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Identifying the Effects of Risk Variables Interfering with the Biomechanics of Low Back Pain in Madaripur District Hospital, Bangladesh: A Cross Sectional Study

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ABSTRACT
Background: *Back pain is a common ailment that affects people of all ages. Back pain episodes have generally been seen as one-time occurrences, but this concept is increasingly being challenged in favor of treating back pain as a long-term or permanent disease.*
Objective: *To investigate the prevalence of low back pain and associated risk factors among patients with low back pain at Madaripur district hospital in Bangladesh.*
Methods: *Between February 2021 and March 2022, 210 males with LBP symptoms attended Madaripur district hospital in Bangladesh were recruited purposively for a cross-sectional study as per inclusion criteria. It included a physical examination, lateral lumbosacral radiography, and the patient's sociodemographic and medical records. The measurements were made using radiography. Pain was scored 0-100. Once the questionnaire was approved by an ethical approval, everyone had to fill it out in front of the investigator. SPSS 26 was used to analyze the data.*
Results: *Among the 210 individuals, 90 were diagnosed with acute LBP and the remaining 120 were diagnosed with chronic LBP. Patients with chronic LBP were much older than those with acute LBP (mean±SD) was 45±8 vs 60±5 years, respectively) (p = 0.04). There was a higher prevalence of acute back pain in those who were obese (BMI>30), had a poor mental health score and current smoker. Higher prevalence of chronic back pain was seen in individuals who had characteristics such as increased age, higher BMI and being sedentary.*
Conclusion: *Only a little research has looked at long-term pain patterns and projections throughout a person's life. Knowing how back pain develops and evolves might lead to improve treatment choices.*
Keywords: *Low back pain, Disability-adjusted life years, Years lived with disability, Lumbar Lordosis Angle, Segmental Lumbar Lordosis Angle, Lumbosacral Angle.*

I. INTRODUCTION

Musculoskeletal diseases are the second most frequent reason worldwide, accounting for 169,624,000 DALYs in 2010. This represents a 45.5% rise in DALYs throughout the last decade and low back pain is among the top four reasons of disability-adjusted life years (DALYs) in the 25–49 age range, impacting 50–84 % of the population. [1] Since the low back vertebral discs are subjected to the largest amount of compression drive, mechanical stress, and degenerative shifts, low back pain (LBP) is being more recognized as a serious public health problem, with a lifetime frequency of 70–85%. [2] In 2019, there were 568.4 million prevalent instances of LBP, and 223.5 million incidence cases. [3] Low back pain (LBP) is a serious health concern among men and women aged 20 to 50, resulting in 13 million yearly visits and a $28 million annual cost to the government. [4] In 1998, the US healthcare expenses for LBP were estimated at over $26.3 billion. Occupational injuries cost the US economy around $179 billion yearly (Occupational Safety and Health Administration 2004). The repetition of episodes over a year is estimated at 24 to 80%. [5] In contrast to specific LBP related to intervertebral disc injury, such as herniation or fractures, vertebral infections, spondylarthritis, and cancer including bony metastases, nonspecific LBP has no confirmed pathoanatomical cause. [6] LBP is likely to get worse in LMICs, where healthcare systems are mostly focused on controlling CD and do not have enough tools to handle the growing number of NCD. [7] The frequency of LBP among employees in underdeveloped countries (46.5%) was greater in extended standing or sitting job characteristics. Discomfort, muscular strain, or stiffness in the lower back (LBP) was described as LBP, below the costal edge and above the inferior gluteal folds. In addition, LBP can also be defined as pain between the 12th rib and the lower gluteal folds, even without leg discomfort, lasting one day or more. [8] Segu-Daz and Gérvas (2002) explained low back pain as a severe sensation in the spine of lumbar region that limits normal motion. LBP has been linked to specific work activities, poor spinal health, aging, and trauma. [9] Although, LBP is quite common, with up to 80% of individuals experiencing at least one episode in their lives. LBP affects individuals of various ages. The frequency of LBP seems to rise with age, peaking between 35 and 55 years. Andersson calculated the yearly global adult LBP incidence at 15% and the point prevalence at 30%. According to Papageorgiou et al. [10] 50% of people have had LBP. LBP is the third leading reason of surgical operations and the sixth most common cause of hospitalizations among patients under the age of 45. Most LBP instances are non-specific, meaning no obvious pathoanatomic etiology such as malignancy, fracture, or inflammation. Notably, non-specific LBP commonly develops into CLBP. Identifying factors that influence the outcome of acute and/or subacute LBP patients is indeed a serious difficulty, according to the Cochrane Back Review Group. [11] Recent research has cast doubt on the widely held idea that acute LBP goes away in three months or less. However, between 10% and 40% of LBP patients will consequently acquire persistent low back pain (CLBP). Despite its tiny share, CLBP accounts for the bulk of the worldwide LBP burden. [12] A number of environmental and personal factors have been linked to LBP. Physical stress on the spine, physical condition, poor physical wellbeing and mental distress are also variables to consider for low back pain. Certain psychological variables have been linked to poor outcomes. Stress, worry, sadness, and boredom are among possible LBP risk factors. These psychosocial aspects also include fear avoidance, atypical sickness behavior, negative thinking, poor self-efficacy, and depressive thoughts and feelings. According to Awaji [13], the prevalence of LBP in this nation varies from 53.2% to 79.17%. The Cumulative Trauma Disorder Model recommends that many low back disorders are caused by continuous usage. This model assumes that everyone does things that may harm their backs, but that if these behaviors are repeated, the damage accumulates throughout weeks, months, even years. This major trigger outpaces the body's potential to recover, causing pathological changes in the lumbar-sacral area. Moreover, Webb et al. [14] found that a positive family history is strongly associated with LBP incidence. An Austrian research found that not requiring medical care to function in everyday life was the biggest link with health satisfaction. In males with chronic LBP, contentment with sex life and job capacity were also important factors, whereas in women it was satisfaction with living circumstances. [15]

II. OBJECTIVES

General objective

➢ To determine the prevalence of low back pain (LBP) and related risk factors among people who attended the Madaripur district hospital in Bangladesh.

