Cross-Sectional Study

Identifying Risk Factors and Health Concerns Associated With Chronic Low Back Pain Among Northern Indians: A Community-based Study

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Disclaimer: There was no external funding in the preparation of this manuscript.

Conflict of interest: Each author certifies that he or she, or a member of his or her immediate family, has no commercial association (i.e., consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted manuscript.

Manuscript received: 02-23-2023
Revised manuscript received: 03-31-2023
Accepted for publication: 04-28-2023

Free full manuscript: www.painphysicianjournal.com

Background: Chronic low back pain (CLBP) is a common and significant cause of disability globally. In their lifetime, 70% to 80% of adults will have low back discomfort at some point. Even though CLBP is a very disabling disorder, information about its prevalence and associated factors is sparse in the literature

Objectives: We aimed to determine the prevalence of CLBP and its risk factors among an adult population, as well as related health concerns and health-seeking behaviors.

Study Design: Cross-sectional study.

Setting: A tertiary care setting in Chandigarh, India from November 2017 through February 2020.

Methods: Adults of either gender who provided informed consent were included in the study. Sociodemographic and CLBP awareness data were collected using a standard questionnaire. Prevalence was expressed as proportion of sample, with 95% CI. For categorical and quantitative data, the χ^2 and independent t test were utilized. Logistic regression was applied to identify significant risk variables and outcomes. A *P* value of ≤ 0.05 was considered significant.

Results: A total of 2,847 patients were enrolled, with a mean (SD) age of 38 (14) years; 61% of them were men. These patients had a CLBP lifetime prevalence of 16% (95% CI, 15-17; 457/2,847). In addition, 62% (285/457) of these patients visited their doctor/physician more than 10 times and 23% (103/457) sought the advice of 2 physicians to treat their CLBP. Increasing age (odds ratio[OR], 1.040, 95% CI, 1.032-1.049; $P < 0.001$), being underweight (OR, 3.315; 95% CI, 1.494-7.359; $P < 0.003$) and increasing pain frequency (OR, 1.616; 95% CI, 1.139–2.293; $P < 0.007$) were identified as potential CLBP risks.

Limitations: The study was carried out in a single tertiary hospital in northern India; hence its results cannot be extrapolated. Also, we were unable to categorize CLBP based on how severe the symptoms were, such as complaint-only or debilitating.

Conclusion: An effective, supervised program addressing the younger productive population to maintain a healthy weight, give up smoking, and encourage an active lifestyle should be implemented.

Key words: Chronic low back pain, prevalence, health concerns, risk factors, public health

Pain Physician 2023: 26:E549-E556

Low back pain (LBP) is of momentous significance as a public health issue worldwide, accounting for the most years lived with disability when compared with other illnesses and health problems. The 2013 Global Burden of Disease Study (1) estimated that about 80 million years lived with disability are

associated with LBP. Clinically, specific LBP manifests as symptoms brought on by particular pathophysiologic mechanisms, such as an infection, a fracture, rheumatoid arthritis, a herniated nucleus pulposus, rheumatoid arthritis, osteoporosis, or carcinoma (2). Patients who are experiencing a new episode of low back pain, or acute LBP, are likely to recover within a few days to weeks. However, nearly 25% of those who seek primary care develop chronic LBP (CLBP), or pain that persists for more than 3 months (3).

CLBP is the arduous and severe form of LBP, having a poor prognosis (4), and is responsible for most health-related costs and health burden (5,6). According to the 2017 Global Burden of Disease Study (7), LBP occurrences rose by 52% between 1990 and 2017, constituting 73.4% of musculoskeletal disorders. Between 1992 and 2006, CLBP has increased more than twofold in the United States (8). Recurrences of LBP are also frequent, with lifetime recurrence rates of up to 85% and proportions of recurrent LBP events ranging from 20% to 44% within a year in those who are employed (9).

