching Hospital. The study period was of six months – from May to November, 2019. The sample size was 150 patients. All patients of age more than 16 years presenting with low backache were included in the study. Patients with history of spine trauma, history of spine operations and the patients with obvious spine deformity were excluded from the study.

Written consent was taken from all the eligible patients. Proforma was filled for each patient separately. Demographics of the patient with name, age, sex and occupation were recorded. Duration of symptoms prior to presentation was noted. Then the height (in cm) and weight (in Kg) measurements were taken. Body mass index (BMI) was calculated using the formula: weight in kg/(height in meter)^2. Radiculopathy symptoms was asked for, along with its laterality (right / left / bilateral). For assessment of pain, visual analogue score (VAS) score was used.

RESULTS

Among the 150 patients, 52 patients (34.7%) were male and 98 patients(65.3%) were female. The minimum and maximum age of patient were 19 years and 85 years respectievely. The mean age of the patient was (42.11±13.376) years.The average age of male and female patient were (39±11.67) years and (43.76±13.972) years respectively. 32 patients (21.3%) were seen in age group of (36-40) years followed by 21 patients(14%) in (31-35) years and 17 patients (11.3%) in (41-45) years (Figure 1). The maximum number of male patient 11(21.2%) and female patient 21 (21.4%) were seen in age

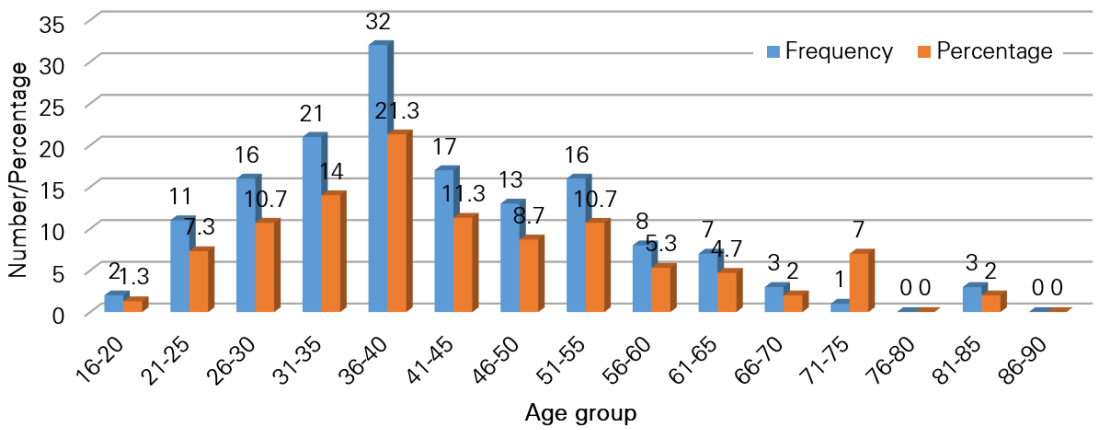

Fig 2. Bar diagram of age distribution according to group

Table 1. Visual Analog Scale (VAS) rating of pain according to sex

Sex	Num.	Visual analog scale pain rating		
		Min	Max	Mean
Male	52	4	8	5.63±0.97
Female	98	3	8	5.30±0.98

group of 36-40 years.

The minimum and maximum height of the patients were 120 cm and 180 cm respectively. The average height of the patient was 157±8.74 cm.The average height of male and female patients were 164±6.64 cm and 154±8.04 cm respectively.

The minimum and maximum weight of the patients were respectively 40 kgs and 98 kgs. The mean weight of the patient was (61.81±9.78)kg.The average weight of male and female patients were 65.87±10.55 kg and 59.65±8.64 kg respectively.

The minimum and maximum BMI of the patients were 15 kg/m² and 38 kg/m² respectively. The mean BMI of the patients was 24.83±3.81 kg/m².

Eighty three (55.3%) patients had normal body mass index. The number of patients seen in overtweight and obese categories were 50 (33.3) and 12 (8%) respectively. The mean BMI of males and females were 24.82±3.81 kg/m² and 25.10±3.96 kg/m² respectively.

The minimum and maximum VAS score for pain of the patients were 3 and 8 respectively. The mean VAS score of the patient was 5.41±0.99. The meanVAS score of male and female patients were 5.63±0.97 and 5.30±0.98 respectively (Table 1).

Occupationwise, 62 patients (41.3%) were housesives, 24 patients (16%) were farmers, 23 patients (15.3%), and 16 patients (10.7%) were associated in business and services respectively.

The number of patients in acute, subacute and chronic groups were 17 (11.33%), 41 (27.33%) and 92 (61.34%) respectively. The patients with low back pain alone was 79 (52.7%). The patients with radicular symptoms were 71(47.3%) which on Right side was 32 (21.3%), left side 21 (14%) and both sides 8 (12%).

DISCUSSION

Back pain appears to be an inevitable accompaniment of the human lifecycle. Most of the people experience back pain at some stage during their life, and this pain is sufficient to cause an alteration in lifestyle for at least a period of time and drives individuals to seek some form of treatment.[9] The prevalence of low back pain has been found to increase with age and to be more common among females.

Considering prevalence of back pain in male and female, 34.7% of our patients were male and 65.3% were female. In similar study by Shakoor et al[10], among 102 patients, 42 were male and 60 females. Similarly, in the study done by Shirado et al[11], among 182 patients, 74 were males and 108 female; and in that by Gupta et al.[9], in 200 patients, 106 male and 94 female. In our study back pain was seen more in female patients which was similar to study by Shirado etal[11], Shakoor et al.[10], but in study by Gupta et al[9],there was slight male predominance. The incidence of LBP in female patients may be due to female being more involved in activities that may require repeated bending,prolonged standing or household activities like washing, cooking or farming.