Specific objectives

1. To measure the prevalence of LBP among adult people who attended the Madaripur district hospital.
2. To identify the risk variables that relate to low back pain in adults.
3. For assessing the quality of life among people with low back pain (LBP).
4. For evaluating the variables that are linked with CLBP impairment in adults.

III. METHODS

This study was a cross-sectional observational study that was both descriptive and analytical. The study looked at 210 LBP patients between the ages of 20 and 64 who went to the Madaripur district hospital in Bangladesh between February 2021 and March 2022. These patients were chosen purposively. Participants had to have persistent non-specific LBP, and not have had spinal surgery in the past. They also had to be willing to take part in the study. Patients whose symptoms were not limited to the lumbar spine, on the other hand, were not included in the study. This study did not include people with musculoskeletal problems caused by trauma (contact), infectious, neoplastic, genetic, metabolic, or visceral diseases, or pregnant women. Everyone had to fill out the questionnaire in front of an investigator after getting ethical approval. The questionnaire was used to classify LBP. 1. How long has low back pain made it hard for you to do normal day-to-day things? a. Less than one month, b. One to three months c. More than three months 2. Only think about the last six months. How often does low back pain make it hard for you to do normal daily things? Less than half the days b. Half the days or more than half the days Classification criteria: Acute means less than one month (Q1a), one to three months (Q1b), or more than three months but less than half the days (Q1c+Q2a). Chronic means it has been going on for more than three months (Q1c) and half or more of the days (Q2b). The 9-item SBT was used to estimate LBP risk. 24 The total score is 0-9, with a psychological subscale of 0-5. Patients were categorized as low (overall score 3), moderate (total score 4 and subscale 3), or high (total score 4 and subscale 4). To assess lumbar stability, a vertical line was drawn from the L3 vertebra to the base of the spine, crossing the L5 corpus. Measured the distance between a vertical and tangential to the posterior edge of the S1 vertebra. Lines placed across the sacrum's top and bottom borders of the L5 vertebra delineated the Lumbosacral angle. The distance between a horizontal and tangential line drawn on the sacrum's top surface was used to compute the SHA. The distance between the first lumbar and sacral cephalad end plates was used to compute the LLA total lordosis. SLAs were measured from L1 to L3 and L3 to S1. To gather all measurements, one skilled and impartial observer used the Cobb method. The lateral roentgenogram must be interpreted using a clear visual analogue scale. At the index visit, ICD-9 or ICD-10-CM diagnostic codes revealed LBP diagnosis and psychiatric comorbidities. The Oswestry Disability Index (ODI) was given together with the SBT and acute/chronic LBP questionnaire during the index visit. There are four ODI scores: minimum (0-20), moderate (21-40), severe (41-60) and extremely severe (61-100). After evaluating and rechecking the data, SPSS version 26 was used to perform statistical analyses such as student's 't' or chi-square tests. An adjusted crude logistic regression model yielded ORs with 95% CI and P-values for each risk factor. The Mann-Whitney U test was performed to compare the angles of both groups. The significance threshold was set at 0.05.

IV. RESULTS

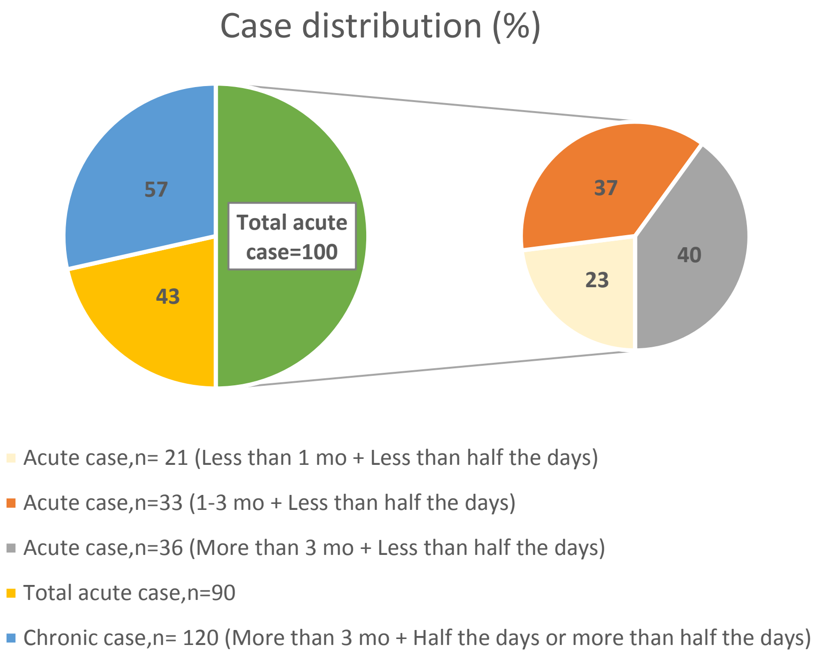


Figure-1: Case distribution between acute and chronic LBP (n=210)

About 210 adults who were eligible were asked to take part in the study. Based on the National Institutes of Health Task Force on Research Standards for Chronic Low Back Pain definition, the questionnaire divided LBP into 90 cases of acute LBP and 120 cases of chronic LBP.