The chronic condition is difficult to treat, and the therapies available to manage it are modest (10). Several studies have identified that patients with CLBP are inclined to seek pain relief through surgical procedures (11), spinal injections (12), and opioids (13). Additionally, studies have shown variations in visits to doctors and chiropractors, as well as physiotherapy, and the use of prescription medications (14). A significant increase in health care expenditures is anticipated to be driven more by chronic than acute LBP, since patients with CLBP are much more likely to receive medical treatment (15) and use more health care services (16). The higher prevalence of CLBP, increasing proportion of those with CLBP who receive care, an increase in the usage of those who do seek care, or more than one of the aforementioned factors combined may all contribute to greater health care utilization in CLBP (17). An understudied contributing component is the rising prevalence of CLBP.

Even though CLBP is a highly disabling condition, information about its prevalence and associated factors is sparse in the literature. Estimates on the prevalence of CLBP at the national or state level, as well as information on the risk factors for the disease in the Indian population, are lacking. Our cross-sectional study tried to fill this gap in the literature by concentrating on a community-based population of northern India while attempting to determine the prevalence of CLBP and the numerous risk factors associated with it.

Methods

Study Design and Setting

Cross-sectional research was carried out in a tertiary care hospital located in Chandigarh (a union territory in northern India) from November 2017 through February 2020. Adults of either gender who provided informed consent and were willing to participate in the study were included. The sample size calculation was done at an exposed : nonexposed ratio of 1:1, with a statistical power of 80% and confidence interval of 95%, assuming a nonexposed prevalence of 3%, the capacity to determine prevalence risk ratios of 2.0, and a design effect of 1.5.

Data Measurement

To determine the lifetime prevalence of CLBP, a standardized questionnaire was devised, which was employed to collect information about the respondents' sociodemographic, illness features, and CLBP awareness. Age standardized lifetime prevalence was estimated by direct standardization with respect to the November 2019 Report of The Technical Group on Population Projections, National Commission on Population, Government of India (18).

The pattern of pain was identified to be either continuous or intermittent. A 5-point scale was used to measure the level of pain, with the following responses: none, slight, moderate, severe, and excruciating. A numeric rating scale was used to assess pain intensity in 11 points, with 0 representing "no pain" and 10 representing "severe pain." Frequency of pain was reported as "approximately once a week," "less often than once a month," "several times a week," "approximately once a month," "daily," "several times a month," and "all the time."

We included questions regarding the number of doctors who treated their pain, frequency of consultation, reason for visiting more than one doctor, and how satisfied the patient was with the doctor's approach. Our study assessed whether the patient had tried other methods/remedies/treatments apart from medication as well as the patient's beliefs about how successfully therapies relieved pain. The consequences of CLBP, like absence from work, medical treatment, and limitation of sleep, daily activities, and social activities was also assessed.

Ethical Clearance

The study was authorized by the Institutional Ethics Committee (IEC) of Postgraduate Institute of Medi-

cal Education and Research, (No. PGI/IEC/2014/P-514) Chandigarh, India.

Data Analysis

Data were transcribed into Microsoft Excel 2019 (Microsoft Corporation) and imported to SPSS Statistics 26.0 (IBM Corporation) for statistical analysis. With a 95% CI, prevalence was reported as a percentage of the sample. Analyzing categorical and quantitative data was done using the χ^2 test and an independent t test, respectively. Stepwise logistic regression was employed to determine significant risk factors associated with back pain; predictors included age, gender, body mass index (BMI), smoking, alcohol consumption, pain intensity, and frequency of pain. We utilized *P* value, standard error, 95% CIs, and the Wald test; outcomes are represented as OR with 95% CI. A *P* value ≤ 0.05 was deemed as statistically significant all through the study.

Results

Demographics

A total of 2,847 patients were enrolled in our study after fulfilling inclusion and exclusion criteria. The mean (SD) age was 38 (14) years old with more than half distributed in the age group of 30-60 years. Men outnumbered women with nearly 2 to one (61% men, 31% women, *% did not report a gender). The majority (70%) had a normal body mass index (BMI), while 20% were overweight, making for a mean (SD) BMI of 22.9 (3.3). The patients enrolled were from varied educational and occupational backgrounds, with one-third being graduates/post graduates and 80% of the women being a housewife/unemployed. The socioeconomic status based on Kuppuswamy's classification showed that 38% of the patients were under lower middle (III) class. The vast majority of patients (more than 70%) had never smoked or used alcohol (Table 1).

