

Prevalence of Low Back Pain during Pregnancy in Primigravida

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ABSTRACT

Background and Need for Research: Musculoskeletal changes that occur during pregnancy include changes in posture and anterior pelvic tilt due to lengthening of the abdominal and pelvic floor muscles. The incidence of some degree of back pain during pregnancy is relatively high due to these changes. Changes in female postural alignment are natural occurrences as pregnancy develops. Low back pain is a common complaint among women during pregnancy and has a great impact on their quality of life. So the objective of the study is to find out the prevalence of low back pain during pregnancy in Primigravida.

Materials and methods: An observational study was conducted in the hospitals of Ahmedabad. Oswestry low back disability, A questionnaire was filled out by 110 primigravida women, and they were submitted through online Google Forms. Ethical clearance has been obtained.

Result: The statistical analysis of this study shows that 1.1% have mild disability, 5.45% have moderate disability, 60.90% have severe disability, and 32.72% have complete disability, which indicates that the prevalence of low back pain is higher in primigravida during 14 to 40 weeks.

Conclusion: The study concluded that there was a high prevalence of low back pain in primigravidas during the 14 to 40 weeks of pregnancy, due to which they experienced mild to complete disability.

Keywords: Prevalence, Low back pain, Pregnancy, Primigravida

INTRODUCTION

According to the World Health Organisation (WHO), low back pain (LBP) is a sign of numerous spinal conditions. Pregnancy-related low back pain (LBP) is described as "recurrent or continuous pain for more than 1 week from the lumbar spine or pelvis".⁽¹⁾ Women all around the world have low back pain (LBP), which is a frequent health problem during pregnancy. Pregnancy can be difficult when there is moderate to severe low back pain-related impairment.⁽²⁾ Low back discomfort during pregnancy has an adverse effect on the quality of life for the mother. According to a recently released study,⁽³⁾ the duration of low back discomfort during pregnancy is associated with the

duration of physical dysfunction, absenteeism, and subpar work performance. It is quite upsetting that many pregnant women with low back pain do not seek medical attention, and those who do frequently have their symptoms dismissed.⁽⁴⁻⁵⁾ For a better outcome, it is crucial that the antenatal carers are well-equipped with professional abilities to identify and treat low back pain during pregnancy at an early stage.⁽⁴⁾

Any idiopathic pain that develops between the inferior gluteal folds and the lower edge of the 12th rib during pregnancy is considered to be pregnancy-related low back pain.⁽⁵⁻⁶⁾ Although the aetiology is unclear, it is frequently attributed to

mechanical, hormonal, or a combination of variables related to the body's changes during pregnancy. ⁽⁶⁻⁷⁾ One of the most frequently proposed mechanisms is associated with mechanical factors brought on by pregnancy weight gain, such as an increase in abdominal sagittal diameter and the resulting anterior shift of the body's centre of gravity, which puts more strain on the lower back. ⁽⁸⁻¹¹⁾ Pubic symphysis issues may be related to an anterior displacement, according to studies. ⁽⁹⁾ To counteract this anterior shift, postural adjustments might be made, which would lead to lordosis and put more strain on the lower back. ⁽¹²⁾

As a pregnancy progresses, the female's postural alignment will change naturally. The best posture ensures that our back muscles are used as effectively as possible, using the least amount of energy from these postural muscles. ⁽¹³⁾ Pregnancy causes a change in the centre of gravity and an increase in total body mass. The posture adjusts to the shifting weight and stresses placed on the body as pregnancy advances. ⁽¹³⁻¹⁴⁾ To facilitate to help the foetus move through the birth canal easier, hormonal changes that take place throughout pregnancy relax ligaments and joints, especially those in the pelvic. ⁽¹⁵⁻¹⁷⁾ Joint instability and looseness worsen as a result. This impairs the spine's stability and leads to excessive joint movement as a result of the lengthening of the abdominal muscles. ⁽¹⁵⁻¹⁶⁾ Pain in the lower back and posterior pelvis could result from this. ⁽¹⁵⁻¹⁷⁾

