



POSTERIOR PELVIC PAIN; PREVALENCE OF POSTERIOR PELVIC PAIN DURING THREE TRIMESTERS OF PREGNANCY

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ABSTRACT... Background: Pregnancy related posterior pelvic pain (PRPPP) is a common complaint among pregnant females. It is one of main source for disability, absence from work and is responsible for direct and indirect economical impact. **Purpose of the Study:** To investigate the prevalence of pregnancy associated posterior pelvic pain and to ascertain its occurrence in three trimesters of pregnancy. **Study Design:** Cross sectional survey. **Setting:** District Head Quarter Hospital Sargodha & Gynae OPDs of different clinics. **Period:** Jan 2013 to Dec 2013. **Materials and Methods:** 200 pregnant females, the range of age group was 16-42 years and participants were selected through convenience sampling technique. All pregnant females were interviewed using structured questionnaire having open and close ended questions. Posterior pelvic pain provocation test and Gaenslen's test were performed on all females with lumbo-pelvic pain and intensity of pain was measured, using visual analogue scale. **Results:** 200 pregnant females were studied, 140 (70%) pregnant females were in 2nd or 3rd trimesters of pregnancy and 102 (51%) reported posterior pelvic pain, and amongst 60 pregnant females in 1st trimesters showed only 10 (5%) reported posterior pelvic pain. All pregnant females (n=112, 56%) having posterior pelvic pain showed positive posterior pelvic pain tests and Intensity of pain in pregnant females with pelvic girdle pain in 1st, 2nd and 3rd trimesters measured using visual analogue scale, with mean value 6.09 (SD= 2.16). **Conclusion:** About 2 in every 3rd females studied; reported to have posterior pelvic pain, more in 2nd and 3rd trimesters of pregnancy as compared to 1st trimester of pregnancy. The high prevalence causes considerable health problem, physical dysfunction, and poor work performance in Pakistani pregnant females and need more attention by health professionals and researchers.

Key words: Pregnant Female, Pregnancy Related Posterior Pelvic, Low Back Pain, Physical Dysfunction.

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INTRODUCTION

Low back pain is one of most common discomforts during pregnancy. This pain and discomfort ranges from mild with specific activities to chronic low back pain. Posterior pelvic pain is one of the most common presentations of low back pain. Pain felt at or near the sacroiliac joint as a result of sacroiliac joint dysfunction is labeled as Posterior pelvic pain/pelvic girdle pain. PGP/ PPP usually occur in later months of pregnancy but can begin at onset of pregnancy. Low back pain can disturb daily routine and can be constant nuisance during household activities/work activities and sleep as well. It is necessary to understand the type and cause of low back pain to manage back pain at early stages and improve life style of pregnant

women.

A number of studies were done regarding the epidemiology of back pain due to pregnancy. Rates of pregnancy related back pain victims range from 25% to 90% with most studies estimating that 50% of pregnant women suffer from LBP, 1/3 of them suffer from severe pain that reduces quality of life.¹ Back pain related to pregnancy begins in 20th and 28th week of gestation. Lumbar pelvic pain is common during pregnancy with prevalence variously ranging from 50-70%.² The prevalence of posterior pelvic pain in pregnant women is about 20% supported by kanakris et al. The severity of posterior pelvic pain is less but causes trouble in performing

activities of daily living. Women suffering from persistent pain present with higher disability levels and difficulties in professional tasks.³ In a 12 year follow-up study of women with severe pelvic pain requiring sick leave during pregnancy, 92% reported pain during subsequent pregnancy and 86% had recurrent pain while pregnant.⁴ However pregnancy is a risk factor for persistent PPP requiring long term sick leave.

Time span of normal pregnancy is about 40 weeks from conception to delivery, divided into three trimesters and every trimester has its own physiological changes. Physiological changes during pregnancy are normal adaptations that a woman undergoes to accommodate the fetus. These changes include cardiovascular, hematological, renal, respiratory and musculoskeletal.⁵ One of the most common complaints of pregnant females is back pain. According to studies pregnancy related back pain frequently occur in second and third trimesters. This pain can be categorized into two categories, one is labeled as lumbar pain and the other one is labeled as posterior pelvic pain. The area affected by lumbar pain is lower lumbar spine and the involvement of neural structures may lead to its radiation below knee or up to foot.⁶ Back pain experienced by other female population has similarity with pregnancy related back pain. The major factor which contributes in aggravation of the pain is sustained or continuous posture. It causes continuous mechanical pressure on bony elements as well as paraspinal muscles leading to pain, tenderness and spasm. Second type of pain is called as posterior pelvic pain, the prevalence of posterior pelvic pain is much higher than lumbar pain. Back pain in pregnancy is quite common and it affects quality of life as well. It is usually caused by sacroiliac joint dysfunction which is the functional unit of pelvis allowing normal alternating movements during walking. Posterior pelvic pain causes 25% pregnant women to seek medical help due to adverse impact on quality of life.⁷

