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Research Article

Prevalence of post-partum pelvic girdle pain among women: a descriptive cross-sectional study

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ABSTRACT

Pregnancy-related low back pain is a common complaint during the second and third trimesters. Postpartum Pelvic Girdle Pain (PGP), also referred to as sacroiliac joint pain, is frequently experienced after childbirth due to strain, alignment changes, and pelvic joint instability. Despite its prevalence, PGP is often overlooked and misdiagnosed. It typically affects the posterior iliac crest and gluteal fold, with pain radiating to the posterior thigh and pubic symphysis. Diagnosis is confirmed after excluding lumbar spine causes and performing specific clinical tests.

To assess the prevalence and severity of pelvic girdle pain among postpartum women using the Visual Analog Scale (VAS) and Pelvic Girdle Questionnaire (PGQ).

A cross-sectional study was conducted among postpartum women aged 20–45 years, between 4–6 weeks postpartum. Participants were screened based on inclusion and exclusion criteria. The data collection process involved the Pelvic Provocation Test (P4), obtaining informed consent, recording demographic details, and administering the PGQ and VAS through interviews. Data were statistically analysed to identify pain prevalence and intensity.

The mean age of participants was 28.5 ± 4.00 years. PGQ results showed that 30% had low dysfunction, 58% moderate, and 13% high. VAS scores indicated 49% reported mild pain, 39% moderate pain, and 13% severe pain.

A significant proportion of postpartum women experience PGP, with moderate dysfunction being most common. Early diagnosis and intervention are essential to improve postpartum recovery and quality of life.

Keywords: Postpartum Pelvic Girdle Pain (PGP), Pelvic Girdle Questionnaire (PGQ), Visual Analog Scale (VAS).