In our study the number of the patients in the age group of 31-50 was 83 (55.3%). The number of male and female patients in the same age group were 31 (59.7%) and 52 (54.3%) respectively which was similar to the study of Vijay Vikas et al[12], in which the total number of patients in 31-50 years age group was 53.33% where male and female patients in same age group were 51.04% and 55.95% respectively. The reason behind the back pain in this age group was that the bone mineral density of spine vertebra starts decreasing along with women attaining of menopause and their involvement in various strenous or sedantary job activities.

The mean age, height and weight of the patients in our study were 42.1 years, 157 cm and 61.81 kgs respectively.The mean age, height and weight of patient in the study done by the Shakoor[10] et al, were 42.22 years, 158.86 and 62.92 kgs respectively.The similarity in the findings may be due to the same geographical location and racial predilection.

The mean BMI of the patients was 24.83 kg/m². 83 (55.3%) of patients had normal body mass index. The number of patients either over weight or obese was 62 (41.3%). In a study by Ram Das et al.[13] conducted in year 2016-18 in 206 patients in India, found that 92 patients (44.7%) were either obese or overweight. The reason behind the common occurrence of low back pain even in the patients with normal BMI as found in our study may be because the patients are involved in activities like bending, carry heavy load and also in sedentary jobs.

The number of patients in acute, subacute and chronic groups were 17 (11.33%), 41 (27.33%) and 92 (61.34%) respectively. In a similar study done by Ramdas J et.al.[13] in Indian population found that acute low back pain was prevalent in 15.1%, subacute pain in 11.1% and Chronic low back pain in 73.8% which was quite similar to our study. Maximum number of patients presented with chonic back pain because the patients visit to hospital only

after the pain is intolerable or if it hampers the daily activities. In a study done by Maiga et. al[14] in French population, the back pain was acute or subacute in 19% and chronic in 88.8% of patients. They had slightly higher percentage of patient in chronic low back pain group which might be due to relatively small sample size of their study.

In our study, 79 patients (52.7%) had low back pain only . The remaining 71 patients (47.3%) had associated radicular symptoms out of which 32 patients (21.3%) had right sided radiculopathy, 21 patients (14%) had left sided radiculopathy 18 patients (12%) had bilateral symptoms.

In a study by Omoke and Amaraegbulam[15] in 291 patients, in Nigerian Teaching Hospital, 125 patients (43%) had low back only, 66 patients (57%) had associated radicular symptoms which on both limb was 66 (57%),right limb was 49 (16.8%) and left limb was 48 (16.5%).

Similarly in a study by Gupta R. et al[9] done in 2017, in a Tertiary Care Hospital of Jammu, Jammu and Kashmir, India 35% of the cases had low backache only.65% of the cases had low back pain with radiation to lower limbs. The radiculopathy was unilateral in 46% of the cases and bilateral in 19% of the cases.

In a study by Vijay Vikas et.al[12] carried out in 1800 OPD patients in Jammu in year 2013-14 found that 38% of cases presented with low back pain only and 65% cases presented with LBP with radiculopathy either unilateral or bilateral.

In our study, the number of patients with backache, and the patients with backache and radiculopathy were nearly comparable but in study by Omoke and Amaraegbulam[15],Gupta R.et al[9] and Vijay Vikas et.al study[12] patients presenting with backache and radicular symptoms were more predominant. The result of our study is comparable with the findings of other studies where backache is more predominant. The reason behind this may be that the maximum number of patients were in the age group of 36-40 yrs when pathologies causing backache only like degenerative disc disease is more common.[9]

In our study 62 (41.3%) of the patient were housewives, 24 patients (16%) were farmers 23 patients (15.3%) were in business, 16 patients (10.7%) in service and 13(8.7%) patients were laborers. In study done by Shakoor et al[10], back pain was more commonly seen in housewives (58.8%) followed by service holder(19.6%), business(10.8%) and laborer (6.9%).

In the study by Rahman et al[16] done in year 1999 at Barisal, Bangladesh with 342 clinical cases of low back pain, it was found the patients of low back pain, the common occupations were students (23.9%), housewives (16.96%), laborers (10.82) and business (9.95%)..

In Ramdas J et.al[13] study, most of the patients of low back pain were laborers (79 patients, 38.3%) followed by farmers (48 patients,23.3%) and then housewives (22 patients, 10.7%).

The reason behind LBP mostly in housewives and farmers in our study may be due to repetitive household activities which involve lifting weights and bending for a longer period of time.

In our study we had minimum VAS score of three and maximum of eight with a mean value of 5.41±0.99. This value is similar to a study done byYasuchika A. et al[17] in Japanese population which had a mean VAS score of 5.0±2.4.We had a wide variation of VAS score because patients with both acute and chronic backache were included in the study.

The limitation of study was small sample size, short study period and few clinical parameters being considered. The principal investigator was also unblinded and it could have lead to observer bias. Further study could be done with larger sample size and longer duration and with evaluation of more number of or more representative results.

CONCLUSION

Low back pain is more commonly seen in housewives in their fourth decade of life. The radiculopathy associated with low backache is mostly unilateral.

CONFLICT OF INTEREST

None declared.

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