Prevalence

The lifetime prevalence of CLBP was found to be 16% (95% CI, 15-17; 457/2,847) and that of LBP was 52% (95% CI, 50-54; 1,479/2,847) which meant that 31% (95% CI, 29-33; 457/1,479) of those who were diagnosed with acute LBP later developed a chronic condition and 31% (95% CI, 28-33; 455/1,479) developed recurrent LBP. Women reported a higher rate of chronic prevalence (21%; 95% CI, 19-24; 237/1,115) than men (13%; 95% CI, 11-14; 220/1,732). Women predominated when it came to LBP prevalence as well

Table 1. *Demographic details of the total population.*

Characteristics	Total n = 2847	Men 1732 (61%)	Women 1115 (31%)	*P* value
Age, years, mean (SD)	38 (14)	37 (14)	39 (14)	< 0.001
Height, cm, mean (SD)	168 (8)	171 (7)	163 (8)	< 0.001
Weight, kg, mean (SD)	64 (10)	68 (10)	59 (8)	< 0.001
BMI, kg/m^2, mean (SD)	23 (3)	23 (3)	22 (3)	< 0.001
Age group, years, n (%)				
18-30	1,025 (36)	692 (40)	333 (30)	< 0.001
30-60	1,596 (56)	912 (53)	684 (61)	
> 60	226 (8)	128 (7)	98 (9)	
BMI Categories, n (%)*				
Underweight	178 (6)	100 (6)	78 (7)	< 0.001
Normal	2005 (70)	1157 (67)	848 (76)	
Overweight	575 (20)	430 (25)	145 (13)	
Obese	89 (3)	45 (3)	44 (4)	
Education, n (%)				
Professional degree/ honors	174 (6)	101 (6)	73 (7)	< 0.001
Graduate/ postgraduate	1,031 (36)	691 (40)	340 (30)	
Intermediate/ diploma	347 (12)	229 (13)	118 (11)	
High school	718 (25)	432 (25)	286 (26)	
Middle school	193 (7)	119 (7)	74 (7)	
Primary school	225 (8)	96 (6)	129 (12)	
Illiterate	159 (6)	64 (4)	95 (9)	
Occupation, n (%)				
Professional	390 (14)	293 (17)	97 (9)	< 0.001
Semi-professional	84 (3)	62 (4)	22 (2)	
Clerical/shop owner/ farmer	406 (14)	373 (22)	33 (3)	
Skilled worker	350 (12)	311 (18)	39 (3)	
Semi-skilled worker	138 (5)	121 (7)	17 (2)	
Unskilled worker	87 (3)	73 (4)	14 (1)	
Unemployed/ housewife	1,392 (49)	499 (29)	893 (80)	
Socioeconomic class, n (%)				
Lower (V)	88 (3)	3 (0)	20 (2)	< 0.001
Upper Middle (IV)	769 (27)	346 (20)	527 (47)	
Lower Middle (III)	1,094 (38)	768 (44)	326 (29)	
Upper Middle (II)	873 (31)	552 (32)	217 (19)	

Table 1 cont. *Demographic details of the total population.*

Characteristics	Total n = 2847	Men 1732 (61%)	Women 1115 (31%)	*P* value
Upper (I)	23 (1)	63 (4)	25 (2)	
Smoking status, n (%)				
Never	2,450 (86)	1,355 (78)	1,095 (98)	< 0.001
Current smoker	221 (8)	212 (12)	9 (1)	
Ex-smoker	47 (2)	45 (3)	2 (0)	
Occasional	129 (5)	120 (7)	9 (1)	
Alcohol consumption, n (%)				
Never	2,036 (72)	989 (57)	1,047 (94)	< 0.001
Regular	169 (6)	159 (9)	10 (1)	
Occasional	604 (21)	550 (32)	54 (5)	
Ex-alcohol	38 (1)	34 (2)	4 (0)	

* Underweight: less than 18.5 Kkg/m^2, Normal:18.5 – 24.9 kg/m^2, overweight 25.0 -29.9 kg/m^2, obese: 30.0 Kg/m^2 or higher.