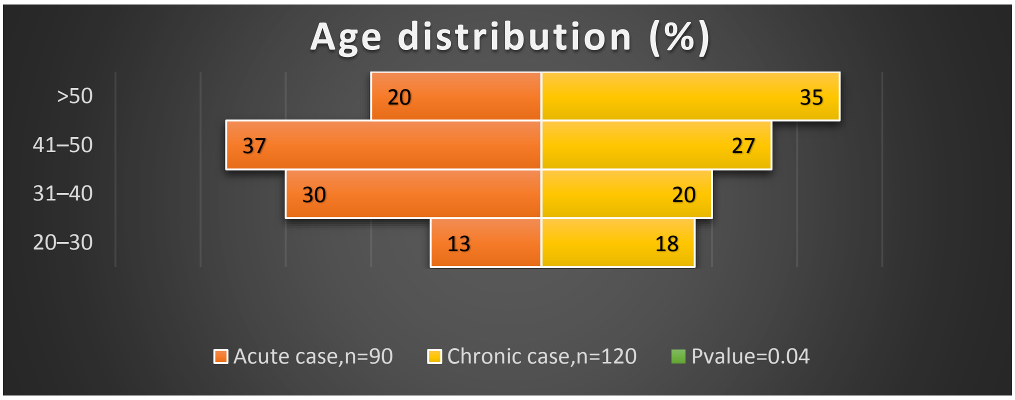


Figure-2: Age distribution between acute and chronic LBP (n=210)

Figure 2 shows the age distribution of the acute and chronic LBP cases. All the people who took part were put into four age groups: 20–30, 31–40, 41–50 and >50. The average age of the respondents was 45±8 years, ranged from 41 to 50 years for the acute group and 60±5 years from >50 years for the chronic group (p=0.04).

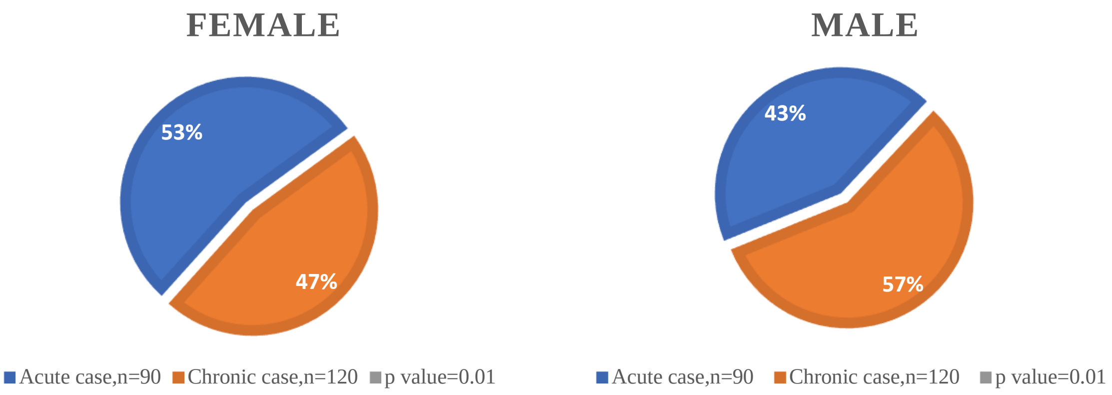


Figure-3: Sex distribution between acute and chronic LBP (n=210)

The results showed that in both groups, there were more women than men (72% vs. 63%, respectively) (p=0.01).

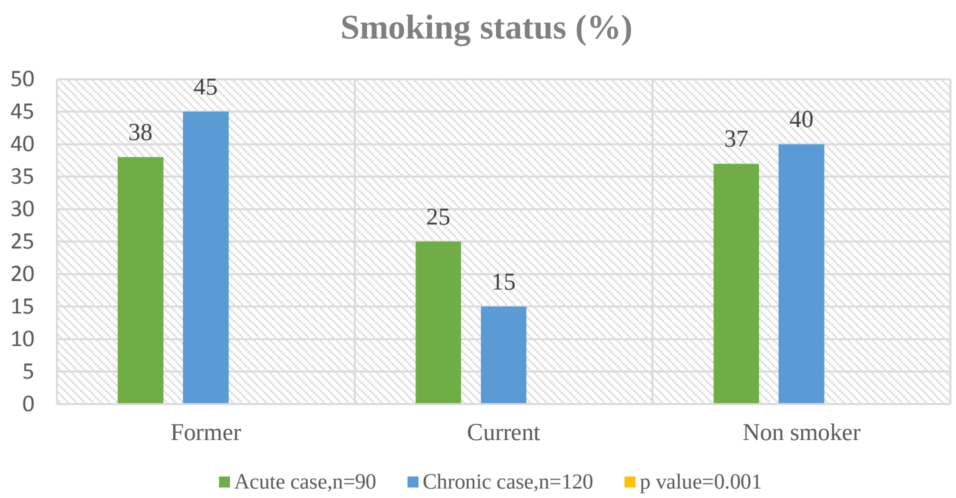


Figure-4: Smoking status between acute and chronic LBP (n=210)

In terms of smoking, 38 % of people in the acute LBP group used to smoke, which is more than the 45 % of people in the chronic LBP group who used to smoke. On the other hand, 25% of those in the acute LBP group and 15% of those in the chronic LBP group were current smokers (p=0.001).

