

Prevalence of Pelvic Girdle Pain in Pregnant Women



Medical Science

KEYWORDS : pregnancy, pelvic girdle pain, gestational age, pain provocation tests

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ABSTRACT

Pelvic Girdle Pain (PGP) is defined as pain experienced between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the Sacroiliac joint (SIJ). The pain may radiate in the posterior thigh and can also occur in conjunction with/or separately in the symphysis. Objective: 1. To find out prevalence of Anterior and Posterior PGP. 2. To find out the most affected activities of daily living in pregnant women due to PGP. Method: After taking informed consent, subjects were evaluated using pain provocation tests. The data was analysed using MS Excel. Results & Conclusions: Out of total 62 pregnant women, 24 had Pelvic Girdle Pain. The Prevalence of PGP was found to be 39%. The study also suggests that PGP is seen more in women falling in the gestational week range of 21 to 36.c

INTRODUCTION

Pregnancy is associated with many physiological and biomechanical changes. These changes lead to various types of musculoskeletal problems. Out of these, one important type is pregnancy related pelvic girdle pain.^[1] Pelvic Girdle Pain is defined as pain experienced between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the Sacroiliac joint (SIJ). The pain may radiate in the posterior thigh and can also occur in conjunction with/or separately in the symphysis.^[1] Pelvic girdle pain generally arises in relation to pregnancy, trauma, arthritis and osteoarthritis. The endurance capacity for standing, walking, and sitting is diminished. The diagnosis of Pelvic Girdle Pain can be reached after exclusion of lumbar causes.^[1] The pain or functional disturbances in relation to PGP must be reproducible by specific clinical tests. PGP may have a biomechanical origin and be related to non-optimal stability of the pelvic joints.^[13] During pregnancy, the female body is exposed to certain factors that have an impact on the dynamic stability of the pelvis. One such factor is the effect of the hormone relaxin, which in combination with other hormones, affects the laxity of ligaments of the pelvic girdle as well as ligaments in the rest of the body. The effect of increased ligament laxity is a slightly larger range of movement in the pelvic joints. If this is not compensated for by altered neuromotor control, pain may result.^[1] According to literature, the prevalence of women who suffer from pelvic girdle pain during their pregnancy is about 20 %.^[4] Also, a study performed by Mousavi J et al on Iranian population, shows that the prevalence of PGP was 28%. Hence, there is a need to explore the Prevalence of PGP in the Indian population along-with consideration of all aspects of PGP which is usually not considered in other studies.

METHODS:

It is a cross-sectional study conducted on pregnant women visiting the OPD in MGM Hospital, Navi Mumbai in the month of September '15. Purposive sampling technique was used and a total 62 pregnant women participated in the study. Data was collected by performing pain provocation tests on the subjects only after taking prior informed written consent. The data collected was analysed using Microsoft Excel and then represented graphically.

RESULTS:

Mean age of samples included in the study was 24 years (SD 3.9) Mean gestational age (in weeks) of samples included in the study was 24.4 (SD 10.7) Out of the 24 pregnant women having PGP, 18 (75%) had Posterior PGP, 5 (21%) had Anterior PGP and 1 (4%) had Complete PGP. The most affected activities of daily living in Anterior Pelvic Girdle Pain is Getting up from chair and Lifting a light load. The

most affected activities of daily living in Posterior Pelvic Girdle Pain are Turning in bed and Getting up from chair.

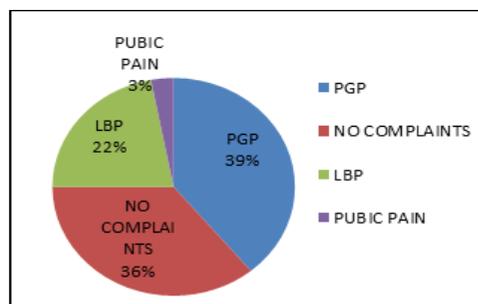


Figure 1

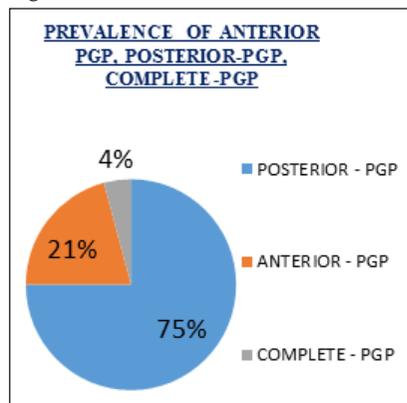


Figure 2

Inference: Out of the 24 pregnant women having PGP, 18 (75%) had Posterior PGP, 5 (21%) had Anterior PGP and 1 (4%) had Complete PGP.