Table 2. *Prevalence estimates.*

Prevalence	Total n (%; 95% CI)	Men n (%; 95% CI)	Women n (%; 95% CI)	*P* Value
Lifetime prevalence (CLBP)	457 (16; 15-17)	220 (13; 11-14)	237 (21; 19-24)	0.197
Lifetime prevalence (LBP)	1,479 (52; 50-54)	760 (44; 42-46)	719 (64; (62-67)	< 0.001
Period prevalence (LBP)	1,183 (42; 40-43)	624 (36; 34-38)	559 (50; 47-53)	< 0.001
Recurrent prevalence	455 (16; 15-17)	235 (14; 12-15)	220 (20; 18-22)	0.197
Radicular pain prevalence	181(6; 6-7)	82 (5; 4-6)	99 (9; 7-11)	< 0.001
Age standardized lifetime prevalence (CLBP)	3.5%			
Age standardized lifetime prevalence (LBP)	36%			

*Confidence intervals for prevalence were calculated by the Wilson Score Interval method.

(64%; 95% CI, 62-67; 719/1,115) vs men (44%; 95% CI, 42-46; 760/1,732) (Table 2).

CLBP prevalence was seen more in patients older than 60 years old (34%) followed by the 30-60 years old group (22%). Overweight and obese patients had a 20% prevalence of CLBP (Table 3). Sciatica, which affected 181 patients (6%; 95% CI, 6-7), was more frequent in women (5%; 95% CI, 4-6) than in men (9%; 95% CI, 7-11). Age-standardized CLBP prevalence was found to be 3.5%, whereas age-standardized LBP prevalence in the total population was found to be 36%.

The first incident of LBP for those aged 30-39 years old was 27% (395/1,479) followed by 26% (383/1,479) in the 40-49 year old group and 25% (373/1,479) in the 20-29 year old age group. CLBP lasted 9-12 months in 17% (79/457) of patients, 6-9 months in 17% (78/457), and 3-6 months in 17% (77/457). In the previous 3 years, 38% (173/457) experienced 3 episodes of CLBP. Four episodes of CLBP in 31% (141/457), and 2 episodes in 25% (115/457).

Pain Characteristics

Pain patterns were found to be constant among 70% (322/457) and intermittent among the rest of the patients with CLBP. Slight pain was suffered by 59% (270/457) whereas 35% (158/457) suffered from moderate pain.

Pain intensity was measured using an 11-point numeric rating scale. The mean (SD) score was 6.88 (1.11) with a median (range) score of 7 (2-8). Pain was rated as 7 by 44% (200/457), as 6 by 22% (101/457), and 8 by 21% (98/457). Pain frequency was reported as "several times a month" by 29% (134/457), "several times a week" by 23% (107/457), "'all the time" by 20% (90/457), and "daily" by 12% (57/457).

As a result of their pain, 64 patients lost their jobs, 157 patients had to adjust their job responsibilities, and 62 patients completely changed jobs. A diagnosis of depression due to pain was found in 4% (17/457) of patients with CLBP.

Health Concerns

A physician was visited fewer than 10 times by 33% (151/457); 62% (285/457) did so more frequently. When asked if their pain was being addressed, 77% (353/457) replied "yes," whereas 23% (104/457) replied "no." 9% (43/457) One physician treated 9% (43/457), 2 physicians treated 23% (103/457), 3 physicians treated 32% (147/457), and more than 3 physicians treated 36% (164/457). The primary doctor was a general practitioner or family physician who made referrals to others, which was the major reason for multiple consultations. Some went to a "specialist" for their pain, while some

of them switched to other doctors based on recommendations from friends or relatives. A few patients believed that their previous physician was incapable of controlling their pain. A family doctor or general practitioner was visited by 219 patients 122 sought the advice of a pain management specialist, and 88 went to an orthopedist or orthopedic surgeon. Seven patients were extremely satisfied with the physician currently treating them, compared to 17% (78/457) who were very satisfied, 37% (167/457) who were somewhat satisfied, 31% (141/457) who were not very satisfied, and 11% (52/457) who were not satisfied at all. Twelve of them declined to respond to the question. Almost all patients (92%) took their prescribed medications as directed by their physicians.

