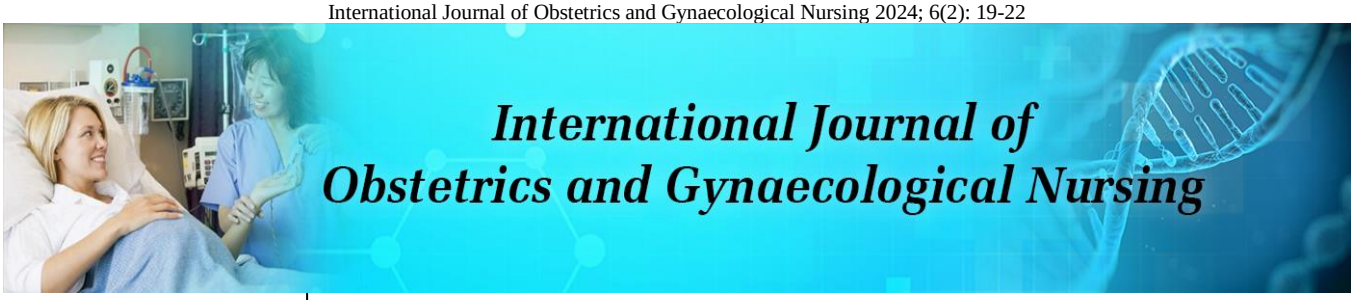

E-ISSN: 2664-2301
P-ISSN: 2664-2298
www.gynaecologicalnursing.com
IJOGN 2024; 6(2): 19-22
Received: 14-05-2024
Accepted: 18-06-2024

Mukul Dhaka
Associate Professor,
College of Nursing, LLRM
Medical College, Meerut,
Utter Pradesh, India

Preeti Bali
Associate Professor,
College of Nursing, LLRM
Medical College, Meerut,
Utter Pradesh, India

Corresponding Author:
Mukul Dhaka
Associate Professor,
College of Nursing, LLRM
Medical College, Meerut,
Utter Pradesh, India

A cross-sectional study to assess the impact of lower back pain on activities of daily living among pregnant women attending antenatal clinic

Mukul Dhaka and Preeti Bali

DOI: https://doi.org/10.33545/26642298.2024.v6.i2a.156

Abstract
Introduction: Lower back pain (LBP) during pregnancy is prevalent globally, affecting 50% to 70% of expectant mothers. It stems from musculoskeletal changes as the body adjusts to the growing fetus. LBP not only challenges maternal comfort but also hampers daily activities and quality of life. Understanding its impact on activities of daily living (ADLs) is crucial for optimizing maternal care. Tailored interventions can alleviate LBP's effects, enhancing well-being during and after pregnancy.
Methodology: A cross-sectional study utilizing quantitative methods assessed how lower back pain impacts the daily lives of 120 pregnant women attending antenatal clinics, using convenience sampling. Objectives included evaluating pain severity, examining daily activities, and correlating findings with demographic variables. Inclusion criteria comprised pregnant women aged 18 and above, experiencing lower back pain, and attending antenatal clinics. Exclusions involved prior spinal surgery, chronic back pain unrelated to pregnancy, cognitive impairments, and musculoskeletal disorders affecting pain assessment. Data collection utilized a demographic profile and the reliable Oswestry Low Back Disability Questionnaire.
Research: The study assessed lower back pain severity and its impact on daily activities among pregnant women. Findings showed varying degrees of pain, with 1.67% reporting no pain, while 10% experienced mild, and another 10% reported moderate pain. Majority reported significant discomfort, with 43.33% and 35% reporting severe and very severe pain, respectively. On average, participants had a mean pain score of 5.73, with a standard deviation of 1.58. Additionally, 80% experienced pregnancy-related pain, with durations varying, and back pain onset typically occurring within 1-6 months of pregnancy. Back pain significantly affected daily activities, with varying degrees of disability reported. Associations between pain severity and demographic variables were not significant.
Conclusion: The study highlighted varying lower back pain severity and its impact on pregnant women's daily activities, with significant discomfort reported.