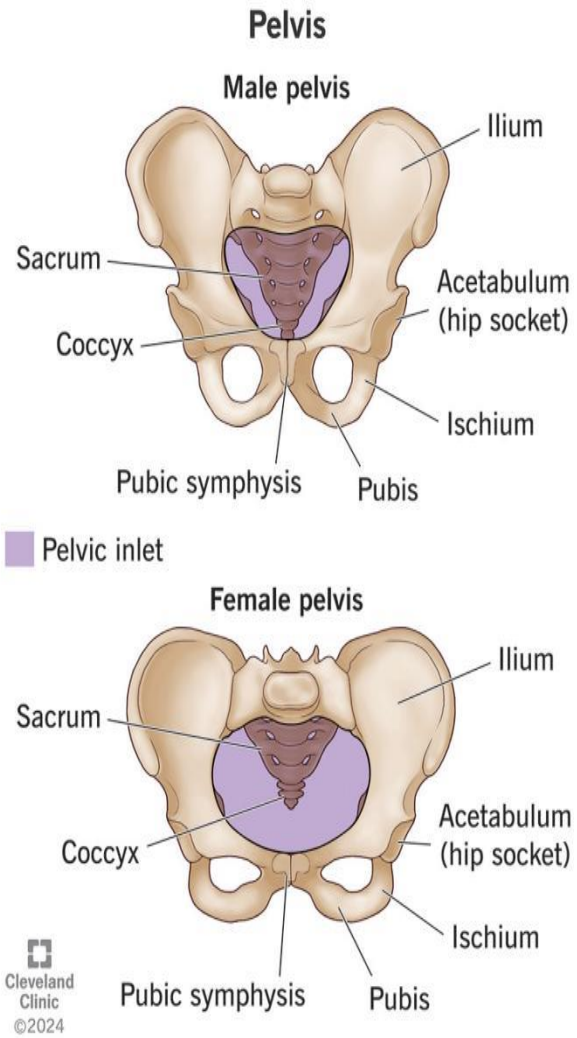
INTRODUCTION

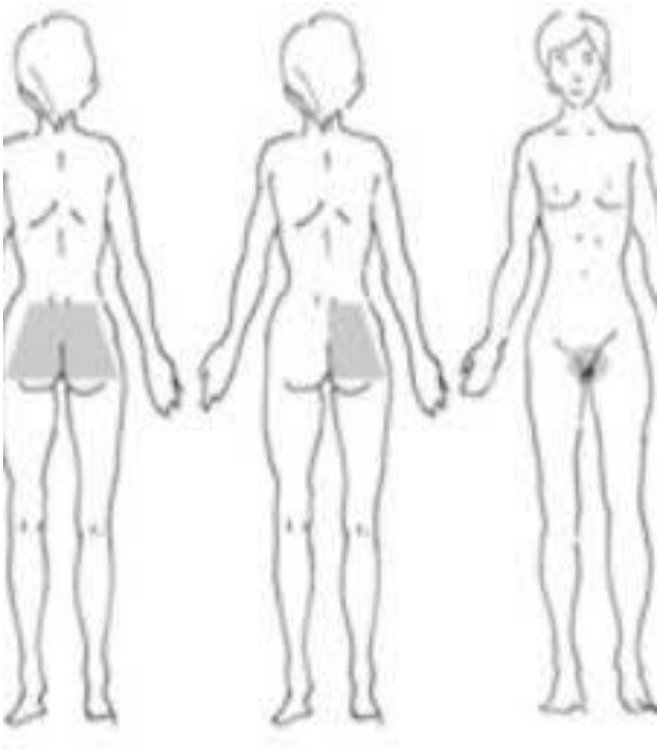
Pregnancy-related low back pain is a common condition, especially during the second and third trimesters, resulting from physiological and hormonal changes as the body adapts to support the growing fetes [1]. The pain can range from mild to severe and may interfere with daily activities, although it is often manageable with appropriate care. Postpartum pelvic girdle pain (PGP), also known as sacroiliac joint pain, refers to discomfort in the pelvic region following childbirth. It typically arises due to strain, joint misalignment, and instability in the pelvic structures caused by the physical demands of pregnancy and delivery [2].

Pelvic girdle pain (PGP) is a common yet frequently overlooked discomfort during and after pregnancy, often arising from trauma, arthritis, or osteoarthritis, and typically affecting the posterior iliac crest, gluteal fold, and sometimes radiating to the posterior thigh and pubic

symphysis. Diagnosis involves ruling out lumbar causes and conducting specific clinical tests. While PGP presents with varying degrees of pain and disability, it is often perceived as a normal physiological change of pregnancy, leading to underdiagnosis and minimal treatment. However, research shows that in approximately 20% of cases, PGP can be severe, resulting in significant functional limitations and socio-economic consequences, highlighting the need for better awareness and clinical management [3].

The pelvic spine comprises the sacrum and coccyx, while the pelvic girdle is formed by two innominate bones on each side, made up of the ilium, ischium, and pubis. These bones join anteriorly at the pubic symphysis and posteriorly with the sacrum, forming a rigid pelvic ring with limited mobility. The pelvic floor consists of muscles, ligaments, and fascia that create a supportive sling for the bladder, reproductive organs, and rectum. This soft tissue structure is enclosed within the bony framework and plays a vital role in maintaining pelvic stability, particularly during pregnancy.





The sacroiliac joint is a common source of pain in the lower back and leg region, accounting for approximately 30% of chronic low back pain cases. Identifying sacroiliac joint dysfunction through physical examination can be challenging due to the overlapping symptoms with other lumbar conditions. Moreover, specific diagnostic tests require trained practitioners and may not always be practical or cost-effective in routine clinical settings.

This musculoskeletal disorder is a form of low back pain experienced between posterior iliac crest and the lower edge of gluteal fold, most commonly in the vicinity of sacroiliac joint. Pelvic girdle pain also includes pain in pubic symphysis occurring in isolation or in conjunction with another pelvic joint. Most of the women experience pelvic girdle pain after delivery and in many cases, they end differentiating pelvic girdle pain and low back pain. There are several posterior pelvic provocation tests such as such as Distraction test, Compression test, Gaelen test, thrust test, Thigh thrust test out of 5 which any 3 indicates there is pain and that leads to pelvic girdle pain [4].