Health-seeking Behavior

Patients were found to be undergoing various treatments outside the ones that were prescribed to them, such as Ayurveda, homoeopathy, acupuncture, ointments/creams/gels, etc. Ointments/creams/gels were used by 269 patients, 132 used Ayurvedic remedies, 106 used heat therapy, 93 underwent massage, 46 did the exercises as prescribed by the physiotherapist, 7 underwent acupuncture, and 6 received homoeopathic medications. Eight patients thought the pain relief from the nonprescribed therapy was extremely successful. For 12% (57/457) of patients, therapy was very successful, for 56% (258/457) it was somewhat successful, for 22% (99/457) it was not very successful, and ten of them never underwent a nonprescribed therapy. This question was not answered by 26 patients.

Nonmedical treatment was unable to control pain adequately in 66% (301/457) of the patients. The vast majority of them (92%) experienced an increase in pain as a result of activities they were engaged in. Concerning employment, 264 patients missed 50 to 100 days of work due to pain, while 143 people missed fewer than 50 days. Fourteen underwent surgery for their pain and discomfort. In the majority of patients experiencing CLBP, their back pain affected sleep, social activities, and activities of daily living (Table 4). Regarding insurance, 73% (333/457) did not have any medical insurance to cover treatment;. 27% (124/457) had insurance.

Risk Factors

The results of logistic regression analyzing the factors associated with CLBP and LBP (total population) are described in Table 5, with OR and 95% CI. Increasing age, being underweight (BMI less than 18.5 kg/m^2) and increasing pain frequency were found to be possible risks for CLBP with OR, 1.040; 95% CI, 1.032–1.049; $P <$ 0.001 for age; OR, 3.315; 95% CI, 1.494-7.359; $P = 0.003$ for being underweight; and OR, 1.616; 95% CI, 1.139 – 2.293; $P = 0.007$) for increasing pain frequency. In the total population, risk factors were found to be being a woman (OR, 2.322; 95% CI, 1.989-2.712; $P < 0.001$) and currently smoking (OR, 1.678; 95% CI, 1.261-2.233; $P <$ 0.001).

Table 3. *Variable specific prevalence of CLBP.*

Characteristic	No. of Cases	Population Size	Prevalence, %	*P* Value
Gender				
Men	220	1,732	13	0.197
Women	237	1,115	21	
Age				
18-30	33	1,025	3	< 0.001
30-60	346	1,596	22	
> 60	78	226	34	
BMI *				
Underweight	7	178	4	< 0.001
Normal	319	2005	16	
Overweight	113	575	20	
Obese	18	89	20	

*Underweight: less than 18.5 kg/m^2, Normal:18.5 – 24.9 kg/m^2, overweight 25.0 -29.9 kg/m^2, obese: 30.0 kg/m^2 or higher.

Table 4. *Effects of pain on activities.*

Back pain affects:	Responses	n	%
Sleep	Yes	303	66
	No	150	33
	Don't know	4	1
Social Activities	Yes	384	84
	No	69	15
	Don't know	4	1
Activities of Daily Living	Yes	403	88
	No	53	12
	Don't know	1	0

Discussion

Because of the diversity in questions and criteria used in epidemiological research, it is challenging to determine precise prevalence estimates for CLBP. The outcomes of our investigation revealed that the prevalence of persistent low back pain was 16%. Meucci et al (19) inferred similar conclusions from 28 papers in his comprehensive evaluation. He found CLBP was

