



Original Article

Prevalence of Persistent Sacroiliac Pain Among Postpartum Women; A Cross-sectional Survey

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ABSTRACT

Background: The sacroiliac joint in pregnant and postpartum women is prone to dysfunction due to several biomechanical changes that occur during gestation. This comprises an increased angle of lordosis, weight gain and structural stress caused by the physiologic process of birthing. **Objective:** To evaluate the prevalence of persistent sacroiliac pain among postpartum women. **Methods:** A cross-sectional type of descriptive study was performed for a period of six months from April 2019 to October 2019. Permission from the Ethics Committee of the Lahore College of Physical Therapy, Lahore Medical and Dental College was obtained. The questionnaire was accompanied by an information sheet that explains the nature and purpose of the study. A non-probability random sampling technique was used to recruit the participants for the study. About 67 postpartum women following 4 to 6 months with a history of back pain participated in the study. The respondents were assured that their responses will be kept confidential. Exclusion criteria constituted those women who were pregnant, had chronic low back pain, had undergone surgery or had any recent history of inflammatory, infective, traumatic, neoplastic or degenerative disease. The data collection was completed over six months from April to October 2019. The clinical tests consisted of a posterior pelvic pain provocation, Faber, Gaenslen, compression and distraction tests. Data was analyzed by using SPSS version 21 and variables were presented in the form of percentages and frequency. The relationship between the variable was presented in the form of cross-tabulation. **Results:** A total of 43 postpartum women (64%), had reported persistent sacroiliac pain at the time of examination. Out of 67 participants, 27 postpartum women that experienced sacroiliac joint pain were multiparous women and 16 were primiparous women. The percentage of participants that underwent C-section delivery affected with sacroiliac pain in the postpartum period was 76% and those with normal delivery was 58%. **Conclusion:** The results of the present study concluded that 64% of women suffered from persistent sacroiliac pain in the postpartum period. Incidence was high among multiparous women. An increased percentage of sacroiliac pain was found in postpartum women who underwent C-section delivery.

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Keywords: multiparous; postpartum; sacroiliac pain

DOI: 10.55735/hjprs.v3i7.161

Citations: Ali H, Khalid M, Azeem MS, Saleem S, Asim MH, Sadiq S. Prevalence of persistent sacroiliac pain among postpartum women; A cross-sectional survey. The Healer Journal of Physiotherapy and Rehabilitation Sciences. 2023;3(7):710-716.



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INTRODUCTION

Pregnancy-related pelvic girdle pain is one of the major complaints observed in women during and after pregnancy.¹ According to recent studies, one of the frequent musculoskeletal problems in late gestation is pelvic girdle pain with a prevalence of more than 50%. This prevalence falls and reaches 25% during the initial 3 months of postpartum but one over five of these women with pelvic girdle pain suppose, to have significant issues.² According to European guidelines pelvic girdle pain is defined as “pelvic girdle pain is pain that arises due to trauma, pregnancy, arthritis and osteoarthritis.”³ Pelvic girdle pain is the combination of sacroiliac pain and pubic symphysis. In this study, we will only address sacroiliac pain in postpartum women. The sacroiliac joint is the joint between the sacrum and ilium bones which are connected by strong ligaments. It is hypomobile in nature and stabilized by spinal muscles and anterior abdominal muscles. The sacroiliac joint range of motion is less than 4 degrees in rotation and 1.6mm of translation.⁴ Sacroiliac pain is defined as pain between the posterior iliac crest and the gluteal fold radiating to the posterior thigh in the vicinity of the sacroiliac joint.⁵ Sacroiliac pain is classified into unilateral and bilateral sacroiliac joint pain.⁶

One of the causes of low back pain can be the sacroiliac joint.⁷ About 23-65% of pregnant women suffered from sacroiliac pain according to the prevalence studies. Usually, the sacroiliac pain resolves 6-8 weeks after delivery. But 17% still have sacroiliac pain 3 months after delivery and 8.5% have persistent pain two years postpartum.⁸ The pathophysiological mechanism of pregnancy-related sacroiliac pain remains unclear but possible etiological factors are hormonal influence, biomechanical changes, trauma, inadequate motor control and laxity of the ligament.⁹ As suggested that during pregnancy

concentration of hormone, relaxin increases 10 folds that relax the structures of the pelvis and lower spine and increases the laxity of ligaments around the pelvic girdle to aid the process of childbirth.⁴ The ligament laxity may return to normal after birth but if they remain loose, the joint will allow repetitive movement and will cause pain. Similarly, physiological changes occur in the human body during pregnancy such as weight gain, postural changes and changes in the strength of muscles and tendons. Increase weight during pregnancy shift center of gravity anteriorly. Postural changes occur to balance the anterior shift which results in lordosis of the lumbar spine which further increases stress on the joint. These changes contribute to an increase in the abdominal load, pelvic instability and laxity of joints. These changes increase strain on the sacroiliac joint which causes discomfort and disabilities to the sufferer.¹⁰ Postpartum period is a period immediately after the child's birth when the mother's body return to a non-pregnant state. It is usually described as 6 weeks following a child's birth.⁴ It is a period of childcare where the mother pays no attention to her health which contributes to prolong and repetitive suffering.⁸