Keywords: Lower back pain (LBP), pregnancy, prevalence

Introduction

Lower back pain (LBP) during pregnancy is a prevalent discomfort affecting women worldwide. As expectant mothers undergo physiological changes to accommodate the growing fetus, they often experience musculoskeletal alterations, including shifts in posture and weight distribution, which can contribute to LBP. The prevalence of LBP during pregnancy varies widely, with estimates ranging from 50% to 70% of pregnant women experiencing some degree of discomfort, particularly in the lumbar region. This phenomenon not only poses challenges for maternal comfort but also significantly impacts activities of daily living (ADLs) and overall quality of life.

Understanding the ramifications of LBP on ADLs among pregnant women attending antenatal clinics is crucial for optimizing maternal care and improving health outcomes for both mothers and babies. ADLs encompass a spectrum of routine tasks essential for independent living, including personal care, household chores, and occupational responsibilities. These activities necessitate mobility, flexibility, and endurance, all of which may be compromised in the presence of LBP. Pregnancy-related LBP can manifest as acute, subacute, or chronic pain, with varying degrees of severity and disability. Factors contributing to LBP in pregnant women include hormonal changes, mechanical stress on the

spine due to weight gain, alterations in posture, and biomechanical adaptations to accommodate the expanding uterus. While LBP is considered a normal physiological response to pregnancy in many cases, its impact on ADLs can be profound and multifaceted.

Assessing the impact of LBP on ADLs requires a comprehensive understanding of the physical, psychological, and social dimensions of maternal health. Functional limitations associated with LBP may restrict mobility, limit participation in social and recreational activities, and affect maternal role performance and self-care practices. Furthermore, persistent LBP during pregnancy has been linked to adverse outcomes such as increased risk of depression, sleep disturbances, and decreased overall quality of life. By examining the relationship between LBP and ADLs in pregnant women, healthcare providers can tailor interventions to address specific needs and promote optimal functioning and well-being throughout pregnancy and beyond. This study aims to explore the prevalence, severity, and functional implications of LBP among pregnant women attending antenatal clinics, shedding light on potential avenues for intervention and support to enhance maternal health and mitigate the impact of LBP on ADLs.

Need of the study

The need for this study arises from the significant yet underexplored intersection of lower back pain (LBP) and activities of daily living (ADLs) among pregnant women attending antenatal clinics. While LBP is a common complaint during pregnancy, its precise impact on ADLs remains inadequately understood. Pregnancy-related LBP can substantially disrupt routine tasks essential for maternal well-being, potentially leading to functional limitations and decreased quality of life. However, existing literature often lacks comprehensive insights into the specific challenges faced by pregnant women in managing LBP and maintaining ADLs. Understanding the extent to which LBP affects various aspects of daily functioning is paramount for informing tailored interventions and support strategies. By elucidating the relationship between LBP and ADLs, this study aims to fill existing gaps in knowledge and provide evidence-based recommendations for healthcare professionals working with pregnant women. Ultimately, such insights can facilitate the development of targeted interventions to alleviate LBP-related functional impairments, enhance maternal health outcomes, and optimize the overall pregnancy experience for women attending antenatal clinics.

In their 2024 study, Shanshan H, *et al*. conducted a comprehensive analysis on the prevalence of lumbopelvic pain (LPP) during pregnancy through a systematic review and meta-analysis of cross-sectional studies, published in Acta Obstetricia et Gynecologica Scandinavica. Their research encompassed 38 studies, involving 21,533 pregnant participants, gathered from four major databases up to October 2022. They found an overall pooled prevalence of LPP during pregnancy at 63%, with significant heterogeneity. Prevalence varied across continents, BMI categories, and age groups, with notable distinctions by gestational age. Their findings shed light on the multifaceted nature of LPP during pregnancy.

