



Original Research

Association of sacroiliac joint pain and its dysfunction in patients with low back pain

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Abstract

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This study aims to figure out how many people with low back pain have pain and dysfunction in the sacroiliac joint, how much it affects their daily lives, and the relationship between pain and dysfunction in the sacroiliac joint in people with low back pain. The study was cross-sectional. A sample of 357 people was used to collect the data. Information was gathered through Segment Self-organized poll, Denver SI Joint Survey and Visual Simple Scale and furthermore composed informed agree were given to the members. Information was broken down utilizing SPSS form 23. The majority of the 357 participants were over the age of 45 (37.5%), and only 12% were between the ages of 15 and 25. Both sexes were almost equally involved. The majority of the participants were severely disabled (49%) with moderate pain (43.4%), and only 7 were bed bound. One of the most common causes of low back pain is pain in the sacroiliac joints. According to the findings of the study titled "Association of sacroiliac joint pain and its dysfunction," the majority of patients have moderate pain and dysfunction that falls into the "severely disabled" category. The highest proportion of the affected population is over 45 years old, with almost equal participation from both genders.

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Introduction: The sacroiliac joint has long been thought to be a possible cause of pain in the low back or buttocks, whether there are symptoms within the lower limits¹. A common cause of sacroiliac joint torment, which is a pain in the lower back or the sacral region, is sacroiliac joint dysfunction (SIJD)². SIJD can be caused by instability in the joint caused by changes in the normal range of motion of the joint as well as joint hyper- or hypo portability. In the middle of somewhere in the range of 15 and 40 percent of cases, SIJD can be the base of LBP^{3,4}. The sacroiliac joint (SIJ) was thought to be the most important cause of moo back discomfort during the first three decades of the 20th century⁵. Until Mixter and Barr distinguished circle herniation as a source of torment within the lumbosacral spine in 1934, the sacroiliac joint (SIJ) was commonly accepted to be a significant cause of moo back discomfort^{6,7}. Moo back discomfort affects 85% of 25% of these people may experience discomfort in the sacroiliac joint. Grown-up patients are generally usually affected by SI joint contaminations⁸. It affects 2% of Americans annually and is the most common cause of incapacity among people under the age of 45⁹. All identities and genders are likewise impacted¹⁰. Research revealed that 2% to 10% of individuals had sacroiliac joint brokenness, which connected with moo back and lower limit distress¹¹. SIJ torment as a cause of LBP has been ignored due to the need for effective and long-lasting medications in the past, as well as discussions about the SIJ as a cause of LBP by other specialists¹². An injury to the sacroiliac joint may cause pain in the back and crotch. During the preoperative differential diagnosis of lumbar plate herniation, lumbar spinal stenosis, and aspect disorder, it should be taken into consideration. This thought is about the relationship between SIJ pain and its severity in patients with moo back pain. Surprisingly, not many studies have been conducted on this topic, so this thought will provide information about the topic and you will agree with it. It'll in addition recognize key areas that require advance contemplate since of missing information or contrast.

Methodology: After Endorsement of our exploration proposition by the institutional audit board the authorization for study was taken from moral advisory group of NCS College Swabi. It was a cross-sectional review and was directed in BKMC Swabi, DHQ Swabi and different confidential clinics from May 2022-Oct 2022.

Criteria for Inclusion: Age limit 18 to 70 years. The research included people of both sexes. Patients with LBP and a problem with the SIJ. Members just from area Swabi (KPK, Pakistan).

Criteria for Exclusion: Any serious disease of the body, mental issue, malignancy, under 18 years or more 70 years. Information was collected from complete of 357 members. The all out populace was 5000 and the example size was determined utilizing a web-based number cruncher "Raosoft" with certainty level of 95% and half reaction conveyance and 5% margin of error. Information was broken down utilizing SPSS form 22. Mean \pm S.D, reach and standard deviation for segment information were estimated. The Denver SI Joint Questionnaire and the Visual Analogue Scale were used to collect the data. The survey had a sum of 10 inquiries. Its purpose is to inform

us about the ways in which your sacroiliac (SI) joint pain affects your daily life. The DSIJQ exhibited great test-retest dependability (ICC=0.87), inward consistency (Cronbach's alpha=0.84), and content legitimacy (<30% floor/roof impacts). In clinical and epidemiological studies, VAS is frequently used to measure the intensity or frequency of a variety of symptoms, particularly pain.