More than 50% of people who are pregnant suffer from low back and/or pelvic girdle pain (LB/PGP), which studies have linked to depression and functional disability. Physical discomfort and LB/PGP often hinder pregnant women from engaging in the recommended levels of physical activity, even though more active pregnant women experience better maternal and fetal health outcomes. In addition, the incidence of LB/PGP during pregnancy raises

the chances of experiencing LB/PGP in the postpartum period, which remains linked to depression and functional disability. Considering the anatomical and physiological changes that occur during pregnancy, it is crucial to comprehend the movement patterns, joint loading behaviors, and muscle usage of pregnant individuals experiencing high and low pain levels. Specifically, neuromuscular adaptations during gait may hold significance as it is a frequent daily activity linked to pain in and after pregnancy [5].

Pelvic Girdle Pain (PGP) is a common yet underdiagnosed condition affecting many women during and after pregnancy. Often mistaken for general low back pain, it can significantly impair mobility, daily functioning, and quality of life. Around 50% of pregnant women experience PGP, with 20% reporting it alongside low back pain. If left unmanaged, PGP can persist into the postpartum period, increasing the risk of chronic pain and physical dysfunction.

Postpartum, unresolved PGP may delay recovery, affect maternal activities, and reduce overall well-being. This study aims to assess the prevalence of postpartum PGP using the Visual Analogue Scale (VAS) and the Pelvic Girdle Pain Questionnaire (PGPQ). The findings will support early identification, better management, and the development of targeted physiotherapy strategies to reduce the burden of PGP among postpartum women.

MATERIALS AND METHODS

Study design

A descriptive cross-sectional study was conducted to determine the prevalence of pelvic girdle pain (PGP) among postpartum women.

Study setting

The study was carried out in the Inpatient Department of Obstetrics and Gynaecology at [Dr. A.P.J ABDUL KALAM COLLEGE OF PHYSIOTHERAPY, PIMS-DU].

Study duration

The study was conducted over a period of 6 months.

Ethical consideration

Ethical clearance for the study was obtained from the Institutional Ethical Committee of Dr. A.P.J Abdul Kalam College of Physiotherapy, PIMS-DU. IEC Registration Number: PIMS/DR.APJAKCOPT/IEC/2024/194.

Informed consent was obtained from all participants prior to participation.

Study population

Postpartum women aged between 20–45 years admitted to the obstetrics and gynaecology department during the study period.

Sampling method

Convenient sampling was used to recruit participants.

Sample size

A total of 300 postpartum women were included in the study.

Blinding

The study was single-blinded; the assessor was aware of the procedure, but the participants were unaware of the specific groupings or outcome expectations to minimize reporting bias.

Selection criteria

Inclusion criteria

Postpartum women

Age between 20 to 45 years

Any gravida

Exclusion criteria

History of low back pain prior to pregnancy

History of trauma to the back or pelvic region

Outcomes measures

Distraction test

The SIJ (Sacroiliac Joint) Distraction test, commonly referred to as Gapping, serves to provide additional evidence to the hypotheses of an SIJ sprain or dysfunction when utilized within the Haslett SIJ Cluster testing. The anterior sacroiliac ligaments are stressed by this test. Other names for this test include the Transverse Anterior Stress Test and the Sacroiliac Joint Stress Test. The patient lying supine, the examiner exerts a vertically oriented force directed posteriorly onto both anterior superior iliac spines (ASIS).

Reliability- test-retest k= 0.46

Specificity- 81%, 100%

Sensitivity- 60%, 55%

Odds ratio- positive likelihood ratio 3.20, negative likelihood ratio 0.40 [6].

Compression test

The Sacroiliac Joint (SIJ) Compression Test, also known as the “Approximation Test,” is a pain provocation test designed to stress the SIJ structures, especially the posterior SIJ ligament, to reproduce the patient’s symptoms. The patient lies on their side while the examiner positions their hands above the upper section of the iliac crest and applies pressure towards the ground. The movement exerts a

forward pressure on the sacrum. An augmented sensation of strain in the sacroiliac joints suggests a possible sacroiliac lesion and/or spraining of the posterior sacroiliac ligaments. Pain or the replication of the patient's symptoms indicates a positive result.

Reliability- test-retest k= 0.58

Specificity- 69%

Sensitivity- 60%

Odds ratio- positive likelihood ratio 2.20, negative likelihood ratio 0.46.