AIM of the study: The aim of this study is to evaluate the impact of lower back pain on activities of daily living among pregnant women attending antenatal clinic.

Methodology

Utilizing a quantitative approach, a cross-sectional study was conducted to evaluate how lower back pain impacts the daily lives of 120 pregnant women attending antenatal clinics, employing a convenience sampling method. The study aimed to: gauge the severity of lower back pain in pregnant women, examine their daily activities, assess the influence of lower back pain on these activities, and correlate findings regarding lower back pain and daily activities with specific demographic variables. Inclusion criteria comprised pregnant women attending antenatal clinics, those experiencing lower back pain during pregnancy, aged 18 years and older, providing informed consent, capable of comprehending and responding to study questionnaires, and at any stage of pregnancy (first, second, or third trimester). Exclusion criteria included pregnant women with prior spinal surgery, pre-existing chronic back pain unrelated to pregnancy, significant cognitive or communication impairments, history of musculoskeletal disorders that might interfere with lower back pain assessment, and those currently undergoing treatment affecting daily activities. Data collection employed a demographic profile and the Oswestry Low Back Disability Questionnaire. The internal consistency of the Oswestry Disability Index demonstrated reliability, with a Cronbach's alpha coefficient of 0.87 (95% confidence interval: 0.86 to 0.88).

Results

To evaluate the severity of lower back pain among pregnant women

Among the participants, 1.67% reported no pain, while 10% experienced mild pain, and another 10% reported moderate pain. The majority of participants experienced significant discomfort, with 43.33% reporting severe pain and 35% reporting very severe pain. None of the participants reported experiencing the worst possible pain. On average, participants reported a mean pain score of 5.73, with a standard deviation of 1.58, indicating the variability in reported pain levels among the pregnant women surveyed.

Table 1: To assess the impact of pregnancy on the activities of daily living among the participants

Prevalence of pregnancy	Frequency	Percentage
1. Pain		
a. Yes	96	80
b. No	24	20
2. No. of Days of back pain		
a. Upto 1 Month	25	20.83
b. 1-2 Month	8	6.67
c. 1-3 Month	25	20.83
d. More than 3 Months	61	50.83
3. Gestation Period (Months)		
a. 7th	15	12.50
b. 8th	7	5.83
c. 9^{th}	94	78.33
Month of starting back Pain		
a. Upto 3 Month	15	12.5
b. 1-6 months	81	67.5

Regarding the prevalence of pregnancy-related pain, 80% of

participants reported experiencing pain, while 20% did not. Regarding the duration of back pain, 20.83% experienced it for up to one month, 6.67% for 1-2 months, 20.83% for 1-3 months, and 50.83% for more than three months. In terms of gestation period, 12.50% were in the 7th month, 5.83% in the 8th month, and the majority, 78.33%, were in the 9th month. Concerning the month of onset of back pain, 12.5% experienced it within the first three months, while 67.5% reported onset within 1-6 months of pregnancy.

Table 2: To evaluate how low back pain affected the daily activities of pregnant women

Disability Level	Frequency	Percentage
No Disability	1	0.83
Mild Disability	43	35.83
Moderate Disability	57	47.50
Severe Disability	14	11.67
Completely Disability	5	4.17
Mean	17.88	
SD	6.77	

Among the participants, 0.83% reported no disability, while 35.83% experienced mild disability, and 47.50% reported moderate disability. Additionally, 11.67% reported severe disability, while 4.17% reported complete disability in performing daily tasks due to back pain. On average, participants had a disability score mean of 17.88, with a standard deviation of 6.77, indicating the variability in the impact of back pain on their activities of daily living.

