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CORRELATION BETWEEN DEPRESSION AND CHRONIC LOW BACK PAIN (CLBP) AMONG ADULT INDIVIDUALS

Imran Raza[1*], Iram Bokhari[2], Sana Akbar Qazi[3],

[1]Postgraduate Resident Neurosurgery, Jinnah Postgraduate Medical Center Karachi Pakistan. email: brohiimranraza@gmail.com
[2]Associate Professor & Head of Neurosurgery Department, Jinnah Postgraduate Medical Center Karachi Pakistan. email: bokhariiram3008@gmail.com
[3]Consultant Neurosurgeon, Jinnah Postgraduate Medical Center Karachi Pakistan. email: dr.sanaakbar@hotmail.com

[*]**Corresponding Author:** Imran Raza
[*]Postgraduate Resident Neurosurgery, Jinnah Postgraduate Medical Center Karachi Pakistan. email: brohiimranraza@gmail.com

Abstract

Background: Patients who have chronic low back pain (CLBP) often visit medical clinics to address this common problem. Approximately 577 million people worldwide, or 7.5% of the total population, suffered from low back pain in 2017. Depression is a mental health concern, despite the fact that CLBP is a physical illness. Back pain is widespread from puberty to elderly, and it becomes more likely to occur as people become older. Pain that persists for longer than 12 weeks is referred to as chronic pain. Between 25% and 76% of older individuals living in communities experience chronic pain, including CLBP, which is the second most prevalent cause of disability across all adult age groups.

Objective: To examine the correlation between depression and CLBP among adult individuals.

Study design: Analytical cross sectional analysis

Place and Duration: This study was conducted in Jinnah Postgraduate Medical Center Karachi from December 2022 to December 2023

Methodology: Using a non-probability convenience sampling technique, 180 people who had been suffering from persistent low back pain for three months or more and were at least 20 years of age were included in the study. The PHQ-9 questionnaire was used in the study to measure depression symptoms, and the Numeric Rating Scale (NRS) and Wong Baker Faces Pain Rating Scale were used to measure pain severity.

Results: There were a total of 180 patients involved in this research. The average age in this study was 61 years for patients who were diagnosed with moderate CLBP and for patients with severe pain, the average age was 64 years. There were 100 individuals who had moderate low back pain, 30 individuals who had severe low back pain, and 50 individuals who had mild low back pain. There were a total of 88 males and 92 females in this study.

Conclusion: Since higher pain scores are correlated with higher depression, screening for depression is essential in the treatment of CLBP.

Keywords: adults, chronic low back pain, depression, screening

Introduction

Patients who have chronic low back pain (CLBP) often visit medical clinics to address this common problem [1]. The 2013 Global Burden of Disease study found that CLBP considerably lengthens the amount of time people spend living with a disability across the globe [2]. Approximately 577 million people worldwide, or 7.5% of the total population, suffered from low back pain in 2017 [3]. In addition to causing significant impairment, CLBP lowers quality of life. In addition, persistent pain is frequently linked to anxiety and depression [4].

Depression is a mental health concern, despite the fact that CLBP is a physical illness [5]. Back pain is widespread from puberty to old life, and it becomes more likely to occur as people become older [6]. Pain that persists for longer than 12 weeks is referred to as chronic pain [7]. Furthermore, older people are significantly impacted by CLBP, which makes it difficult to treat. Low back pain is one of the most debilitating and challenging conditions to manage for older persons in the community, according to research, affecting almost one-third of them [8].

Between 25% and 76% of older individuals living in communities experience chronic pain, including CLBP, which is the second most prevalent cause of disability across all adult age groups [9]. Growing older is associated with a higher incidence of low back pain, with many older adults reporting persistent or recurrent complaints.A number of social and psychological variables, including depression, and low vitamin D levels are linked to chronic low back pain (CLBP), which is more common in older women. Mental health evaluations are rarely a regular part of CLBP care, despite the substantial correlation between depression and chronic pain [10]. Depression and CLBP can worsen one another, affecting social and physical functioning in the process. The intricate interaction between physical and psychological variables makes treatment a multifaceted approach encompassing disciplines like physiotherapy, rehabilitation, neurology, and orthopedics [11]. Frequent visits to outpatient clinics are frequently prompted by recurrent episodes of pain, underscoring the necessity of comprehensive management regimens that address both physical and mental well-being [12].

Therefore, this study supports medical professionals, including mental health assessments into their CLBP assessments in order to improve patients' general health and quality of life. The purpose of this research is to examine the correlation between depression and CLBP among adult individuals.

Methodology

Using a non-probability convenience sampling technique, 180 people who had been suffering from persistent low back pain for three months or more and were at least 20 years of age were included in the study. Before starting the study, institutional ethical review committee approval was obtained. With the participants' informed consent, the researcher gave them a self-administered questionnaire that included demographic information and scales measuring pain and sadness.