The postpartum period is described as the most crucial as well as most ignored part of women's lives by the World Health Organization (WHO).¹¹ Sacroiliac pain experienced by women in the postpartum period impaired their function and makes it difficult to perform activities of daily living. They complain that they feel discomfort and pain with physical activities such as walking, going up and down the stairs. Their pain aggravates when sitting or standing for a prolonged period.¹² Many mothers reported functional limitations in a qualitative study that they experience pain and difficulty turning in bed, wearing socks and shoes and driving long distances.¹³ Sacroiliac pain

affects 1 in 5 postpartum women and leads to severe functional disability.¹⁴ Women with persistent pain suffer from emotional distress and depression in the postpartum period. These all consequences prevent women to look forward to future pregnancies and adversely affect mother and child relationship.¹⁵ It adversely affects the quality of life of a mother after pregnancy. It is one of the major causes of sick leave in postpartum women. It should be considered a serious women's health issue from both clinical and research perspectives. While research on pelvic girdle pain during pregnancy is vast, studies on postpartum sacroiliac pain are far more limited.

There have to be more studies done to see whether primipara or multipara women are more likely to have sacroiliac pain. Knowing how the two groups experienced pain differently might be useful for developing personalized pain intervention approaches. More study is required to emphasize the significance of early diagnosis and treatment of sacroiliac pain by medical practitioners, especially gynecologists and physical therapists, in preventing long-term impairment. In favor of pregnancy-related discomfort, the existing literature largely ignores the pain that some women suffer in the pelvic region after delivering birth. Since so little study has compared the severity of sacroiliac pain in primipara and multipara women, very little was known about the various risk factors and the different pain experiences of each group. This study aims to address this information gap by revealing previously unknown aspects of sacroiliac pain after giving delivery. The significance of this study for obstetrics and women's health is substantial. Sacroiliac discomfort is common in postpartum women, although the extent to which it affects these women varies greatly. Furthermore, by comparing primipara and multipara women, we may acquire insights

into potential risk factors and customized therapy alternatives. These findings support the idea that sending postpartum women with sacroiliac pain to physical therapy may help reduce their symptoms and improve their quality of life. The purpose of the study was to find out the incidence of sacroiliac pain in postpartum women and find the severity of sacroiliac pain in primipara and multipara. Gynecologists should schedule a follow-up in the postpartum period and refer women with sacroiliac pain to the physiotherapist, so they are treated earlier and prevent future disabilities.

METHODS

A cross-sectional type of descriptive study was performed for a period of six months from April 2019 to October 2019. Permission from the Ethics Committee of the Lahore College of Physical Therapy, Lahore Medical and Dental College was obtained. The questionnaire was accompanied by an information sheet that explains the nature and purpose of the study and explains that consent was taken from every participant. A non-probability random sampling technique was used to recruit the participants for the study. 67 postpartum women following 4 to 6 months with a history of back pain participated in the study. The respondents were assured that their responses will be kept confidential. Exclusion criteria constitute those women who were pregnant, have chronic low back pain requiring surgery or have any recent history of inflammatory, infective, traumatic, neoplastic or degenerative disease. The sample size was calculated using this formula,

$$Z2 \frac{\left(1 - \frac{\alpha}{2}\right) P (1 - p)}{d^2}$$

where P: prevalence, Z2: Confidence interval=1.96, $(1-\alpha/2)=0.17\%$, d: precision=0.09 Data was collected from all postpartum mothers following 4 to 6 months coming for immunization of their children at

Ghurki Hospital and Basic health unit. Patients who fall into the inclusion criteria were screened. Patients were assessed using five provocative tests (Faber, posterior pelvic provocation, Gaenslen, compression and distraction tests). The validity of the diagnostic tests is 0.79%. Prior consent from all patients was taken.¹⁶ Data was entered by using Statistical Package for Social Sciences (SPSS) version 23 and the same software was used for data analysis. The study variables were presented in the form of descriptive statistics (tables, graphs and percentages).

RESULTS

The age of postpartum women was between 19 to 35 years with a mean and standard deviation of 26.71 ± 4.51 . Out of 67 postpartum women, the test was positive at 64.2% (43) and negative at 35.8% (24). The unilateral sacroiliac pain was present in 40.3% (27) and was absent in 59.7% (40) while bilateral sacroiliac pain was present in 22.4% (15) and was absent in 77.6% (52). The primiparous women affected with unilateral pain was 50% (12) and multiparous women were 34.9% (15).