Gaeslen test

The patient starts off in a supine position, with the leg experiencing pain resting on the edge of the treatment table. The examiner flexes the non-symptomatic hip sagittal, while the knee is also flexed (up to 90 degrees). While the therapist secures the pelvis and exerts passive pressure on the symptomatic leg to maintain it in a hyperextended position, the patient should grasp the non-tested (asymptomatic) leg with both arms. A downward force is exerted on the lower leg (the symptomatic side), resulting in hyperextension at the hip. Simultaneously, a flexion-based counterforce is applied to the flexed leg, pushing it cephalad and creating torque on the pelvis. A test result is deemed positive if the patient's usual pain is elicited.

Reliability- test-retest k= 0.58

Specificity- Right 71%, Left 77%

Sensitivity- Right 53%, Left 50%

Odds ratio- positive likelihood ratio Right 1.84, Left 2.21, negative likelihood ratio Right 0.66, Left 0.65.

Thigh thrust test

With the leg on the symptomatic side bent to a 90° angle of hip flexion, position your hand over the patient's sacrum. Then, exert longitudinal pressure along the patient's femur to generate a shearing force at the SI joint. Use 3-6 thrusts of greater speed, while increasing the pressure step by step. A positive test will lead to the replication of the patient's familiar pain.

Reliability- test-retest k= 0.69

Specificity- 71%

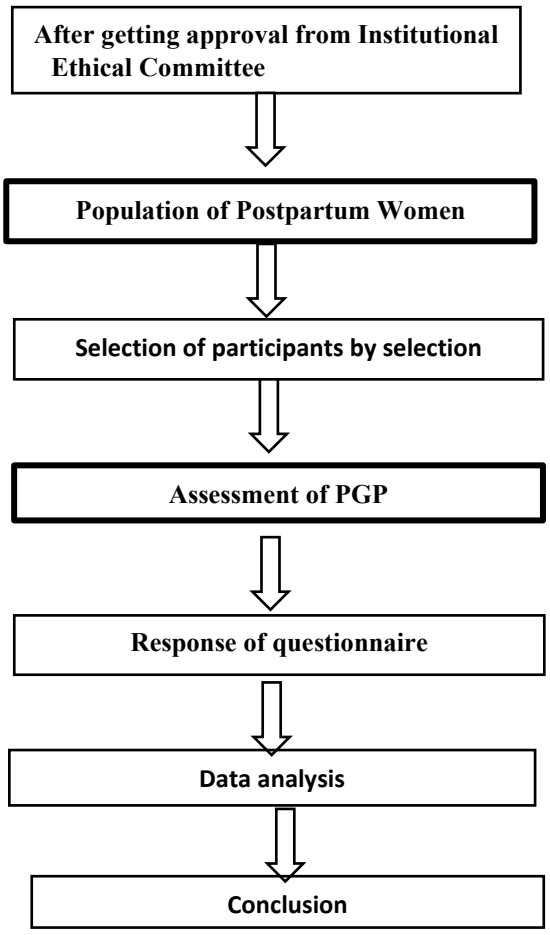
Sensitivity- 88%

Odds ratio- positive likelihood ratio 2.80, negative likelihood ratio 0.66.

Thrust test

While the patient is in a prone position, the examiner exerts pressure toward the front over the sacrum. One hand is positioned directly on the sacrum, while the other hand reinforces it. The aim is to exert an anterior shear force on both sacroiliac joints, as the ilia are secured by the examination bench. If the sacroiliac region reproduces pain, the test is positive.

Procedure



RESULTS

Statistical analysis

Age

Table 1: Age Distribution

Age	20-25	26-30	31-35	36-40
No. of participants	139	95	63	3
MEAN	22.8705036	27.07368421	32.38095238	36.33333333
SD	1.397899731	1.033915356	1.325051082	0.577350269