Table 5a. *Risk factors for CLBP.*

Variable	OR	95% CI	*P* Value
Age	1.040	1.032 - 1.049	<0.001
Male gender	1.207	.968 - 1.506	0.095
BMI Categories *			
Underweight	3.315	1.494 - 7.359	0.003
Overweight	.650	.496 - .852	0.002
Obese	.820	.458 - 1.470	0.506
Smoking status			
Current smoker	.836	.579 - 1.206	0.338
Ex-smoker	1.410	.559 - 3.558	0.467
Occasional	1.169	.649 - 2.104	0.603
Alcohol consumption			
Regular	1.438	.881 - 2.348	0.146
Occasional	1.346	1.019 - 1.779	0.823
Ex-alcoholic	.820	.458 - 1.470	0.506
Intensity of pain	1.422	1.019 - 1.986	0.039
Frequency of pain	1.616	1.139 - 2.293	0.007

Table 5b. *Risk factors in the total population (LBP).*

Variable	OR	95% CI	*P* Value
Age	.960	.954 - .966	<0.001
Female gender	2.322	1.989 – 2.712	<0.001
BMI Categories *			
Underweight	.448	.325 - .618	<0.001
Overweight	.851	.707 - 1.025	.088
Obese	1.327	.859 - 2.048	.202
Smoking status			
Current smoker	1.678	1.261 - 2.233	<0.001
Ex-smoker	1.082	.607 - 1.929	.789
Occasional	.778	.545 - 1.110	.166
Alcohol consumption			
Regular	1.102	.805 - 1.510	.545
Occasional	1.100	.917 - 1.320	.303
Ex-alcoholic	.687	.359 - 1.316	.257

*Underweight: less than 18.5 kg/m^2, Normal:18.5 – 24.9 kg/m^2, overweight 25.0 -29.9 kg/m^2, obese: 30.0 kg/m^2 or higher.

4.2% prevalent among those aged 24 to 39, and 19.6% prevalent among those aged 20 to 59 (19).

The global prevalence of CLBP indicates it is a severe public health issue, especially for women and 40–80-year-olds (20). In our investigation, women had a higher prevalence (21%; 95% CI, 19-24; 237/1,115) over men, possibly because female sex hormones play a significant role in the genesis and pathophysiology of a multitude of musculoskeletal degenerative disorders which might be exacerbated in postmenopausal women due to relative estrogen deficit (21).

A study conducted by Heuch et al (22) found that obesity and being overweight were risk factors for persistent LBP among men and women who had not previously experienced this type of pain. In addition to this, they reported a significant positive association between BMI and the recurrence of LBP in women (22). A similar finding was discovered in our study, showing a BMI of 25.0 -29.9 kg/m^2 to have an OR, 3.315; 95% CI, 1.494-7.359; $P = 0.003$).

Patients in our study used Ayurveda, homoeopathy, acupuncture, ointments/creams/gels, etc., yet 66% of them did not get enough pain relief. Most responders exhibited considerable daily suffering due to their routines. Weiner et al (23) found insufficient evidence to recommend traditional Chinese acupuncture for older individuals with persistent musculoskeletal discomfort. In a randomized controlled trial, Debra et al (24) demonstrated that electrical stimulation generated comparable decreases in pain and increases in function; however, the precise quantity of electrical stimulation required for analgesia is uncertain. General conditioning and aerobic exercise were more effective than percutaneous electrical nerve stimulation alone in lowering fear avoidance beliefs, but not in reducing pain or boosting physical function (24). Morris et al (25) found that homoeopathic medication and physiotherapy can relieve CLBP symptoms. Homoeopathy may be more effective than placebo for osteoarthritis and rheumatoid arthritis. Insufficient data show that spinal manipulation's risks outweigh its benefits for chronic back and neck pain (25). In our study, 87% of the patients reported a Numeric Pain Rating Scale score of 7 or higher, indicating that CLBP causes substantial discomfort. This finding is consistent with similar studies in other areas (26). According to Pagé et al (27), individuals with moderate-to-severe CLBP, pain intensity, pain interference, and lower levels of quality of life (QoL) were all negatively affected by health care utilization and disability status. In the 6 months preceding their initial pain clinic session, less than 5% were hospitalized; 11.9% and 18.9% of patients with osteoarthritis and CLBP, respectively, had pain-related emergency room visits (27).