Table 1: Frequency of Participants Affected with Sacroiliac Pain According to Postpartum Period

	Test		Total
	Positive	Negative	
4 th month	22 (32.8%)	8 (11.9%)	30 (44.7%)
5 th month	5 (7.5%)	6 (9.0%)	11 (16.4%)
6 th month	16 (23.9%)	10 (14.9%)	26 (38.8%)
Total	24 (35.8%)	43 (64.2%)	67 (100%)

women 25.6%(11). In the 4th postpartum month participant affected with Sacroiliac pain was 22, in the 5th postpartum month was

5 and in the 6th month was 16. Out of 67 participants, 27 affected with sacroiliac pain were multiparous and 16 were primiparous women.

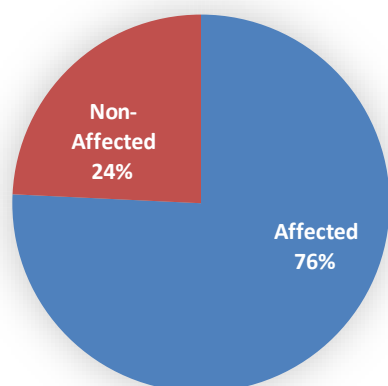
Table 2: Frequency of Primiparous and Multiparous Women Affected with Sacroiliac Pain

	Test		Total
	Positive	Negative	
Primiparous	16 (23.9%)	8 (11.9%)	24 (35.8%)
Multiparous	27 (40.3%)	-	43 (64.1%)
Total	24 (35.8%)	67 (100%)	43 (64.2%)

DISCUSSION

The current study was carried out to evaluate the persistent sacroiliac pain among postpartum women in Lahore. The study concluded that out of 67 participants, an incidence of sacroiliac pain among postpartum women was 64%. These findings of the study resemble the work of a study¹⁷ which conducted a study to determine the prevalence of sacroiliac joint pain among postpartum women in Lahore. The study showed that the age of the enrolled women was 20-40 years, According to the Faber test, sacroiliac joint pain was present in 66.4% of the women and absent in 33.6% of the women. Another similar study¹⁸ was also carried out on the prevalence of sacroiliac joint dysfunction in postpartum women. The study concluded that 61.8% of the women were having this pain. The current study concluded that overall 76% of women were affected with sacroiliac pain after cesarean delivery as compared with 58% of the vaginal delivery group. The results of MRI that were done on women who had just given birth as well as women who were not pregnant were examined and studied in a recent study. According to the findings, women who had

Figure 1: Percentage of C-section Participants Affected with Sacroiliac Pain in Postpartum Women



just given birth and were still in the early stages of postpartum recovery had a higher incidence of bone marrow edema (BME), erosions and sclerosis. In addition, a greater frequency of osteophytes was seen in women who had long postpartum periods (LPP). The new findings provide support for earlier studies on the occurrence of BME and erosions in postpartum women. In addition, the findings indicate a link between osteophytes and a lengthy amount of time spent postpartum, which is most likely the outcome of deterioration brought on by aging.¹⁹ The current study revealed the maximum participant that experiences sacroiliac pain in the 4th month after delivery. One-third were overweight (37.06%), one-fourth were obese (34.41%), 18.82% were at a healthy weight (9.71%) and 9.71% were severely underweight (0.03%).

About 79.7% of participants were found to have sacroiliac joint dysfunction, with the prevalence being highest (74%) among middle-aged obese participants. The present study analyzed data from people of varying ages and body mass index, showing that middle-aged people who were overweight or obese were disproportionately affected by sacroiliac joint dysfunction.²⁰ The results of our study concluded that multiparous women

were more subjected to sacroiliac pain in contrast with Primiparous women. In the current study, researchers looked at data from 193 people who did not have SpA across a wider range of time in the late postpartum period (from 2 to 63 years after giving birth) than was done in the previous literature.²¹ However, birth was linked to an increased likelihood of developing chronic subchondral sclerosis, which was comparable to what was found in the immediate postpartum period and remained longer than in SpA patients, but had no long-term influence on BME scores.²¹ Comparisons were made to patients without SpA to offer a longitudinal perspective on the postpartum period.

CONCLUSION

The results of the present study concluded that 64% of women suffered from persistent sacroiliac pain in the postpartum period. Incidence was high among multiparous women. An increase percentage of sacroiliac pain was found in postpartum women who underwent C-section delivery. The results have the potential to improve the quality of life for postpartum women with sacroiliac pain by tailoring intervention strategies to encourage improved maternal care through collaborative efforts between gynecologists and physiotherapists, yield long-term health benefits, influence family planning decisions, reduce healthcare costs, guide policy decisions and to stimulate further research.

DECLARATIONS

Consent to participate: Written consent had been taken from patients. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None

Funding: No funding source is involved.

Authors' contributions: All authors read and

approved the final manuscript.

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