

Original Research Article

RISK FACTORS OF LOW BACKACHE IN PATIENTS PRESENTING TO A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: One of the most common health problems that result in physical disability include chronic low back pain (LBP). It badly affects the quality of life. Many musculoskeletal problems cause disability which include osteoporosis, rheumatoid arthritis, low back pain, and osteoarthritis. Low back pain has a lifetime prevalence of about 65% to 80%. In lower back pain, the area between gluteal folds and lower back pain is affected. It is divided into mechanical and inflammatory sub-types based on their nature. **Objective:** To identify various risk factors of lower back pain.

Study Design: A cross-sectional descriptive analysis.

Duration and place of study: This study was conducted in Sandeman Provincial Hospital, Quetta from July 2024 to July 2025.

Materials and Methods: This research is a cross-sectional descriptive analysis which was performed in the our hospital. There were a total of 180 people involved in this study. All the participants that were involved in this research were those who had chronic mechanical back pain from a minimum of 3 months. The participants were aged from 18 years to 80 years. The Quebec disability index was used to assess a patient's disability. Patient health questionnaire-9 was used to assess a patient's depression. SPSS version 23 was used to analyse the results.

Results: There were a total of 180 participants of this study. The participants were aged from 18 years to 80 years. The mean age was 55.45 years. The majority of the participants were male, representing 97.7% (n=176) of the total sample size.

Conclusion: Low back pain is caused by many factors. Some of the factors associated with LBP are age, lack of regular exercise, sitting posture, lack of education, low income, and back trauma.

Keywords: chronic low back pain, gluteal folds, Quebec disability, physical disability.

INTRODUCTION

One of the most common health problems that result in physical disability include chronic low back pain (LBP).^[1] It badly affects the quality of life. Individuals who have chronic back pain face a number of challenges such as social, physical, occupational, and mental challenges.^[2] Many musculoskeletal problems cause disability which include osteoporosis, rheumatoid arthritis, low back

pain, and osteoarthritis.^[3] Low back pain has a lifetime prevalence of about 65% to 80%.^[4] According to other studies, Australia and the USA have a prevalence of LBP of 26.4% to 79.4%.^[5] There was a study conducted in Thailand where the prevalence of lower back pain is about 30% and it is very common there.^[6]

Low back pain is the second most common cause of absence from work after common cold, estimated to be 40%.^[7] In lower back pain, the area between

gluteal folds and lower back pain is affected. It is divided into mechanical and inflammatory sub-types based on their nature.^[8] Mechanical back pain increases with activity but improves when doing rest. However, inflammatory back pain increases with rest. Lower back pain has been divided into chronic and acute types based on the time period of the symptoms. Chronic LBP lasts 3 months or more. Acute LBP lasts less than 6 weeks. The causes of mechanical LBP include vertebral fractures, infections, degenerative spinal changes, and tumours.^[9] Whereas, the cause of inflammatory LBP are spondyloarthropathies. Chronic LBP can be managed with low dose anti-depressants, physical therapy, and analgesics. Acute LBP can be managed with muscle relaxants and simple analgesia.^[10]

There are a number of risk factors that are categorised into two categories; non-modifiable and modifiable.^[11] Non-modifiable risk factors include age, history of LBP, parity, and spinal deformity. Modifiable risk factors include obesity, tobacco smoking, drug dependence, inactive lifestyle, and occupational and daily life related ergonomics.^[12] There is very limited data available related to LBP in countries like Pakistan. The reason behind this might be that lower back pain is considered less important when compared to other medical conditions like hypertension and diabetes mellitus. Therefore, we conducted this research to identify various risk factors of lower back pain.

MATERIALS AND METHODS

This research is a cross-sectional descriptive analysis which was performed our hospital. Non-probability consecutive sampling was used to select the patients for this study. There were a total of 180 people involved in this study. WHO sample size calculator was used to calculate the sample size. All

the participants that were involved in this research were those who had chronic mechanical back pain from a minimum of 3 months. The participants were aged from 18 years to 80 years. Participants were informed about this study and their written consent was obtained. The Ethical Review Committee approved this study.

Exclusion Criteria: People who had acute trauma, metastatic disease, infections, inflammatory back pain, and bed bound status were not a part of this study.

Data was collected from all the participants which include their gender, age, weight, marital status, duration of LBP, number of children, and BMI. All the participants were interviewed regarding a lot of parameters which include smoking history, occupation, job nature, working hours, spinal injection, history of back trauma, monthly income, spinal surgery, and sleeping material. They were also interviewed about comorbidities which include diabetes mellitus, ischemic heart disease, hypertension, rheumatoid arthritis, and osteoporosis. The Quebec disability index was used to assess a patient's disability. Patient health questionnaire-9 was used to assess a patient's depression.

SPSS version 23 was used to analyse the results. Standard deviation (SD) and mean were calculated for numeric variables. Categorical variables were expressed in terms of percentages.

RESULTS

There were a total of 180 participants of this study. The participants were aged from 18 years to 80 years. The mean age was 55.45 years. The majority of the participants were male, representing 97.7% of the total sample size. Table number 1 shows the mean and SD of baseline characteristics of the study population.

Table 1: ?