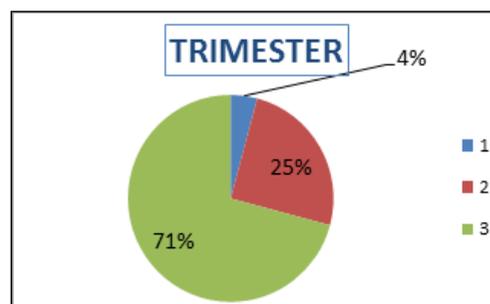


Figure 3

Table1

A.	Turning in bed
B.	Walking
C.	Getting up from chair
D.	Lifting a light load
E.	Climbing stairs

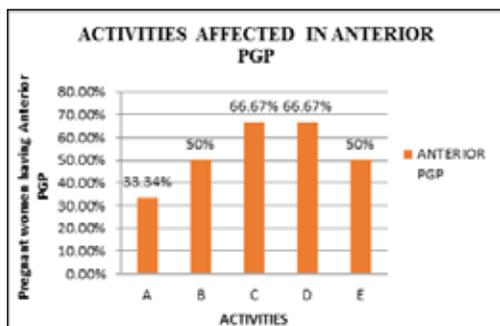


Figure 4

Inference: The most affected activities of daily living in Anterior Pelvic Girdle Pain is Getting up from chair and Lifting a light load.

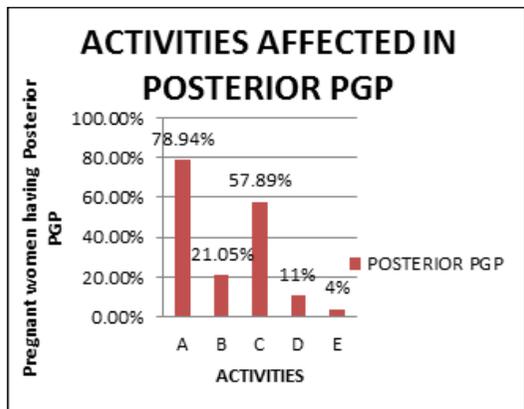


Figure 5

Inference: The most affected activities of daily living in Posterior Pelvic Girdle Pain are Turning in bed and Getting up from chair.

DISCUSSION:

Out of 62 pregnant women include in this study, 14 belonged to 1st trimester, 16 belonged to 2nd trimester and 32 belonged to 3rd trimester. Pregnancy is considered to be a normal phase of life. So females do not give much attention to their health during earlier months of pregnancy. Most of them visit hospitals only during end of second to end of last trimester or till they have any health issue during pregnancy. So it is observed that majority of pregnant women visit hospital to register themselves for preparation of delivery in their late phase of pregnancy.

Less studies have been done to explore all aspects of PGP in India. Though specific assessment and treatment protocol is framed for Pelvic Girdle Pain. Still PGP is considered to be a part of Low Back Pain.

As given in figure 1, prevalence of Pelvic Girdle Pain was found to be 39 %. Similar findings were seen in a study done by Ramchandra et al. where prevalence of PGP was 37%.^[5] PGP occurs because of increasing abdominal load due to increase in the weight of the foetus as pregnancy

progresses. The increasing abdominal load causes the centre of gravity to move ahead from the normal and therefore leads to development of lumbar lordosis. This increases the strain on the spinal muscles and causes altered biomechanics of sacroiliac joints. The important factor in PGP is the effect of the hormone relaxin, which in combination with other hormones, affects the laxity of ligaments of the pelvic girdle as well as ligaments in the rest of the body.^{[1][5]} The effect of increased ligament laxity is a slightly larger range of movement in the pelvic joints and if not compensated for by altered neuromotor control, pain may result.^{[1][2]}

Out of 24 women having PGP, prevalence of PGP was highest in Posterior PGP (75%) followed by Anterior PGP (21%) and Complete PGP (4%) as shown in figure 2. The prevalence of Posterior PGP is higher due to increase in abdominal load which lead to increased load on the spine which thereby affects the sacroiliac joints.

Also, the higher mobility of Sacroiliac joints during pregnancy can be a causative factor for higher instability. Widening of the interpubic gap and increased mobility at the symphysis is a causative factor of Anterior PGP.

As shown in figure 4 & 5, the most affected activity of daily living in pregnant women having posterior PGP and Anterior PGP is Turning in bed and Getting up from chair, respectively. This occurs due to joint instability resulting in pain.

According to Gilleard’s study, many of the biomechanical changes occur in the pelvis or in adjacent joints. Although there are few kinematic changes in late pregnancy, most of them are related to the angular motion of the pelvis and the hip joint. The result with greater emphasis between studies is the anterior tilt of the pelvis. The position taken by the pelvis in late pregnancy seems to be a consequence of the weight of the uterus, placenta, and fetus placed on the anterior zone of the body and the weaker capacity to produce force by the rectus abdominis. However, the function of this anterior tilt and the increase of the lumbar lordosis are related to the maintenance of the trunk in an upright position ^[14]. The decrease in the range of motion of the pelvis in the frontal and transverse planes suggests that this may be a way to control the angular momentum caused by the increase of the moment of inertia of the trunk in late pregnancy. These changes exert stress on the abductors and extensors muscles of hip and when combined with a higher stretch derived from the pelvis contributes to pelvic pain. Hence, we can see that it is difficult to accommodate the structural, functional and hormonal changes that occur during pregnancy.

CONCLUSION:

It was found that the prevalence of Posterior Pelvic Girdle Pain is significantly higher than that of Anterior Pelvic Girdle Pain. The most affected activities of daily living in pregnant women with Anterior Pelvic Girdle Pain are Getting up from chair and Lifting a light load. The most affected activities of daily living in Posterior Pelvic Girdle Pain are Turning in bed and Getting up from chair.

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