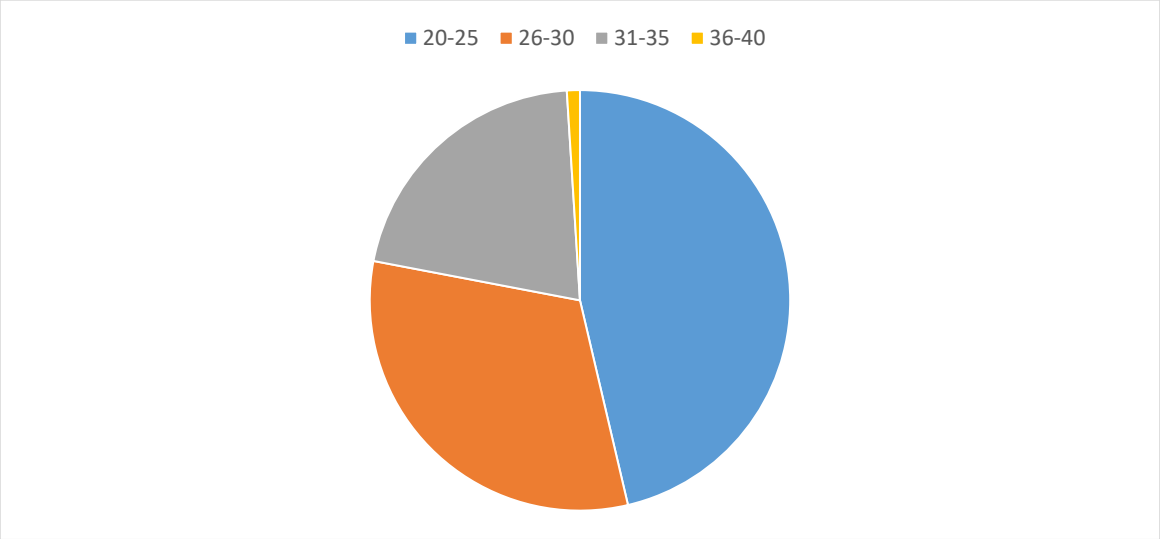
Table 2: PGQ interpretation

Interpretation	Low	Moderate	High
No. of participants	89	174	89

Table 3: VAS Interpretation

Interpretation	Mild	Moderate	Severe
No. Of participants	146	116	38

Chart 1: Age Distribution



The above pie chart shows the distributions of ages, starting with the youngest age 20 and the oldest 40 years.

Out of which 46% patients fall in the category of 20-25 years

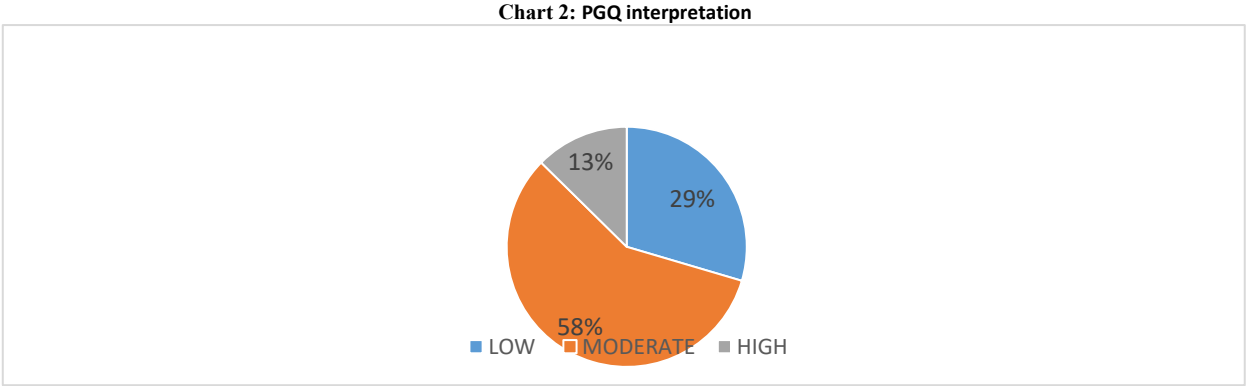
32% patients fall in the category of 26-30 years of age

21% patients fall in the category of 31-35 years of age

1% patients fall in the category of 36-40 years of age.

The mean and standard deviation of age is 28.5 ± 4.007796193.