Result: There were a total of 357 participants; Females made up 177 (49.6%) and males 180 (50.4%). We have divided them into four categories, ranging in age from 18 to 70. The first is from 15 to 25 years that incorporates 43 members (12%) the second is from 26 to 35 years which comprise of 73 members (20.4%) the following gathering is from 36-45 years that contains 30% (107 members) and the last gathering old enough includes over 45 years of individuals that incorporates 37.5% (134 participants). The Denver SI Joint examiner's seriousness is ordered into five gatherings from negligible inability to bed limited and center ones incorporate moderate extreme and injured and each gathering comprise of 20%. The majority of patients, 175 out of 357, fall into the category of severe disability, as shown in Table 1. Only 2% were in the 81-100% category, or bed bounded. According to the data from the visual analogue scale (0-10 scale), 106 patients had mild pain (0-3 on the VAS), 96 had severe pain (8-10 on the scale), and the remaining 155 had moderate pain (4-7 on the VAS), which was the highest percentage, or 43.4%. (Figure 1) According to the cross-tabulation of the DSIJQ and VAS data, there are a total of 357 populations in which there are some patients in each of the three DSIJQ categories—mild, moderate, and severe. To summarize, we can say that, according to VAS, the majority of patients in every DSIJQ category were in moderate pain (155), while only 96 were in severe pain. However, when we talk about severe disability, the DSIJQ showed that the majority of patients were in mild pain (175) illustared in table 2.

Discussion: This study aims to ascertain the prevalence of SI Joint dysfunction and pain in LBP patients, the degree to which it affects daily life, and the connection between SI Joint dysfunction and pain in LBP patients. The study was cross-sectional. A sample of 357 people was used to collect the data. Information was gathered utilizing Denver SI Joint Survey and Visual Simple Scale. The majority of the 357 participants were over 45 years old (37.5%); a minority of the patients were between the ages of 15 and 25, with the remaining patients falling somewhere in between. The remaining participants fall into the categories of minimal, moderate, and crippled disability, with ratios of 6.4%, 26.1 percent, and 16.5 percent, respectively, of participants who are severely disabled (49 percent), in moderate pain (43.4%), and bed bounded.

an article that was published in the physical and rehabilitation medicine anthologies in 2018. In order to determine whether or not they had sacroiliac joint dysfunction, this study looked at 136 men and women with low back pain who were between the ages of 29 and 12 and had a BMI of 23.35 and 2.9 kg/m². They had a 40% prevalence of SIJ dysfunction, according to subsequent studies¹³.

A review led from 2018-2019, all out of 84 patients were surveyed for SIJ brokenness, previously having low back

torment. SIJ dysfunction was identified in 51 (60.7 percent) low back pain patients receiving treatment. Patients with both lumbar and sacral regions were included in this. Thirty-one percent (31%) of patients sought treatment for SIJD. Male participants were less likely than female participants to have SIJD involvement with low back pain¹⁴. In patients with mechanical low back pain, a 2020 study revealed that approximately 25% of patients had SIJ dysfunction¹⁵. A neurosurgeon in Florida conducted another study in 2019 and found that 30% of patients with low back pain had sacroiliac joint dysfunction¹⁶.