Baseline characteristics	Mean	SD
Age (yrs)	55.45	10.77
Quebec Disability Index	43.31	19.89
BMI (kg/m ²)	25.15	4.43
Duration (yrs)	4.78	4.36

Table number 2 shows the number and percentages of baseline characteristics.

Table 2: ?

Baseline characteristics	N	%
Gender		
• Female	4	2.3
• Male	176	97.7
Age (yrs)		
• Below and equal to 40	14	7.8
• Above 40	166	92.2
BMI (kg/m²)		
• Below 18.5	5	2.8
• 18.5 to 24.9	92	51.1
• 25 to 29.9	56	31.1
• Above 30	27	15.0
Marital status		
• Unmarried	2	1.2
• Married	178	98.8

No. of children		
• Nulliparous	12	6.7
• 1 to 5	132	73.3
• More than 5	36	20.0
Education		
• Primary	29	16.1
• Secondary	9	5.0
• Matric	21	11.6
• Graduation	8	4.0
• Higher	1	1.1
• No education	112	62.2
Job status		
• Sedentary	70	38.9
• Mild active	4	2.3
• Moderately active	8	4.4
• Very active	3	1.6
• Unemployed	95	52.8
Monthly Income		
• Low	105	58.3
• Moderate	58	32.2
• High	17	9.5
Quebec Disability Index		
• 0 to 9	9	5.0
• 10 to 30	44	24.4
• 31 to 54	65	36.1
• 55 to 75	54	30.0
• 76 to 100	8	4.5
Exercise		
• Yes	48	12.8
• No	137	87.2
PHQ-9		
• 0 to 4	50	27.7
• 5 to 10	87	48.3
• 11 to 15	27	15.0
• 16 to 20	10	5.5
• More than 20	174	3.5
Smoking	23	12.8
Radicular pain	98	54.4
Spinal injection history	33	18.3
Trauma history	36	20.0
Spinal surgery	13	7.2
Posture		
• Standing	72	40.0
• Sitting	92	51.1
• Lying	6	3.4
• Stooping	10	5.5
Co-morbid		
• Diabetes mellitus	20	11.1
• IHD	6	3.3
• Hypertension	54	30.0
• RA	7	3.9
• Dyslipidemia	7	3.9
• Osteoporosis	10	5.5
Radiological diagnosis		
• Normal	163	90.5
• Vertebral collapse	3	1.7
• Degenerative spine	11	6.1
• Muscle spasm	3	1.7
Examination Findings		
• Spinal deformity	13	7.2
• Osteoarthritis Knee	79	43.9
• Hip disease	4	2.2
Pain VAS		
• 0 to 4	9	5.0
• 5 to 7	89	49.4
• More than 7	82	45.6

Table number 3 shows the risk factors linked with LBP.

Table 3: ?

Risk Factors	N	%
Age (above 40 yrs)	166	92.2
Smoking	23	12.8

Spinal injection history	33	18.3
Trauma history	36	20.0
Spinal surgery	13	7.2
Lack of exercise	137	87.2
No education	112	62.2
Low income	105	58.3
Unemployed	95	52.8
Sitting posture	92	51.1

DISCUSSION

Worldwide, low back pain is a very common health situation.^[13] It badly affects the quality of life. Individuals who have chronic back pain face a number of challenges such as social, physical, occupational, and mental challenges. According to a study conducted in Nigeria, 68% of the participants were married, 52.3% had more than 5 children, 63.1% were educated, and 80% were having high income.^[14] 63.6% of people were those who were mostly in a stooping posture during their day-to-day activities. If we compare these results to our study, it has similar results. In our study, 98.8% of people were married. However, most of the people were unemployed (52.8%), and 58.3% had low income.

Another study was performed in Brazil by Gotfryd et al. where the mean age was 39.1 years and BMI was 26 kg/m².^[15] However, in our study, 92.2% people were aged above 40 years and 51.5% people had normal BMI. Gotfryd et al. used the Oswestry disability index while we used the Quebec disability index. Their study showed that the majority of the participants showed low disability (83.3%) while in our study, severe disability was in 36.1% people. Gotfryd et al. said that their study included 85.2% non-smokers which is similar to our study where we have 87.2% non-smokers.

According to a local study, the age group was found to be from 21 years to 40 years whereas our study had the age group from 18 years to 80 years where the majority of the people were aged above 40 years.^[16] The local study identified the following as risk factors; lack of exercise (76.3%), hypertension (32.2%), prolonged sitting (50%), and depression (28.8%). This can be compared to our study where lack of exercise was 87.2%, hypertension was 30%, and prolonged sitting was 51.1%.

Most of the risk factors of low back pain identified in this study are modifiable ones. These can be addressed easily by giving patients the education they need in order to take good care of LBP during their day-to-day activities.^[17,18] The advice for the patients is to do regular physical exercise and remain active.^[19,20] This will help in reducing the symptoms.

CONCLUSION

Low back pain is caused by many factors. Some of the factors associated with LBP are age, lack of regular exercise, sitting posture, lack of education, low income, and back trauma.

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Conflict in the interest

The authors had no conflict related to the interest in the execution of this study.

Permission

Prior to initiating the study, approval from the ethical committee was obtained to ensure adherence to ethical standards and guidelines.

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