Associations between the findings regarding lower back pain and activities of daily living among pregnant women and their selected demographic variables

Analysis revealed no significant associations between age groups and pain scale categories ($\chi^2 = 15.5$, df = 8, p = 0.59), as well as between occupation and pain scale categories ($\chi^2 = 9.48$, df = 4, p = 0.05), indicating non-significance. Likewise, no significant associations were found between the prevalence of pregnancy and pain scale categories ($\chi^2 = 9.48$, df = 4, p = 0.76), between the number of days of back pain and pain scale categories ($\chi^2 = 24.96$, df = 15, p = 0.06), between gestation period and pain scale categories ($\chi^2 = 18.3$, df = 10, p = 0.8), and between the month of starting back pain and pain scale categories ($\chi^2 = 9.48$, df = 4, p = 0.51), indicating non-significant relationships. Overall, these results suggest that there were no significant associations between lower back pain severity and the selected demographic variables among the pregnant women surveyed.

Discussion

The study aimed to assess the severity of lower back pain, impact of pregnancy on daily activities, and how low back pain affected pregnant women's daily lives. Among participants, 1.67% reported no pain, while 10% experienced mild pain, and another 10% reported moderate pain. A majority experienced significant discomfort, with 43.33% reporting severe pain and 35% reporting very severe pain, indicating substantial distress. None reported the worst possible pain. On average, participants had a mean pain score of 5.73, with a standard deviation of 1.58, showcasing variability in reported pain levels. In a study conducted by Njoku Isaac Omoke *et al*. 2021 it was found that among 138 individuals experiencing low back pain during their index pregnancy, the mean pain intensity on the Numeric Rating Scale (NRS) was 4.3±1.36. Among these participants, the distribution of pain severity was as follows: 30.4% reported mild pain, 63.0% reported moderate pain, and 6.5% reported severe pain.

Regarding pregnancy's impact, 80% experienced pain, with durations varying: 20.83% for up to one month, 6.67% for 1-2 months, 20.83% for 1-3 months, and 50.83% for over three months. Most participants (78.33%) were in the 9th month of gestation, with back pain often starting within the first three months for 12.5% and within 1-6 months for 67.5%. In terms of daily activities, 0.83% reported no disability, while 35.83% experienced mild disability, and 47.50% reported moderate disability. In a study conducted by Kathrin Haßdenteufel *et al*. in 2020, it was discovered that there was a notable decrease in overall physical activity from the 20th to the 32nd week of gestation. Additionally, 11.67% reported severe disability, while 4.17% reported complete disability, highlighting substantial limitations. On average, participants had a disability score mean of 17.88, with a standard deviation of 6.77, indicating variability in back pain's impact. Associations between lower back pain severity and demographic variables were explored but revealed no significant relationships, suggesting the absence of notable correlations. In the study conducted by Nkhata LA *et al*. in 2024, it was observed that the education and exercise intervention activities had a substantial effect on alleviating the women's back pain experiences.

Conclusion

Lower back pain (LBP) during pregnancy is widespread, impacting maternal comfort and daily functioning. With estimates of 50% to 70% of pregnant women experiencing LBP, particularly in the lumbar region, understanding its implications on activities of daily living (ADLs) is crucial. ADLs encompass essential tasks for independent living, often compromised by LBP's mobility restrictions. Factors contributing to LBP include hormonal changes and mechanical stress, affecting maternal well-being and potentially leading to adverse outcomes like depression and decreased quality of life. Examining the LBP-ADLs relationship informs tailored interventions for optimal maternal health. Shanshan H *et al*.'s 2024 study highlights the global prevalence and multifaceted nature of lumbopelvic pain during pregnancy, informing further research and interventions.

Our study aimed to comprehensively evaluate the severity of lower back pain during pregnancy, its impact on daily activities, and the resultant challenges faced by pregnant women. Our findings reveal a significant prevalence of pain among participants, with varying degrees of severity and duration, indicating substantial distress experienced by many. Moreover, the study sheds light on the profound impact of pregnancy on daily activities, with a notable proportion of participants experiencing disability. Importantly, interventions such as education and exercise show promise in mitigating back pain experiences. While demographic variables showed no significant correlations with pain severity, further research is warranted to explore potential factors influencing back pain during pregnancy. Overall, our study underscores the importance of tailored interventions to alleviate back pain and enhance the well-being of pregnant women.