Exclusion criteria: The study excluded participants with structural back deformities, a history of prior back surgery, or underlying diseases such as cancer, chronic kidney disease, heart disease, autoimmune disorders, or low back discomfort lasting less than three months. Moreover, those with anxiety or depression as a mental diagnosis were not included.

The PHQ-9 questionnaire was used in the study to measure depression symptoms, and the Numeric Rating Scale (NRS) and Wong Baker Faces Pain Rating Scale were used to measure pain severity. Individuals with a PHQ-9 score of ≥10 were considered depressed. On the NRS, the severity of low back pain was classified as mild (0–3), moderate (4-6), or severe (7–10). One-way ANOVA for age and pain severity, with significance at $p \leq 0.05$, Chi-square testing for categorical variables, and Cronbach's alpha test for questionnaire reliability were all included in the statistical analysis.

Results

There were a total of 180 patients involved in this research. The average age in this study was 61 years for patients who were diagnosed with moderate CLBP and for patients with severe pain, the average age was 64 years. There were 100 individuals who had moderate low back pain, 30

individuals who had severe low back pain, and 50 individuals who had mild low back pain. Table number 1 shows an analysis of the PhQ-9 depression scale over a range of CLBP intensities and a comparison of pain scales for different levels of CLBP.

Table No. 1: analysis of the PhQ-9 depression scale over a range of CLBP intensities and a comparison of pain scales for different levels of CLBP

Scales		Low Back Pain		
		Mild (n=50)	Moderate (n=100)	Severe (n=30)
NRS	● Moderate pain	47	43	2
	● Worst pain	3	57	28
Wong-baker FACES pain rating scale	● Hurts little bit	37	13	0
	● Hurts little more	13	37	2
	● Hurts even more	0	34	3
	● Hurts whole lot	0	16	20
	● Hurts worst	0	0	5
PHQ-9	● None	36	13	0
	● Mild	11	39	4
	● Moderate	3	33	8
	● Moderately severe	0	15’	10
	● Severe	0	0	8

Table number 2 shows the comparison of age with low back pain.

Table No. 2:comparison of age with low back pain.

Low back pain	Age with Low back pain	
	N	Mean
None	50	45.5
Mild	55	50.1
Moderate	42	60.9
Moderately severe	25	62.7
Severe	8	64

There were a total of 88 males and 92 females in this study. Table number 3 shows the comparison of gender with low back pain.

Table No. 3:comparison of gender with low back pain.

Scales		Gender	
		Male (n=88)	Female (n=92)
Wong-baker FACES pain rating scale	● Hurts little bit	30	21
	● Hurts little more	22	30
	● Hurts even more	22	16
	● Hurts whole lot	10	25
	● Hurts worst	4	0

Discussion

Our study results suggest that individuals with both CLBP and depression report higher levels of pain compared to those with CLBP but without depression, aligning with findings from previous research [13]. Another study similarly indicates that individuals experiencing depression tend to endure more intense pain and have a lower quality of life than those without depression [14].

Numerous studies show a direct correlation between pain and sadness. According to Stefane et al., the majority of patients in their study (57.2%) had moderate low back pain (LBP) [15]. Frost and colleagues, on the other hand, found that most LBP patients fell into the mild to moderate range [16]. As a result, those who have chronic low back pain may go through periods of severe melancholy, and people who are thinking negatively may increase their impression of pain by obsessively focusing on their suffering.

In our investigation, we found a strong positive relationship between low back pain (LBP) and age. Robertson and colleagues also found that low back discomfort was more common in older age groups [17]. In their research, Pawlowska et al. found that 78% of patients with chronic low back pain (CLBP) had depression; however, a study conducted in Korea found that 20% of CLBP patients had depression [18, 19]. Recovering from LBP is hampered by persistent CLBP, which increases the likelihood of developing depression.

In our study, 72% of individuals with mild chronic low back pain (CLBP) had no incidences of depression. However, moderate to severe depression was present in a significant number of patients with intermediate and severe CLBP. This data was corroborated by Hung et al., who underlined the important contribution of depression to disability in CLBP patients [20].

In contrast to our study, which found that chronic low back pain (CLBP) was more prevalent in older age groups, prior research suggests that CLBP prevalence is higher among those 45–64 years of age. The majority of our study's depressed patients did not exercise, which is in line with research that shows a link between depression and decreased physical activity in people with CLBP. Regular exercise, however, might lessen discomfort and elevate mood. Furthermore, 78% of patients reported having sleep disturbances, which is linked to both depression and CLBP. Lower educational attainment and female gender were linked to an increased incidence of CLBP. Studies have shown that CLBP patients had high rates of depression, suggesting that they are more prone to the condition.

Conclusion

Since higher pain scores are correlated with higher depression, screening for depression is essential in the treatment of CLBP. Patients with CLBP respond better to treatment when their depression is treated specifically

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No conflict of interest

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