Assessment of Posterior Pelvic Pain:

There should be multidisciplinary team

involvement for assessment which include GP, Obstetrician, midwifery, physiotherapists, occupational therapists, behavior therapists and other relevant officials. clinical pelvis function test include mainly Active straight leg raise test (ASLR), posterior pelvic provocation test, Faber test/Patrick test symphysis pubis test.⁸

The intensity of pain was measured using visual analogue scale. Self reported patient questionnaire, valid questionnaire include Oswestry disability index (ODI), and pelvic girdle questionnaires.

MANAGEMENT OF PREGNANCY INDUCED POSTERIOR PELVIC PAIN

The conservative management for PPP/PGP aims to reduce pain, improvement in quality of life and prevention from complications in conjunction with detailed assessment.

Severity of pain in early stage (more than 7/10 in visual analogue scale) is more likely to result in chronicity if left untreated so early treatment approach and effective treatment is necessary. Customized exercises, appropriate mechanics and use of ergonomic guidelines are important elements of conservative treatment. Activities promote and support proper postures necessary for avoiding un-necessary stress on supporting structures.¹³

There is no specific treatment available for Posterior Pelvic Pain (PGP) but European Guidelines for diagnosis and treatment of PPP are as follows.⁹

- 1: Most important aspect of PPP treatment is pain management, regular analgesic drugs may be prescribed during pregnancy with proper monitoring.¹⁰
- 2: Physical therapy assessment and treatment is necessary.
- 3: Manipulation and mobilization of joints may be used to test and treatment of PPP.¹¹
- 4: Soft tissue release, pelvic belt, acupuncture, massage are helpful in conjunction with physical therapy.
- 7: There should be adequate education, posture

guidance, use of proper body mechanics, and home exercise programme.

SIGNIFICANCE OF STUDY

Pregnancy results in various anatomical, physiological and musculoskeletal changes which are normal without any pathological consequences but lack of awareness about these changes and good posture handling, results in low back pain (PPP or lumbar pain) and other faulty posture induced problems.

This study is undertaken to determine the prevalence of posterior pelvic pain during pregnancy and to calculate the trimester of peak posterior pelvic pain.

This study highlights the importance of musculoskeletal guidelines in pregnancy, where there is lack of awareness about healthy pregnancy and poor maternity services for child bearing female. The study conducted will provide a better understanding about pregnancy induced posterior pelvic pain and to take preventive measures according to each trimester to improve quality of life. This study clarifies the concept of pregnancy related back issues among healthcare providers and assists clinicians and in diagnosis and management of Posterior Pelvic Pain in pregnancy.

MATERIAL AND METHODS

This is a cross sectional survey. The duration of the study was 6 months. The research participants were selected through convenient sampling technique. 200 pregnant females fulfilling the inclusion and exclusion criteria were interviewed through a structured questionnaire. The research setting was district head quarter hospital Sargodha. The independent variable of this study was pregnancy and dependent variable was posterior pelvic pain. The data was analyzed using SPSS 20 (statistical package for social sciences) and expressed in the form of charts and graphs.

RESULTS

The sample were composed of 200 pregnant females.

No of participants	46	112	42
Trimester of Pregnancy	First	Second	Third
%	30%	29%	41%
Region of pain	Lumber	Pelvic	No pain
%	23%	56%	21%
Radiation of PPP	Yes	No	No pain
%	48%	31%	21%
Previous history of back pain/PPP (%)		64%	36%
Negative effect of pain on quality of life (%)		69%	31%

Among 200 pregnant females posterior pelvic pain was more prevalent in 2nd trimester (N= 112, 56%), 30% (N=46) female suffered from lumber pain in first trimester, and no back pain was found in 21% females (N= 42). More specifically; 30% pregnant females studied had 1st trimester out of which 5% females had pelvic girdle pain 4% lumbar pain and 15% had no pain complaints at all, 70% pregnant females studied had 2nd and third trimester had posterior pelvic pain and lumbar pain at average of 51% and 19% respectively and 6% had no pain determined that females in 2nd and third trimester suffered from posterior pelvic pain more as compare to females in 1st trimester. Another important concern was that whether pain is radiating or it localized, out of 200 females 48% having pain radiating to buttocks and lower extremities as compare to 31% females had localized pain. 34% pregnant females have 1st pregnancy, 20% second and 46% pregnant females had more than second pregnancy at time of survey.