Conflict of interest

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

Funding source

There is no funding Source for this study.

References

1. Omoke NI, Amaraegbulam PI, Umeora OUJ, Okafor LC. Prevalence and risk factors for low back pain during pregnancy among women in Abakaliki, Nigeria. Pan Afr. Med. J. 2021;39:70. Available from: https://www.panafrican-med-journal.com/content/article/39/70/full
2. Teede HJ, Bailey C, Moran LJ, Bahri Khomami M, Enticott J, Ranasinha S, *et al*. Association of antenatal diet and physical activity-based interventions with gestational weight gain and pregnancy outcomes: A systematic review and meta-analysis: A systematic review and meta-analysis. JAMA Intern Med. 2022;182(2):106-114. Available from: https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2787201
3. Rollins NC, Essajee SM, Bellare N, Doherty M, Hirnschall GO. Improving retention in care among pregnant women and mothers living with HIV: Lessons from INSPIRE and implications for future WHO guidance and monitoring. J Acquir Immune Defic Syndr. 2017;75(2):S111-114. Available from: https://journals.lww.com/00126334-201706011-00002
4. Daneau C, Abboud J, Marchand A-A, Houle M, Pasquier M, Ruchat S-M, *et al*. Mechanisms underlying lumbopelvic pain during pregnancy: A proposed model. Front Pain Res (Lausanne). 2021;2:773988. Available from: https://www.frontiersin.org/articles/10.3389/fpain.2021.773988/full
5. Grabovac I, Dorner TE. Association between low back pain and various everyday performances: Activities of daily living, ability to work and sexual function: Activities of daily living, ability to work and sexual function. Wien Klin Wochenschr. 2019;131(21-22):541-549. Available from: http://link.springer.com/10.1007/s00508-019-01542-7
6. Liddle SD, Pennick V. Interventions for preventing and treating low-back and pelvic pain during pregnancy. Cochrane Database Syst Rev. 2015;2015(9):CD001139. Available from: http://doi.wiley.com/10.1002/14651858.CD001139.pub4
7. Manyozo SD, Nesto T, Bonongwe P, Muula AS. Low back pain during pregnancy: Prevalence, risk factors and association with daily activities among pregnant women in urban Blantyre, Malawi. Malawi Med J. 2019;31(1):71-76. Available from: https://pubmed.ncbi.nlm.nih.gov/31143400/
8. Zhou L, Feng X, Zheng R, Wang Y, Sun M, Liu Y, *et al*. The correlation between pregnancy-related low back pain and physical fitness evaluated by an index system of maternal physical fitness test. PLoS One. 2023;18(12):e0294781. Available from: https://dx.plos.org/10.1371/journal.pone.0294781
9. Shanshan H, Liying C, Huihong Z, Yanting W, Tiantian L, Tong J, *et al*. Prevalence of lumbopelvic pain during pregnancy: A systematic review and meta-analysis of cross-sectional studies. Acta Obstet Gynecol Scand. 2024;103(2):225-240. Available from: https://pubmed.ncbi.nlm.nih.gov/37997035/
10. Omoke NI, Amaraegbulam PI, Umeora OUJ, Okafor LC. Prevalence and risk factors for low back pain during pregnancy among women in Abakaliki, Nigeria. Pan Afr. Med J. 2021;39:70. Available from: https://www.panafrican-med-journal.com/content/article/39/70/full

How to Cite This Article

Dhaka M, Bali P. A cross-sectional study to assess the impact of lower back pain on activities of daily living among pregnant women attending antenatal clinic. International Journal of Obstetrics and Gynaecological Nursing. 2024;6(2):19-22.