Chart 2: PGQ interpretation



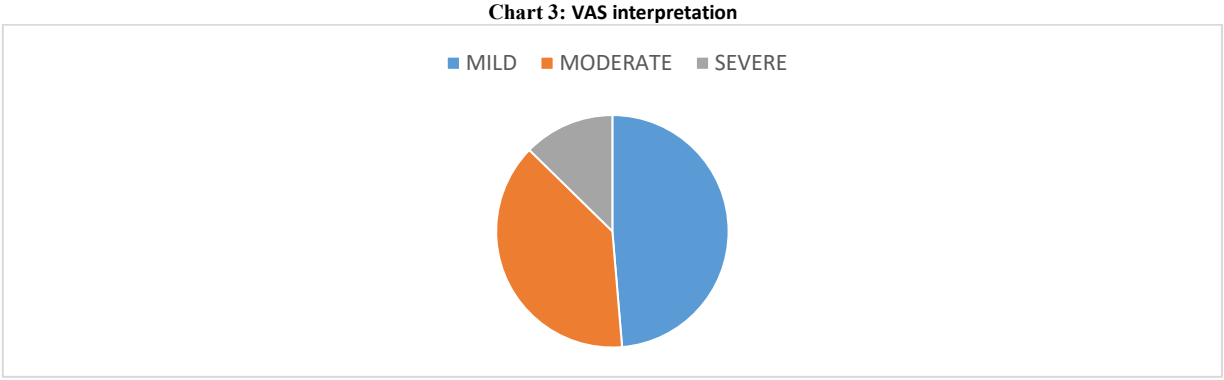
The study PGQ Interpretation shows that

30% of females is with Low score

58% of females is with Moderate score

13% of females is with High score

Chart 3: VAS interpretation



Above VAS Interpretation with the depicts that

49% with Mild Pain

39% with Moderate Pain

13% with Severe Pain.

DISCUSSION

The study was conducted in the Inpatient Department of Obstetrics and Gynaecology at Pravara Medical Trust (PMT) over six months, involving 300 postpartum women. Using structured questionnaires and clinical assessments, the study aimed to identify factors affecting postpartum health. Ethical approval was obtained, and informed consent was taken from all participants.

Pregnancy-related low back pain (LBP) and postpartum pelvic girdle pain (PGP) are prevalent musculoskeletal issues caused by physiological and mechanical changes during pregnancy. These conditions can affect mobility, daily functioning, and emotional health if not managed properly.

PGP was analysed in relation to age, with the highest prevalence found in the 20–25 years group (46%), followed by 26–30 years (32%), 31–35 years (21%), and 36–40 years (1%). Participants underwent pelvic provocation tests, and those with three or more positive results completed the Pelvic Girdle Questionnaire (PGQ) and VAS for pain intensity.

PGQ scores indicated higher disability in younger women. In the 20–25 group, most had low-to-moderate scores; in the 26–30 and 31–35 groups, moderate and high scores were more common. VAS scores also showed that younger women experienced more mild pain, while older groups had more moderate-to-severe pain.

This aligns with the findings of Britt Sturge et al. (2017), who reported that younger women more commonly experience PGP and/or LBP. The increased prevalence in the 20–25 age group may be due to the higher rate of early pregnancies in rural areas where the study was conducted.

CONCLUSION

A considerable number of postpartum women, particularly in younger age groups, report pelvic girdle pain, with moderate dysfunction being most common. While mild to moderate pain is more frequent, the findings stress the need for early care to improve recovery and long-term outcomes. Increased awareness and better treatment strategies can reduce the impact of PGP on women's health.

PGQ Scores show that women aged 20–25 experience more high-level dysfunction (score: 19), while the 26–30 group mostly reports moderate scores (79). The 31–35 group presents a mix, with some high and moderate scores, and the 36–40 group shows only high scores, though fewer in number.

VAS Pain Scores indicate that younger women (20–25) mostly report mild pain (110), while moderate and severe pain rise in older age groups—particularly in the 31–35 range. The 36–40 group reports very low pain across all levels, possibly due to lower sensitivity or fewer complaints. Overall, pain intensity and dysfunction appear to vary by age, with younger women facing milder symptoms and older women reporting more severe pain but less frequent quality-related issues.

Limitations and future scope

Limitations: Population size was 300

Future Scope: To assess type of delivery and no. of gravida and parity for better results.

Conflict of interest

Authors declare no conflict of interest.

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