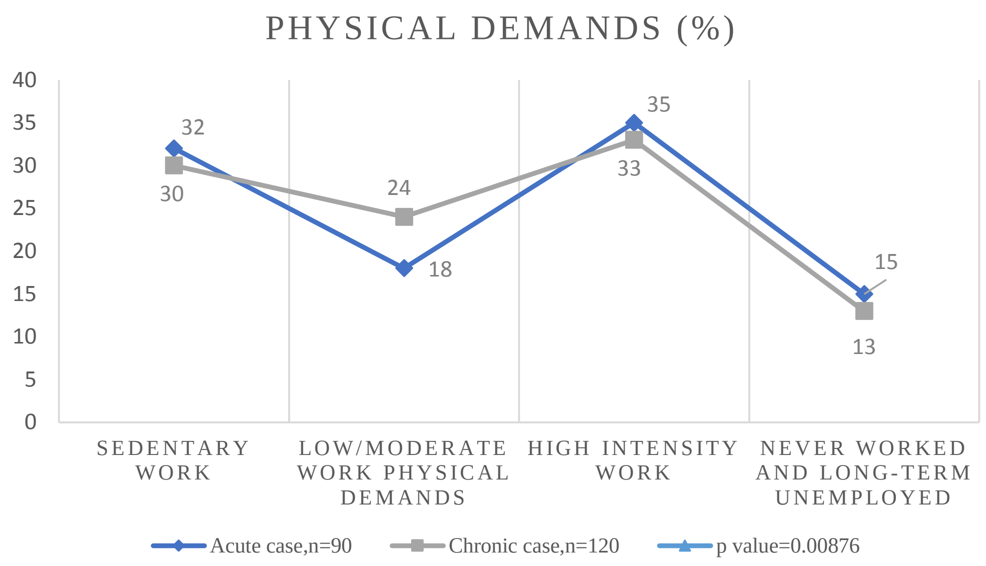
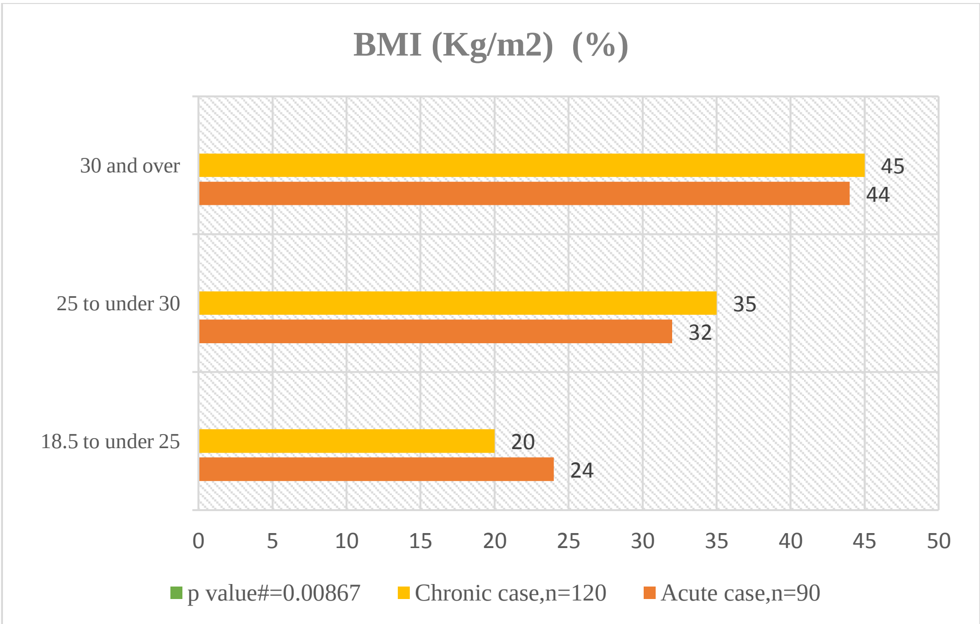


Figure-5: Physical demands between acute and chronic LBP (n=210)

In the acute LBP group, 35% of people did high-intensity work, while 32% did low-intensity work. The same was true for the chronic LBP group (33 %, 30 %, respectively) (p=0.00876).



Student's t-Test was employed to analyze the data and the level of significance was 0.05. **Figure-6: BMI of acute and chronic LBP (n=210)**

Figure 6 shows the BMI of the acute and chronic LBP cases. Participants were put into three groups based on their BMI: 18.5 to under 25 (Kg/m2), 25 to under 30 (Kg/m2) and 30 or more (Kg/m2). 44 and 45 % of the participants had a BMI of less than 30 kg/m2. The mean±SD for chronic LBP was 40±5, which was higher than the mean±SD for acute LBP, which was 36±2. This difference was significant, p=0.00867.

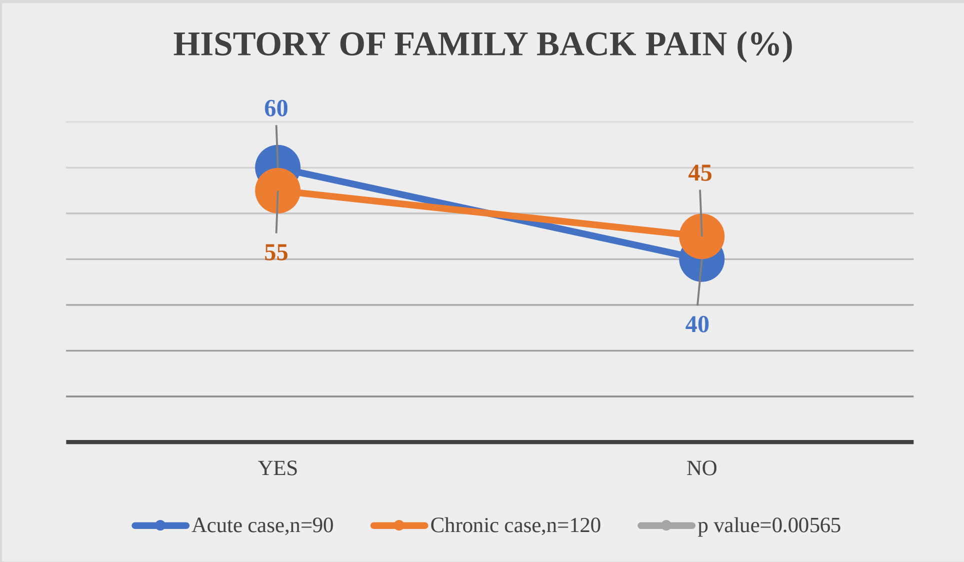


Figure-7: Family history of LBP between the acute and chronic LBP cases (n=210)

Figure 7 shows that 60% and 55% of the people who took part in this study had a family history of LBP respectively.

Table 1. Factors associated with chronic and acute back pain (n=210)

Factors	Acute back pain (n=90)	Chronic back pain (n=120)	P value
Mental Health (SF-36 mental health score)			0.00234
Higher than average (> 50)	18 (20%)	48(40%)	
Lower than average (< 50)	72(80%)	72(60%)	
Depression			0.00087
Yes	79(88%)	100(84%)	
No	11(12%)	20(16%)	
Anxiety			0.00023
Yes	61(68%)	66(55%)	
No	29(28%)	54(45%)	

Student's t-Test was employed to analyze the data and the level of significance was 0.05.