A significant proportion of females firstly experience pain, during the first trimester of pregnancy. In these females, letter on, where there is no disease or trauma to cause the condition, mechanical alterations are not yet involved in the pain induction, leaving no conclusive evidence for the origin of a sizable portion of LBP instances. Therefore, it has been proposed that LBP may be related to hormonal changes and that during pregnancy, the female body is exposed to particular elements creating dynamic instability of the pelvis. During pregnancy, relaxin production increases tenfold, leading

to ligamentous laxity, pain over the entire back, pelvic instability, and spinal instability in addition to symptoms specific to the sacroiliac joint ⁽⁸⁻¹⁰⁾. Since numerous studies have failed to find a connection between relaxin serum levels and the severity of LBP symptoms during pregnancy, the relationship between circulating levels of the hormone relaxin and LBP in pregnancy is still up for dispute. ⁽¹⁸⁻²¹⁾

Knowing the prevalence of low back pain and associated risk factors can help determine the depth of the issue and suggest solutions that will reduce both direct and indirect contributors to disability, lessen the discomfort caused by low back pain complications in pregnant women, and improve quality of life. We must also acknowledge that pregnant women cannot take strong analgesics or muscle relaxants because doing so may have negative consequences on the foetus. It is anticipated that the study's findings will help planners and decision-makers create effective plans for managing the health of the population as a whole. As a result, the study's objective is to determine how common low back discomfort is in primigravida during pregnancy. ⁽²²⁾

MATERIALS & METHODS

An observational study was conducted in hospitals in Ahmedabad, Gujarat, India, after approval from the institutional ethical committee. The purposive sampling method was used. Data collection was done through an online questionnaire created by Google Forms, which started with the recruitment of subjects who met the inclusion and exclusion criteria from various hospitals in Ahmedabad, Gujarat, India. 110 Primigravida women were recorded. The study included the primigravidas during their 2nd and 3rd trimesters. Also, those females who are experiencing LBP after conceiving. The exclusion criteria were secondary or later pregnancy, caesarean section, a medical history of surgical lumbar spine interventions, cancer, spinal

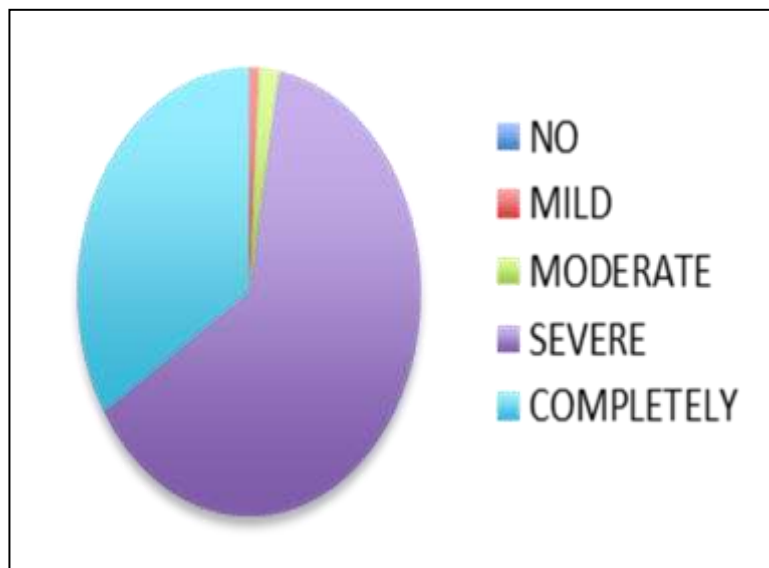
deformities (e.g., scoliosis), osteoporosis, multiple sclerosis, pelvic fractures, previous significant lumbar magnetic resonance imaging (MRI) findings, women with cognitive impairment, chronic pain syndromes, and other pelvic area problems, inflammatory conditions, and a refusal to participate in the study. All the women participating in the study were given verbal or written information on the purpose of the research and the possibility of withdrawing their informed consent at any time during the study.

