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A PROSPECTIVE OBSERVATIONAL STUDY TO ASSESS THE PREVALENCE, RISK FACTORS AND SEVERITY OF LOW BACK PAIN AMONG PREGNANT WOMEN ATTENDING A TERTIARY CARE HOSPITAL.

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ABSTRACT

Background: Low back pain is one of the most common musculoskeletal complaints during pregnancy, affecting a significant proportion of pregnant women. Hormonal changes, weight gain, altered posture, and biochemical stress contribute to the development of pregnancy-related low back pain. Although often considered a normal part of pregnancy, it can adversely affect daily activities, sleep quality, work performance, and overall quality of life.**Objectives:** To determine the prevalence of low back pain during pregnancy, identify associated risk factors, assess its severity, and evaluate its impact on daily activities and quality of life among pregnant women.**Methods:**A hospital-based prospective observational study was conducted in the Department of Obstetrics and Gynecology and department of neurosurgery of a tertiary care center. A total of 150 pregnant women attending antenatal clinics between 12 and 40 weeks of gestation were enrolled. Demographic and obstetric data were collected using a structured questionnaire. The severity of low back pain was assessed using the Visual Analogue Scale (VAS). Potential risk factors including maternal age, body mass index, parity, gestational age, occupational activity, previous history of back pain, and physical activity levels were evaluated. The impact of pain on daily activities, sleep, and quality of life was also assessed.**Results:** Among the 150 pregnant women studied, 92 (61.3%) reported experiencing low back pain during pregnancy. The prevalence increased with advancing gestational age and was significantly higher among multiparous women, women with higher BMI, and those with a previous history of back pain ($p < 0.05$). The mean VAS pain score was 5.8 ± 1.9. Moderate-to-severe pain was reported by 58.7% of affected women. Low back pain significantly interfered with daily activities, prolonged standing, walking, household work, and sleep quality. A significant association was observed between pain severity and reduction in quality-of-life scores.**Conclusion:** Low back pain is a highly prevalent problem during pregnancy and has a substantial impact on maternal well-being and quality of life. Higher BMI, multiparity, advanced gestational age, and previous history of back pain are important risk factors. Early identification, patient education, and appropriate preventive measures may help reduce the burden of pregnancy-related low back pain.

KEYWORDS

Pregnancy, Low Back Pain, Prevalence, Risk Factors, Quality of Life, Visual Analogue Scale.

INTRODUCTION

Low back pain (LBP) is one of the most common musculoskeletal complaints during pregnancy, affecting approximately 50–70% of pregnant women worldwide. Pregnancy-related low back pain is characterized by discomfort or pain localized between the lower rib margin and gluteal folds and may radiate to the lower limbs. Although often considered a physiological consequence of pregnancy, it can significantly impair maternal quality of life and functional capacity.[1,7]

Several physiological and biochemical changes occurring during pregnancy contribute to the development of low back pain. Increased maternal weight, alteration in posture, anterior displacement of the center of gravity, ligamentous laxity induced by relaxin hormone, and weakening of abdominal muscles place additional stress on the lumbar spine and pelvic girdle.[3,4]

Pregnancy-related low back pain may interfere with routine daily activities, sleep quality, occupational performance, and psychological well-being. Severe pain can result in reduced mobility, absenteeism from work, and increased healthcare utilization. Despite its high prevalence, low back pain during pregnancy often remains undiagnosed and untreated.5

Various maternal factors such as advanced gestational age, Parity, obesity, previous history of back pain, sedentary lifestyle, and occupational strain have been identified as potential risk factors. Early identification of these risk factors may help in implementing preventive strategies and improving maternal comfort during pregnancy.[6,7]

The present study was undertaken to determine the prevalence of low back pain during pregnancy, identify associated risk factors, assess pain severity, and evaluate its impact on daily activities and quality of life among pregnant women attending a tertiary care center.

MATERIALS AND METHODS

Study Design: Hospital-based prospective observational study.
Study Setting: Department of Obstetrics and Gynaecology and department of neurosurgery Tertiary Care Hospital, India.
Study Duration: 12 months.
Study Population: Pregnant women attending antenatal clinics.
Sample Size:A total of 150 pregnant women were enrolled.

Inclusion Criteria: Singleton pregnancy, Gestational age 12–40 weeks, Willingness to participate

Exclusion Criteria: Known spinal deformity, Previous spinal surgery, Neurological disorders, Trauma-related back pain, Unwillingness to participate

Data Collection:
Baseline assessment included: Detailed history, General and obstetric examination, Body Mass Index (BMI), Gestational age, Parity, Previous history of low back pain, Occupational activity

Pain assessment was performed using Visual Analogue Scale (VAS).