In the SF-36 mental health questionnaire, 80% of people in the acute group and 60% of people in the chronic group scored below the average. This difference was significant (p=0.00234). In acute cases, 88 % of people had depression and 84 % had it in chronic cases (p=0.00087). Anxiety was present in 68% of acute cases and 55 % of chronic cases (p=0.00023).

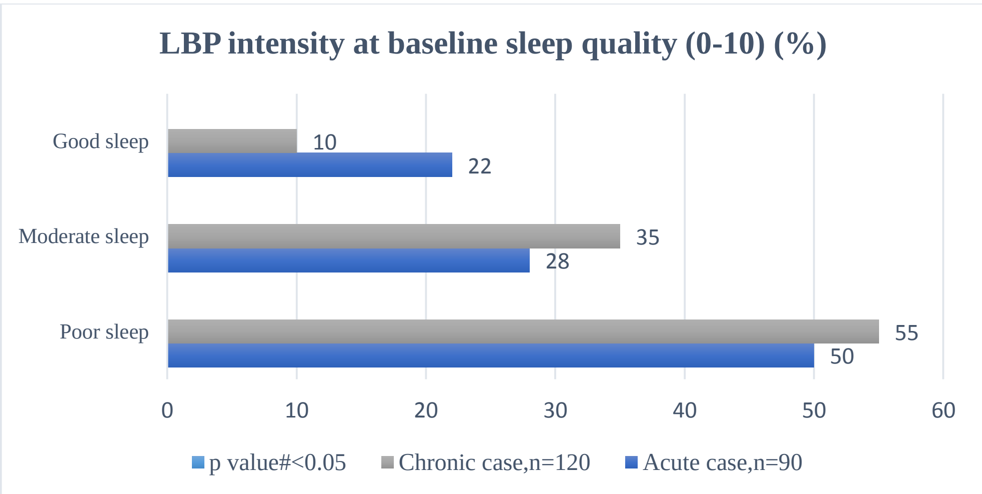


Figure-8: LBP intensity at baseline sleep quality of acute and chronic LBP (n=210)

Figure 8 shows the LBP intensity at baseline sleep quality of the acute and chronic LBP cases. The mean acute and chronic LBP cases were (Good sleep 1.5±2.02 vs. 1.7±2.06, moderate sleep 2.20±2 vs. 2.45±2.3, Poor sleep 3.13±2.4 vs. 3.59±2.7, respectively). Only 22% of those with acute LBP and 10% of those with chronic LBP got good sleep (p=0.00001), while 50% and 55% of those with acute and chronic LBP got poor sleep (p=0.00054).

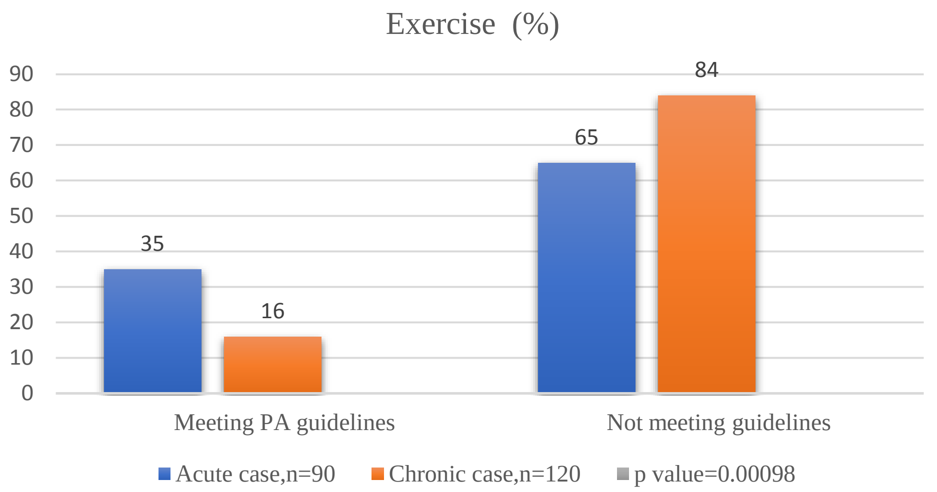


Figure-9: Exercise according to PA guidelines of acute and chronic LBP (n=210)

PA guidelines were followed by 35% of cases with acute symptoms and 16% of cases with long-term symptoms (p=0.00098).

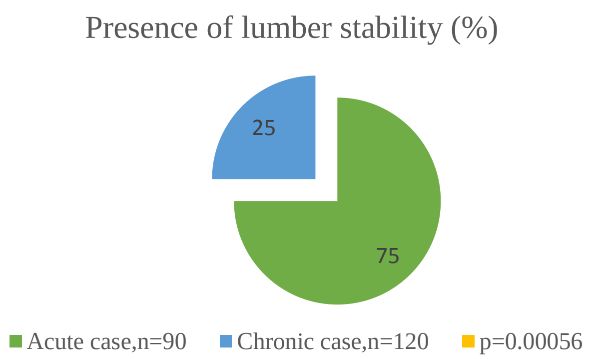
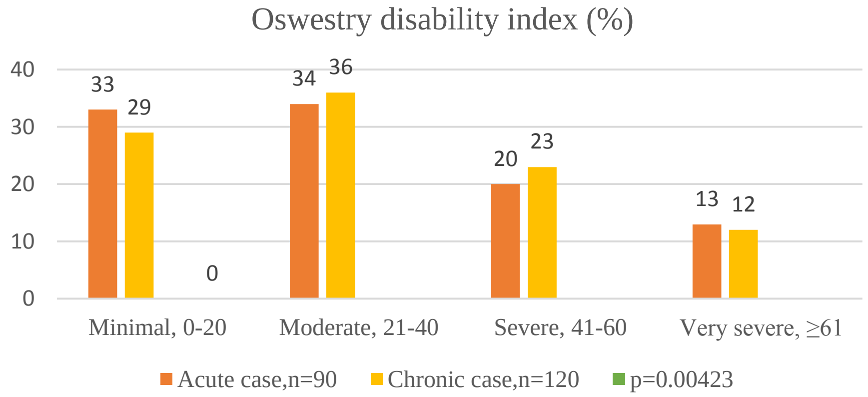