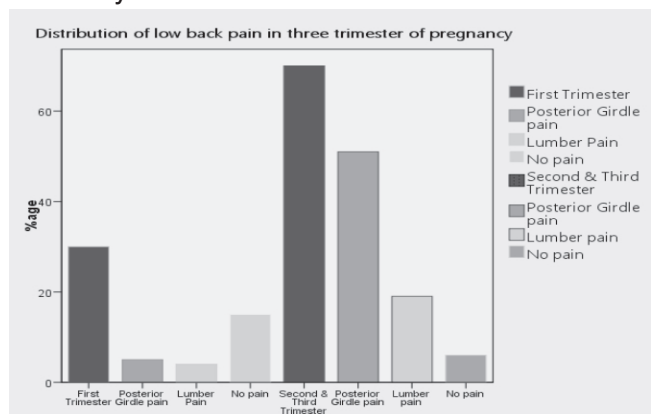


Figure-1. Average value of pregnant women studied in 1st, 2nd & 3rd trimesters of pregnancy, as well posterior pelvic/pelvic girdle pain and lumbar pain distribution during all three trimesters.

DISCUSSIONS

This study explored the impact of course of pregnancy on posterior pelvic pain as well prevalence of posterior pelvic pain during three trimesters of pregnancy. This study is first cross sectional survey in Punjab (Pakistan) to our knowledge to investigate changes during three trimesters, that induce or affect back pain as well which type of low back pain (posterior pelvic pain or lumbar pain) is prevalent in different trimesters of pregnancies. Overall findings support prevalence of posterior pelvic pain during pregnancy in later trimesters of pregnancy.

Posterior pelvic pain is more common in pregnant females as compared to non pregnant females most likely due to softening of ligaments and joints of lumbosacral region occasioned by elevated progesterone and relaxin during pregnancy.¹² out of both types of back pain Pelvic girdle pain is more prevalent than lumbar pain and reaches to its peak both in prevalence and severity in 2nd trimester and 3rd trimester.¹³ The studies were conducted by Pole et al, Price et al, Hansen et al, Mousavi et al; to assess prevalence of pregnancy related Pelvic Girdle Pain, and concluded that pelvic girdle pain occurs at its peak (7.3%) in late pregnancy, at 36 weeks gestation out of seven females, one female suffers from this pain, and more than half victims continued to report symptoms postpartum and even after after 1 year with decreased physical function level.¹⁴

The present study conducted in duration of 6 months (June 2013-dec 2013). Cross sectional study design was used having questionnaire as data collection tool, 200 pregnant female sample size had been studied. All the participants are healthy having no major complications associated with pregnancy, questions were interviewed from patients and physical examination was also done to confirm the type of pain. It had also been concluded from our study that back pain (lumbar back pain, posterior pelvic back pain or occur in combination) is common during pregnancy, More specifically it had been determined that posterior pelvic pain is more common type of back pain and occurred more in 2nd and 3rd trimesters as compare to 1st trimester due to physiological

and musculoskeletal changes during pregnancy as these changes are more apparent during 2nd and 3rd trimesters as 56 % females suffered from posterior pelvic pain out of which 51% females suffered PPP during 2nd and 3rd trimesters and 5% in 1st trimester of pregnancy.

CONCLUSIONS

According to this study when all forms of non specific back pain were considered 2 out of 3 pregnant women had some low back pain during pregnancy and posterior pelvic pain is more common in second and third trimester as compared to 1st trimester. Pregnancy related pelvic pain may be result of biomechanical, musculoskeletal and hormonal changes during pregnancy. Visual analogue scale showed pain intensity levels from mild to moderate resulting in physical dysfunction and absences from work in working women. Results from present study may be important to consider in pregnancy related pelvic girdle pain. According to Literature PPP causes disability, limits activities of daily living, and should be treated as soon as possible. Effective treatment approach results in marked reduction of pain even if 100 percent cure is not possible. Back and Posterior pelvic pain are highly prevalent in three trimesters of pregnancy. Although prognosis is good if proper management was done, but there are several factors which are to be identified and controlled to prevent PPP and LP during and after pregnancy. Women reporting pelvic inflammation after delivery have highest risk of developing chronic pains.

Further studies on how to prevent the development of factors that describe pregnancy associated pelvic girdle pain are needed, with studies on contextual factors as well as psychosocial factors within participation dimensions. Women having history of pre-pregnancy low back pain are more prone to severe form of PPP and associated physical disabilities.




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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Razia Rizwan	Study concept & design.	
2	Mohsana Tariq	Data collection & analysis.	
3	Sahreen Anwar	Critical Revision.	
4	Raheela Kanwal	Manuscript editing.	