Outcome Measures: Prevalence of low back pain, Severity of pain, Associated risk factors, Impact on daily activities, Effect on sleep quality and quality of life

RESULTS

Demographic Characteristics

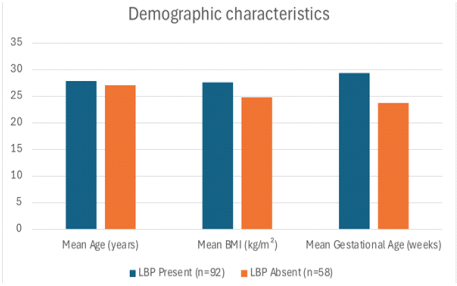
Both groups (women with and without low back pain) were comparable regarding age, parity, BMI, and gestational age.

Table 1: Demographic Data

Parameter	LBP Present (n=92)	LBP Absent (n=58)	P Value
Mean Age (years)	27.9 ± 3.4	27.1 ± 3.8	0.42
Mean BMI (kg/m²)	27.6 ± 2.9	24.8 ± 2.5	0.001
Mean Gestational Age (weeks)	29.4 ± 4.8	23.8 ± 5.1	0.001

The mean age was comparable between the two groups (P = 0.42). However, women with low back pain had significantly higher BMI and gestational age compared to women without low back pain (P = 0.001), suggesting these factors may be associated with pregnancy-related low back pain.

Graph 1: Demographic data



Prevalence of Low Back Pain

Out of 150 pregnant women included in the study, 92 (61.3%) reported low back pain during pregnancy, while 58 (38.7%) did not report low back pain. This indicates that low back pain is a common complaint among pregnant women.

Table 2: Prevalence of Low Back Pain among pregnant women

Variable	Number of pregnant women	Percentage
LBP Present	92	61.3
LBP absent	58	38.7
Total	150	100

Severity of Pain

The mean VAS score among women with low back pain was 5.8±1.9. Among the 92 pregnant women who reported low back pain, the majority (47.8%) experienced moderate pain, followed by severe pain (32.6%). Mild pain was reported by 19.6% of participants. This suggests that most affected women experienced clinically significant discomfort during pregnancy.

Table 3: Severity of Low Back Pain based on Visual analogue scale

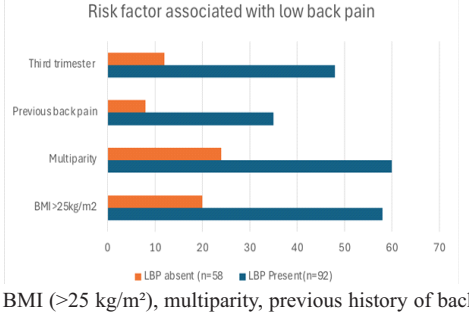
VAS Score	Number of patients	Percentage
Mild(1-3)	18	19.6
Moderate(4-6)	44	47.8
Severe(7-10)	30	32.6
Total	92	100

Risk Factors Associated with Low Back Pain

Table 4: Risk Factors

Risk factor	LBP Present(n=92)	LBP absent (n=58)	P value
BMI>25kg/m2	58	20	0.001
Multiparity	60	24	0.01
Previous back pain	35	8	0.001
Third trimester	48	12	0.001

Graph 2:Risk factor associated with low back pain



Higher BMI (>25 kg/m²), multiparity, previous history of back pain, and third-trimester pregnancy were significantly associated with the occurrence of low back pain during pregnancy. These findings suggest that both maternal characteristics and advancing gestational age contribute to the development of pregnancy-related low back pain.

Impact on Daily Activities

Among women with low back pain: 65% reported difficulty in prolonged standing 58% reported disturbed sleep 54% reported difficulty in household activities 38% reported limitation of walking

DISCUSSION

The present study evaluated the prevalence, severity, risk factors, and impact of low back pain among pregnant women attending a tertiary care center.

The prevalence of low back pain in the present study was 61.3%, which is comparable to findings reported by Mogren et al. and Kovacs et al. who documented prevalence rates ranging from 50% to 70%.[1,2]

The prevalence increased significantly with advancing gestational age. Women in the third trimester reported a higher frequency and severity of pain, likely due to increased mechanical stress and postural changes associated with fetal growth.[3,4]

Higher BMI was significantly associated with low back pain. Excess maternal weight increases lumbar load and contributes to musculoskeletal strain. Similar findings have been reported in previous studies.[5,6]

Multiparity and previous history of back pain were also significant predictors. Repeated pregnancies may weaken supporting structures of the spine and pelvis, predisposing women to recurrent symptoms.[6]

The majority of women experienced moderate to severe pain, resulting in impairment of daily activities and sleep quality. These findings highlight the substantial impact of low back pain on maternal well-being and quality of life.

CONCLUSION

Low back pain is a highly prevalent musculoskeletal complaint during pregnancy, affecting more than half of pregnant women.

The present study demonstrates that:

The prevalence of low back pain during pregnancy was 61.3%.

Higher BMI, multiparity, advanced gestational age, and previous history of back pain are significant risk factors.

Most women experience moderate to severe pain.

Low back pain adversely affects daily activities, mobility, and sleep quality.

Early identification and appropriate management may reduce maternal discomfort and improve quality of life.

Therefore, routine screening for low back pain should be incorporated into antenatal care, and preventive strategies including patient education, exercise programs, and postural advice should be encouraged.

Conflict of Interest: Nil

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