Figure-10: Presence of lumber stability between acute and chronic LBP (n=210)

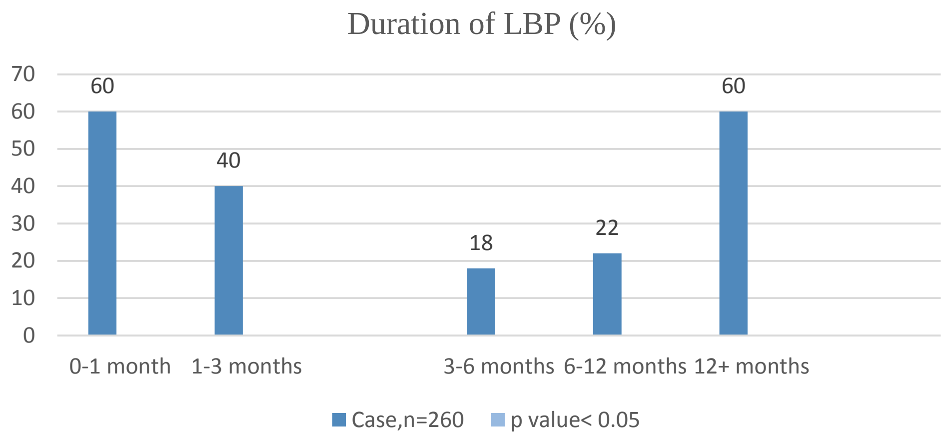
75 % of acute cases and 25 % of long-term cases (p=0.000564) had stable lumber region.



Student's t-Test was employed to analyze the data and the level of significance was 0.05.

Figure-11: Presence of lumber stability between acute and chronic LBP (n=210)

Figure 11 shows Presence of lumber stability between acute and chronic LBP cases. The mean for acute and chronic LBP cases were 31.21 ± 13.82 and 30.28 ± 13.50 respectively. According to the ODI, 34% of the people in the acute group and 36% of the people in the chronic group were in the moderate group. The mean and standard deviation were almost the same for both groups and the difference was significant (p=0.00423).



Student's t-Test was employed to analyze the data and the level of significance was 0.05.

Figure-12: Duration of LBP between LBP cases (n=210)

The average length of an acute case was 1±0.5 months, while the average length of a chronic case was 14±4.8 months. 60% of acute cases lasted less than a month (p=0.00056) and 60% of chronic cases lasted more than a year (p=0.00465).

Table 2: Univariable logistic regression of acute back pain and multivariable logistic regression of acute back pain, adjusted for significantly associated covariates.

	Univariable analysis		Multivariable analysis	
	Crude OR (95% CI)	***P* value**	**Adjusted OR (95% CI)**	***P* value**
Age				
20–30	Reference category			
31–40	1.39 (1.33, 1.90)	< 0.0236	1.34 (1.21, 1.80)	< 0.0354
41–50	1.74 (1.52, 1.09)	< 0.0354	1.64 (1.40, 1.89)	< 0.0274
>50	1.22 (1.16, 1.25)	< 0.0012	1.52 (1.17, 1.45)	< 0.0134
Gender				
Male	Reference category			
Female	2.08 (1.00, 0.16)	0.04011	1.06 (0.89, 1.20)	0.00761
Smoker				
Former	Reference category			
Current	2.72 (1.33,1.5)	0.001	2.53 (1.25,1.79)	< 0.00012
Physical demands				
Never worked and long-term unemployed	Reference category			
Sedentary work	0.3 (0.1, 0.7)	0.00821	0.9 (0.6, 1.5)	0.00325
Low/moderate work physical demands	0.4 (0.3,0.8)	0.02353	0.6 (0.5, 1.0)	0.00248
High intensity work	2.5 (1.5,2.04)	0.025	2.9 (1.8,3.0)	0.00978
BMI				
18.5 to under 25	Reference category			
25 to under 30	1.30 (1.21, 1.01)	< 0.00154	1.24 (1.05, 1.15)	0.00423
30 and over	2.33 (1.31, 2.46)	< 0.00164	2.04 (1.02, 1.23)	0.001422
Member of family had back pain				
No	Reference category			
Yes	3.78 (2.27, 7.96)	0.01632	2.54 (0.34, 7.87)	0.00096
Mental health (SF-36)				
Above average	Reference category			
Below average	2.10 (1.39, 1.82)	< 0.00132	1.89 (1.57, 1.62)	< 0.00143
Sleep Score				
Good	Reference category			
Moderate	1.46 (1.25, 2.0)	<0.00012	1.78 (1.23, 2.47)	0.0004
Poor	2.45 (1.37, 1.69)	<0.00014	3.62 (2.53, 6.17)	<0.00012

The rough analysis indicated that increased BMI (aOR 2.04, 95 % CIs 1.02, 1.23; BMI > 30), below-average mental health score (aOR 1.89, 95 % CIs 1.57, 1.62), smoking (aOR 2.53, 95 % CIs 1.25, 1.79) and being older than 50 years (aOR 1.52, 95 % CIs 1.17, 1.45) (P 0.01) were all linked to a higher rate of acute low back pain.

Table 3: Univariable logistic regression of chronic back pain and multivariable logistic regression of chronic back pain, adjusted for significantly associated covariates.