Researchers and disability evaluators utilise the ODI (Oswestry Low Back Pain Disability index) questionnaire to quantify a patient's permanent functional disability (Test-retest reliability=0.83). The ODI is a very useful tool for measuring the degree of disability caused by middle and low back pain. The test, which has been around since 1980, is regarded as the "gold standard" among functional outcome measures for low back pain. It is regarded as the gold standard for evaluating how back pain affects a patient's quality of life. Ten questions about pain severity, lifting, sitting, walking, sleeping, travelling, personal care, standing, social life, and employment/homemaking were answered on this self-administered questionnaire. The patient checks the statement that best describes their position

in each issue category of the questionnaire, which ranges from 0 (which means no disability) to 5 (which means maximum disability). There are 50 possible scores in total. Pregnancy-related disability is quantified as a percentage; the higher the score, the greater the disability. Patients were divided into five groups based on the level of their level of disability. There are five levels of disability: no disability (0–4), mild disability (5–14), moderate disability (15–24), severe disability (25–34), and completely disabled (35–50). An accurate, valid, responsive, and condition-specific evaluation instrument is the ODI questionnaire.⁽²³⁾ The survey utilised in this investigation has already been translated into Polish, and it had undergone testing and approval for reliability and correctness.⁽²⁴⁻²⁵⁾

RESULT

The statistical analysis was done using Microsoft Excel 2013 software. Data collected from various hospitals in Ahmedabad city. Out of 110 primigravida, the results of this study show that 1.1% have a mild disability, 5.45% have a moderate disability, 60.90% have a severe disability, and 32.72% are completely disabled. This indicates that the prevalence of low back pain is higher in primigravida during the first 14 to 40 weeks.



DISCUSSION

In this study, back discomfort was a common complaint among pregnant women at various stages of their pregnancies. According to the results of the current study, low back pain in Primigravida women ranged from mild to incapacitating. During the human pregnancy, there are bodily changes. The body of the pregnant woman alters as a result of anatomical and functional requirements. Because of mechanical, hormonal, and other aspects related to the changes in the body, physiological changes frequently cause pain, particularly lower back pain, in the musculoskeletal system.

From these results, we find out that low back pain is a common and serious problem during pregnancy and causes sleep disturbances. Low back pain causes mood swings in pregnant women. The results of this study are expected to contribute to providing an information base that helps planners and decision-makers develop appropriate strategies to deal with health as a whole. Other studies are recommended for prevention and treatment.

Gharaibeh a. et al. ⁽²²⁾ (2018) conducted a study on 408 pregnant women in Jordan, of whom 310 had lower back pain (76%), which caused sleep disturbances and mood swings. According to H.C. Ostgaard et al. ⁽¹¹⁾ (1990), women with a history of back pain had a higher prevalence of back pain. A. A. G. Jimoh et al. ⁽³⁾ (2013) conducted a study on the prevalence of low back pain among 200 Nigerian pregnant women and concluded that LBP was more common in pregnancy than outside pregnancy and caused physical dysfunction, poor work performance and absenteeism.

From these previous studies, it is evident that pregnant women around the world face a lot of physical and psychological discomfort due to low back pain; therefore, the present study was carried out to find out the prevalence of low back pain during pregnancy in primigravida.

CONCLUSION

The study concluded that there was a high prevalence of low back pain in primigravidas during the 14–40 weeks of pregnancy, due to which they experienced mild to complete disability. Future studies can be done trimester-wise and week-wise; more populations can be taken. Clinical implications- We can teach about chair aerobics and give knowledge about proper posture and antenatal care.

Declaration by Authors

Ethical Approval: Approved

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