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Original Research Article

Prevalence and risk factors of low back pain

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ABSTRACT

Background: Low back pain is one of the most common health problems among all the population of the world. Men and women are equally reported to be affected by this condition. Of late, there has been rising incidence of LBP among many young adults and children, which is of concern. There have been a few studies regarding LBP but very few in this part of the world. This study was hence conducted to assess the prevalence of lower back pain among the young adults in our area.
Methods: Detailed demographic picture was taken from all the patients which included the age, gender, smoking and alcoholic status, socio economic status, travelling, type of work, hours at work. Type and duration of sport, history of previous LBP, the intensity of pain, way it is relieved, duration of pain, i.e. the frequency of pain in a day are also taken into account.
Results: The most common age group to be affected among the males was 31-40 years of age, where 38.6% were affected, while amongst the female the most common age group to be affected was 41-50 years with 38.1%. Most of the patients has strenuous physical exercise on daily basis for long period of time (70.9%). 58.3% patients were under stress and anxiety, while 56.3% lifted heavy weights regularly. 44.7% persons were either overweight or obese and had LBP due to the excess weight, while 28.6% had LBP due to sitting for long periods.
Conclusions: This study shows that lower back pain is prevalent among all the age groups, especially among the younger adults. Identification of predisposing factors among the individuals which cause LBP can lead to diagnosing the condition at the earliest and preventing chronic pain, thereby improving the quality of life.

Keywords: Low back pain, Prevalence, Risk factors, Young adults

INTRODUCTION

Low back pain is one of the most common health problems among all the population of the world. Most people experience low back pain at some point of their lives.[1] Although most of the people recover from the pain quickly, the disability which is the result of such pain most often leads to a limited range of activity among the adults, which is only next to arthritis.[2]

The prevalence of low back pain has been reported among many people especially when resulting from work related and occupational activities.[3,4] 75-84% of the general population suffer from low back pain and among them, it is estimated that 5-10% of the people experience LBP resulting in severe morbidity, increased health care costs, sick leaves and individual suffering.[5-7] It is also one of the common reasons for a person to seek medical help.[8-10]

Men and women are equally reported to be affected by this condition. 50% of adults and 30% of adolescents are said to be affected at least once.[11] Of late, there has been rising incidence of LBP among many young adults and children, which is of concern.[12] Sports and physical

activity is one of the main factors causing LBP.[13] It was also reported that children below 14 year of age who experienced LBP, got it in more severity before 25 years.[14] Other risk factors which contribute towards a LBP is obesity and a positive family history apart from depression, stress and anxiety.[15-18]

There have been a few studies regarding LBP but very few in this part of the world. This study was hence conducted to assess the prevalence of lower back pain among the young adults in our geographical area.

METHODS

This study was conducted by the Department of Medicine at Bhaskara Medical College from July 2016 to May 2018. 206 adults between the ages of 18-65 years were included into the study. After clearing the study from the institutional ethics committee and attaining the informed consent from all the participants in the study, detailed demographic picture was taken from all the patients which included the age, gender, smoking and alcoholic status, socio economic status, travelling, type of work, hours at work. Type and duration of sport, history of previous LBP, the intensity of pain, way it is relieved, duration of pain, i.e. the frequency of pain in a day are also taken into account. Height, weight of all the patients were noted and the BMI was calculated.

Statistical analysis

All this data collected was analyzed as proportions and percentages using sigma-plot version 13. The statistical methods used were ANOVA, t test and chi square test.

RESULTS

Out of the 206 individuals in study, 88 (42.7%) were males and 118 (57.3%) were females (Figure 1).

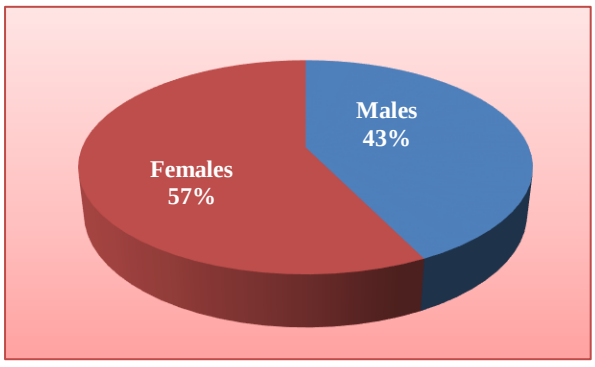

Figure 1: Sex wise distribution of patients.

The most common age group to be affected among the males was 31-40 years of age, where 34 (38.6%) were affected, while amongst the female the most common age group to be affected was 41-50 years with 45 (38.1%), followed by 31-40 years in 31 (26.3%) were affected (Table 1).

Table 1: Age wise distribution of patients.

Age (years)	Males (n=88)	Females (n= 118)
18-30	22 (25%)	14 (11.9%)
31-40	34 (38.6%)	31 (26.3%)
41-50	21 (23.9%)	45 (38.1%)
>50	11 (12.5%)	28 (23.7%)

Most of the people under study were married (90.8%). 86 (41.7%) were educated upto primary school level, while 29.6% were illiterate. Very few patients (7.3%) were educated above high school level. Many of the patients were labourers, carrying heavy weights (38.3%), while 23.3% were farmers, who were also involved in lifting weights as well as bending from waist for a longer period of time (23.3%). 15.1% were drivers such as taxi and lorry drivers. 51.5% of the people were nonsmokers while 85.9% were alcohol consumer, either on regular basis or occasional. Most of the persons took beverages such as coffee or tea on a regular basis (Table 2).