	Univariable analysis		Multivariable analysis	
	Crude OR (95% CI)	**P value**	**Adjusted OR (95%CI)**	**P value**
Age				
20–30	Reference category			
31–40	2.93 (2.26, 2.89)	< 0.0011	2.12 (1.81, 3.82)	< 0.0013
41–50	6.67 (5.55, 8.75)	< 0.0016	5.24 (2.69, 6.15)	< 0.0018
>50	9.87 (5.86, 11.01)	< 0.0018	8.34 (6.25, 9.26)	< 0.0016
Gender				
Male	Reference category			
Female	3.56 (1.80, 2.59)	< 0.0021	2.43 (2.27, 1.01)	< 0.0013
Smoker				
Former	Reference category			
Current	0.45 (0.26, 0.36)	< 0.0017	0.65 (0.35, 0.56)	< 0.0017
Physical demands				
Never worked and long-term unemployed	Reference category			
Sedentary work	0.4 (0.3,0.7)	0.0264	0.5 (0.4,0.6)	0.00083
Low/moderate work physical demands	0.7 (0.5, 1)	0.0465	0.8 (0.2,0.5)	0.00003
High intensity work	3.9 (1.7, 1.2)	0.0001	4.4 (2.9,5.7)	0..00001
BMI				
18.5 to under 25- Normal weight	Reference category	–	–	–
25 to under 30- Overweight	1.77 (0.49, 1.21)	0.258	1.91 (0.55,1.48)	0.699
30 and over- Obese	7.15 (5.88, 6.45)	< 0.0014	6.60 (4.38, 3.85)	< 0.0010
Mental health (SF-36)				
Above average	– Reference category	–	–	–
Below average	4.41 (3.18, 3.69)	< 0.0011	4.81 (3.76, 4.51)	< 0.0023
Sleep Score				
Good				
Moderate	1.05 (1.11–2.23)	<0.00054	1.67 (1.02–2.32)	0.0153
Poor	2.80 (1.60–3.55)	<0.00009	2.95 (1.68–5.43)	0.0018

In the multivariable analysis, people with a higher BMI (aOR = 6.60, 95 % CIs 4.38, 3.85; BMI > 30), a lower mental health score (aOR = 4.81, 95 % CIs 3.76, 4.51; below average), and a poor sleep score (aOR = 2.95, 95 % CIs 1.68, 5.43; poor) were more likely to have chronic back pain than people with a lower BMI, a lower mental health score.

Table 4: Characteristics of LBP pain

Factors	LBP (n=210)	%
LBP every day, %		
Yes	213	82
No	47	18
Time frame of LBP variation, %		
Daily	86	33.1
Weekly	118	45.4
Monthly	20	7.7
Other	36	13.8
Type of pain		
Intermittent	146	56.2
Continuous	114	43.8
LBP onset		
Gradually without injury	162	62.6
Abruptly without injury	30	11.7
Gradually after an injury	50	19.4

Abruptly after an injury	8	3.1
LBP severity		
Mild	116	44.7
Moderate	95	36.5
Severe	49	18.8
LBP characteristics		
No leg pain (%)	143	55
Thigh pain (%)	58	22.4
Thigh and lower leg pain (%)	46	18
Lower leg pain (%)	13	4.6
LBP progression		
Still the same	43	16.7
Getting better	14	5.2
Getting worse	36	13.8
Comes and goes	167	64.3
Number of days hospitalized		
1–22 days	181	69.7
>22–99 days	79	30.3
Accumulated time with low back pain within the past year		
None	49	18.9
2–6 months	67	25.6
6 months–1 year	144	55.5

82 % of patients had LBP every day. The length of time people had low back pain varied from day to day, week to week, and month to month. 7.7 % Something else 13.8 %. Responses to the questions about lumbar symptoms show that more people with LBP (56.2%) had pain that came and went, rather than pain that was always there (43.8 %). 62.6 % of LBP started slowly without any injury, but in most cases the pain was mild (44.7 %). About 55% of people with LBP said they did not have leg pain, while the other 45% said the pain spread to their legs. Moreover, their impairment has been so bad that more than half of the people in the study (69.7%) have had to go to the hospital, and most of them did so within a month. 55.5 % said they had had LBP for six months to a year in the past year.

Table 5: SIA, LSA, SHA, LLA, and SLA (L1-L3 and L3-S1) of acute and chronic low back pain patients.

Factors	Acute Group (90)	Chronic Group (120)	P value
SIA	34.38 ± 11.4	33.52 ± 4.82	0.00953
LSA	129.69 ± 13.56	141.62 ± 5.82	0.43876
SHA	33.35 ± 5.23	34.62 ± 9.36	0.16473
LLA	42.6 ± 12.84	50.82 ± 8.56	0.24574
SLA (L1-L3)	12.23 ± 3.82	12.74 ± 4.65	0.00634
SLA (L3-S1)	30.02 ± 9.82	34.13 ± 11.69	0.02543

The angles of the lumbosacral spine in both groups are shown in Table 2. For the LSA, SHA, and LLA, there was no statistical difference between people with acute and long-term LBP ($P > 0.05$).

Table 6: Quality of life of acute and chronic low back pain patients

Quality of life	Acute Group (%)	Chronic Group (%)
Mobility	8	27.8
Self-care	1	11
Usual activities	13	16
Pain/discomfort	58	77
Anxiety/depression	20	11
EQ-5D score (mean ± SD)	0.78 ± 0.15	0.91 ± 0.04

The average and standard deviation of the EQ-5D score was higher for chronic LBP (0.91± 0.04) than for acute LBP (0.78 ±0.15). Between the parts, 58 % of the acute cases and 77 % of the long-term cases had pain or discomfort. Thirteen % of acute cases and sixteen % of chronic cases made it hard to do normal things. Only 1% of people with acute cases took care of themselves, but 11% of people with chronic cases did.