Low back torment because of SIJ brokenness had impacted 15% to 30% of complete populace all over the planet, and this rate is radically expanding step by step. In the United States, a 2002 National Health Interview survey revealed that 26.4 percent of 31, 44 participants had low back pain¹⁷. In a cross-sectional study about sacroiliac joint dysfunction in patients with a herniated lumbar disc that was published in the Journal of Back and Musculoskeletal Rehabilitation in 2013, 202 patients over the age of 18 were included in the study. Beginning in 2007, a three-year study was carried out in an outpatient clinic of a university hospital. Seventy-two participants (72.3% of the total) were found to have SIJ dysfunction. Females had significantly higher rates of dysfunction. The review presumed that sacroiliac joint brokenness is a huge pathogenic component with high chance of event in low back torment. Therefore, sacroiliac joint dysfunction must be taken into account in clinical decision-making regardless of intervertebral disc pathology¹⁸. An article published in the Journal of Pain Research in 2020 revealed that SIJ dysfunction is the most common health problem that results in disabilities, accounting for 38% of cases of low back pain and a global prevalence of 9.4%¹⁹. The 2009 study on sacroiliac joint pathologies in low back pain, which was published in the Journal of Back and Musculoskeletal Rehabilitation²⁰. The study describes the clinical spectrum of patients with sacroiliac joint (SIJ)-related low back pain. 61 patients with SIJ pain (unilateral or bilateral) lasting more than six weeks were evaluated in this retrospective review. 52 individuals (M: F, 31:21) among 61 patients had specific SIJ pathologies identified⁶. A 2007 article examined the prevalence of sacroiliac joint dysfunction in patients with low back pain. A total of fifty patients with disc herniation and low back pain were examined. The 50 patients who took part in the study had an average age of 49.5 ±17.7. There were 36 female patients and 14 male patients. The range of the mean baseline VAS pain score from 5 to 10 was 7.8. The study came to the conclusion that in this group of patients, sacroiliac joint dysfunction should be strongly considered in the differential diagnosis of low back pain²⁰. In contrast, the correlation between SI Joint pain and dysfunction in our 357-person study with both genders involved reveals that the majority of patients have moderate pain and severely disabled dysfunction. Additionally, the age group that was most affected by SI

Joint pain and dysfunction was over 45, with both sexes affected roughly equally.

Conclusion: The results of our study on the relationship between SI joint pain and dysfunction show that the majority of patients have moderate pain and dysfunction in the severely disabled category. The highest proportion of the affected population was over 45 years old, with both genders almost equally affected. This leads us to the conclusion that adult patients in their fourth decade or older are most frequently affected by SI joint diseases.

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Table 1. Frequency of different dysfunction categories according to DSIJQ

Denver SI Joint Questionnaire		
	Frequency	Percent
0-20% Minimal Disability	23	6.4
21-40% Moderate Disability	93	26.1
41-60% Severe Disability	175	49.0
61-80% Crippled	59	16.5
81-100% Bedbound	7	2.0
Total	357	100.0

Table 2. Relationship between pain and dysfunction

Denver SI Joint Questionnaire * Visual Analogue Scale Cross tabulation				
	Visual Analogue Scale			Total
	0-3 Mild Pain	4-7 Moderate Pain	8-10 Severe Pain	
0-20% Minimal Disability	5	17	1	23
21-40% Moderate Disability	22	51	20	93
41-60% Severe Disability	65	58	52	175
61-80% Crippled	13	24	22	59
81-100% Bedbound	1	5	1	7
Total	106	155	96	357

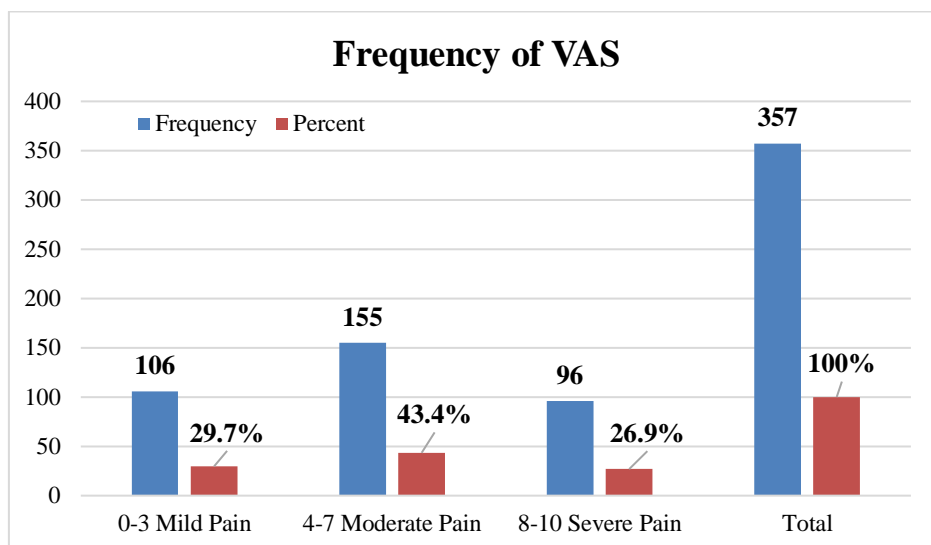


Figure 1. Frequency of pain severity according to VAS