Table 2: Demographic details of patients.

Parameter	Number	Percentage
Marital status		
Married	187	90.8%
Unmarried	19	9.2%
Education		
Illiterate	61	29.6%
Primary school	86	41.7%
High school	44	21.4%
College and above	15	07.3%
Occupation		
Housewives	22	10.7%
Labourers	79	38.3%
Farmers	48	23.3%
Drivers	31	15.1%
Sitting job	26	12.6%
Food habits		
Vegetarian	11	5.3%
Non-vegetarian	195	94.7%
Smoking		
Regular	8	3.9%
Occasional	92	44.7%
Never	106	51.5%
Alcohol consumption		
Regular	64	31.1%
Occasional	113	54.8%
Never	29	14.1%
Coffee / tea intake		
Regular	168	81.6%
Occasional	26	12.6%
Never	12	5.8%

Table 3: Time and duration of pain.

	Number	Percentage
Period of pain		
Recent	31	15.1%
1month	23	11.2%
1year	133	64.6%
>3 years	19	9.2%
Position of pain		
Back	39	18.9%
Low back	124	60.2%
2th rib to gluteal folds	43	20.9%

133 (64.6%) of the patients had LBP for around 1 year followed by 11.2% of the patients who had it for 1 month or more. 9.2% of them were suffering with for over 3 years. For 124 (60.2%) of the patients, the position of the pain was in the lower back only while, 43 (20.9%) the pain radiated from 12th rib upto lower gluteal folds (Table 3).

Most of the patients had strenuous physical exercise on daily basis for long period of time (70.9%). 122(58.3%) patients were under stress and anxiety, while 116 (56.3%) lifted heavy weights regularly. 92 (44.7%) persons were either overweight or obese and had LBP due to the excess weighs, while 59 (28.6%) had LBP due to sitting for long periods (Figure 2).

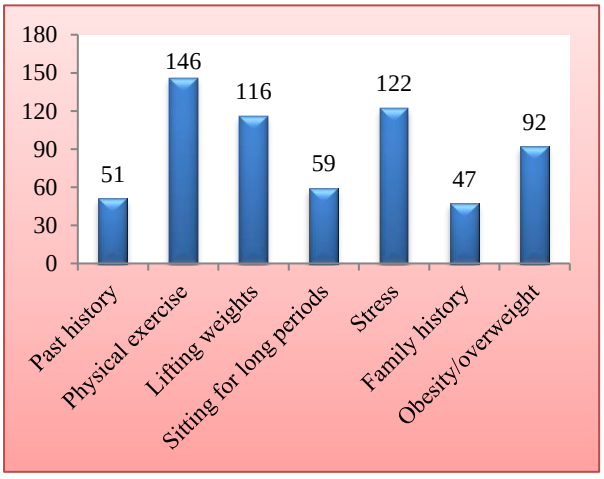

Figure 2: Risk factors for LBP.

DISCUSSION

Lower back pain is one of the common causes for frequent visits to hospital, as well as absence from work and activity.[19,20] It results in financial stress due to frequent hospital visits and mental and physical stress to the individual and his family. LBP has been reported from throughout the world, both developed and developing countries alike.[21,22]

Although LBP occurs at any time, to anybody, in our study, we found it to be more prevalent among the females rather than the males. 30-50 years age group seemed to be affected mostly. Present study was corroborated by a study by Hoy et al, who observed females to be more affected by back pain than males.[1] Hestbaek et al, in their study observed the annual prevalence of LBP among the young adults to be 32.4%, while a higher incidence of 42.4% was observed in a study by Ganesan et al.[23,24] Kopec et al have reported that the incidence of LBP was more common in the 3rd decade of life.[25] It was also observed that early incidence of the condition led to the progression of the disease to a chronic one, resulting in more morbidity to the patients.[14] Low prevalence of LBP in this age group is said to be associated with the occupational as well as domestic pressures that overload the lower back along with the degenerative articular process shown after 30 years of age.[26]

In present study, we had found no significant association with the marital status, socioeconomic background or literacy to LBP. However, in a study by Freburger et al found LBP to be more common among the lower socioeconomic strata of people.[27]

The most common risk factors for LBP in present study were physical exercise and stress. Lifting weights, obesity and sitting for long periods were also some of the risk factors. Sedentary life style especially due to sitting at computers for long period of time as reported by few authors contributed to the lower back pain, thus corroborating our study.[28-30] Obesity is known to promote overloading of the articular structures of the lumbar spine, thus causing predisposition to degeneration resulting in LBP.[26]

CONCLUSION

This study shows that lower back pain is prevalent among all the age groups, especially among the younger adults. The predisposing factors for this condition are obesity, carrying weights, stress, sitting in a position for a long period of time, etc. Identification of these predisposing factors among the individuals can lead to diagnosing the condition at the earliest and preventing choniciy of the pain, thereby improving the quality of life.

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