V. DISCUSSION

Between February 2021 and March 2022, this cross-sectional research purposively included 210 patients aged between 20-64 years who attended Madaripur district hospital with the symptoms of LBP. The research aims to evaluate the risk factors of LBP and define a pattern of acute and chronic back pain in order to highlight distinctions between the subtypes of back pain. Based on the NIH Task Force classification, among the targeted group, 90 (43%) had acute LBP and 120 (57%) had chronic LBP. Also employed this criterion in their research to investigate the correlations between the transition from acute to chronic LBP among a sample of 5233 individuals. [16] When it comes to low back pain (LBP), personal traits like age, gender, and anthropometric measurements as well as environmental factors all have a role, according to the WHO's International Classification of Functioning Disability and Health (ICF). [17] Women are more sensitive to pain and have lower pain thresholds than men, according to a study published in the journal Frontiers in Human Neuroscience. Furthermore, among elderly people than younger ones. According to several studies, the prevalence of lower back pain (LBP) rises with age. [18] Back pain was shown to be linked to both acute and chronic back pain when factors such as BMI, mental health, sleep patterns, and job intensity were considered. While rising age and female gender were both linked to chronic back pain, current smoking was the only factor that stood out when it came to acute LBP. [19] Obesity was demonstrated to be a major predictor of chronicity in individuals who received payments for working days missed owing to acute back pain by Fransen et al. [20] Researchers found that when a person's weight grows, the intervertebral disc and other spinal components are subjected to greater pressure, which results in discomfort. LBP is more prevalent among smokers and former than in non-smokers, according to Shiri et al., a meta-analysis of studies on the subject. Other research has indicated that smoking has no effect on LBP prevalence at any time, contrary to popular belief. [21] Regular physical activity, such as playing sports, has been shown in several studies to reduce the incidence of low back pain and to be an effective method for both primary and secondary prevention of low back pain. It was obvious from the findings of the study that physical exercise had a direct impact on the frequency of low back pain. Chronic pain sufferers often display elevated levels of emotional distress and psychopathology, which may obstruct the delivery of appropriate therapy. One of the first research into the nature of the connection between chronic pain and psychopathology examined 200 individuals with persistent LBP for present and lifetime psychiatric disorders. Patients nonetheless satisfied lifetime diagnostic criteria and displayed present symptoms for at least one psychiatric diagnosis, even when the problematic category of somatoform pain condition was eliminated. Anxiety, sadness, and drug addiction were the most prevalent diagnoses. Rush et al. found a correlation between back pain and anxiety and sadness, which is consistent with our results [22]. According to Jazaieri et al., affective disturbance is the interruption of the multisystem reaction of emotions, moods, and stress reactions. [23] An individual's quality of life, such as socialization, activity level, and mental well-being, may be significantly affected by poor sleep, which in turn can lead to a vicious cycle of worsening pain and worsening sleep quality. Psychological anguish and physical disability have been linked to poor sleep quality in previous studies of people with persistent low back pain. As a result, clinicians should think about doing a sleep evaluation as early as possible in the course of treating patients with low back pain. In a study of chronic LBP patients, 50% experienced major sleep disturbances, according to the findings. Precisely during the past two decades, some research on LBP causation has focused on individual characteristics, mostly psychological variables, and downplayed the importance of occupational risks, such as the severity of physical demands. Workers who self-reported strong physical demands had more LBP episodes. Other studies have found that employees with greater physical demands are more prone to LBP and absenteeism than those with lower physical demands. Work physical demands are certainly associated with LBP and disability resulting in absenteeism, as shown by Hoy et al. [24] A large population-based investigation found a link between LBP family history and LBP, which matches our findings. Chronic LBP sufferers are more prone to severe pain. The ODI mean scores were high in the acute group, which is consistent with earlier studies. Similar to our research, replies to questions on lumbar symptoms revealed that more people with lumbar spondylarthrosis have intermittent pain than continuous pain. Having back discomfort for 6 months to 20 years has prompted all of those questioned to need formal disability leave from work, approved by the MISS, for 2 months to 5 years altogether. Likewise, their damage was so severe that more than half of the participants had to be hospitalized for 1 to 3 months. 83% of respondents experienced discomfort in the recent week or year. [25] The lumbosacral area is vital for movement and weight-bearing. LBP is caused by mechanical issues here. Various research has studied the link between lumbar spine angle alterations and back pain. The form of the lumbar lordosis has been linked to LBP. Various writers have measured lumbar lordosis angles. A line from the T12 and L5 points was stretched, and the angle at their junction was recorded. Hansson et al. [26] employed the angle between L1 and S1 cranial end plates.

However, we found no difference between the two groups in LSA (P = 0.698). Hansson et al evaluated asymptomatic, acute, and chronic LBP patients' lumbar lordosis and age. The only variation between the groups was gender. In chronic back pain sufferers, lumbar lordosis was shown to be considerably lower regardless of age or gender. LLA showed no change (P = 0.24574). Walker et al. [27] discovered a modest connection between lumbar lordosis and pelvic inclination in asymptomatic subjects. One explanation for LBP sufferers' worse health is that LBP causes stress, anguish, worry and depression. Pain-related variables greatly influence the quality of life of people with CLBP. Pain intensity affects physical and social function. Pain intensity and disability contribute to low quality of life. [28] Another research indicated that pain impacts all areas of QOL, primarily physical and emotional functioning, with severity, intensity, chronicity, and duration of pain influencing the impact. [29] Because of the intensity of the pain and the related functional handicap, people with CLBP have a worse quality of life. Studies have shown that exercise avoidance does not enhance good functioning in those with chronic pain, but rather lowers physical activity and increases impairment.

Limitations of the Study

This study has certain drawbacks. A cross-sectional study using purposeful sampling may have biased results. Our study had a small sample size. We expect many cases to go missing, since acute back pain is frequently treated with anti-inflammatory drugs. These definitions are debatable and unlikely to be universal. Selection and reporting biases are possible research biases. We could not acknowledge the direction of causality. Despite its flaws, this research provides insight into the differences in risk variables between LBP types.

VI. CONCLUSION

Acute and chronic back pain have distinct risk factors. This research found characteristics linked to chronic back pain that was not linked to acute back pain. This knowledge can help physicians intervene to avoid persistent back pain. The data from this research may also be used to target individuals and groups for prevention. Longitudinal cohort studies are required to determine causation in relation to risk variables for back pain and to differentiate between acute and chronic instances. Further research on the efficacy of modest exercise on persistent back pain is required.

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