Back pain is a prominent source of work absenteeism, however prospective studies in working populations with back pain differ in site and design; there is presently no comprehensive review available. Among studies with a follow-up time of up to 6 months, the

pooled estimate for the incidence of work absence in employees with back pain was found to be 15.5% (28). Kortor et al (29), in their cross-sectional study, recruited a total of 126 patients with CLBP and found the prevalence of disability among patients with CLBP to be 78.6%. This is higher than the disability prevalence of 65% reported by Salvetti et al (30) who conducted a multicenter study of adult patients with CLBP. Our study found that 61.92% of patients with pain had either lost their jobs or had to change their job obligations, resulting in an increased economic burden on society. A comparable study conducted by Montgomery et al (31) estimated the economic implications of CLBP on society, revealing lost productivity due to CLBP accounted for approximately ¥1.2 trillion ($10 billion and €8.3 billion) per year, which is directly or indirectly associated with a substantial burden.

CLBP affects many QoL variables. Our study shows that pain affected sleep quality for 66%, while more than 80% reported that pain affected their social and activities of daily living. Kelly et al (32), in their review, concluded that CLBP is associated with greater sleep disturbance, reduced sleep duration, and greater sleep dissatisfaction and distress, resulting in a decrease in the patients' overall QoL. Similar results were reported by Husky et al(33), who found that CLBP was indeed associated with lower scores on all overall average Short Form Health Survey (SF-36) scores, as well as the associated physical composite score and the mental composite score, even when other types of chronic pain and other comorbid medical conditions were taken into account.

Conclusions and Limitations

Our study demonstrates that increasing age and being overweight (a BMI of 25.0 - 29.9 kg/m^2) are significant predictors of CLBP based on logistic regression analysis. This is consistent with other cross-sectional research findings. According to Hamano et al (34), increasing age and being overweight have been postulated as risk factors for CLBP development. Weight gain is substantially connected with CLBP, and the greater the weight gain, the stronger the relationship between weight gain and an increased risk of CLBP (34).

Our study's findings are useful for guiding the trajectory of future research. In order to avert the consequences that are anticipated to emerge due to the rising burden of CLBP, an immediate implementation of a planned strategy is required. According to the results of our study, a lack of formal education is associated with the development of CLBP. Those who cannot read and interpret health material have an urgent need for social support groups and community health professionals' health education and promotion initiatives.

The most substantial limitation of this study was that it was conducted in a single tertiary hospital in northern India; hence, its findings cannot be generalized. In addition, this study was conducted in a hospital setting, with individuals who were getting medical care at the facility. This shows that these people had diseases that might have raised the prevalence of CLBP and its related risk factors. In addition, we were not able to classify CLBP according to the severity of the symptoms, such as complaint-only or debilitating, for example. In the future, in an attempt to correct these limitations, research that is comprehensive and well planned is needed.

Low back pain is quite common, and in the northern Indian population one in 3 persons have it develop into a chronic condition. Furthermore, our study sample was shown to have numerous risk factors associated with the incidence, such as increasing age, being underweight, increasing pain frequency, being a woman, and currently smoking. This population's health concerns and health-seeking behavior to improve differed. Aiming to increase access to health care services should be the focus of policy design and execution. A supportive oversight program might be implemented to enhance the standard of care given at health care centers, which also needs attention.

Acknowledgments

This research was supported by an Indian Council of Medical Research extramural grant. We thank our colleagues from the National Institute of Pharmaceutical Education and Research (NIPER) S.A.S. Nagar, who provided insight and expertise that greatly assisted our research, although there may not be agreement with all of the interpretations/conclusions of this paper. We are grateful for the excellent collaboration with the Department of Anaesthesia, Post Graduate Institute of Medical Education & Research (PGIMER), Chandigarh for facilitating the sampling and data collection.

Ethics Approval

The study was authorized by the Institutional Ethics Committee (IEC) of Postgraduate Institute of Medical Education and Research, (No. PGI/IEC/2014/P-514) Chandigarh, India. Before data collection, written informed consent was obtained from all patients for their voluntary participation.

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