Correlation Of Breastfeeding Postures and Positions with Low Back Pain in Post-Natal Women

Rasika Lokhande[1], Dr. Gloria Naik[2], Dr. Archana Methe[3]
[1,2,3] *D.Y. Patil College of Physiotherapy, Kolhapur*

***Abstract*—Background: Low back pain is one of the most common health problems and has significant economic, social and personal cost worldwide. Back pain occurs in 5-40% after childbirth and continues for a long time after childbirth. The position adopted during breast-feeding can vary greatly between mothers. Previous studies have mentioned that nursing mothers have good information about the correct baby carrying position, but they have poor knowledge and attitude about the proper breastfeeding position. Therefore, adjusting the abnormal breastfeeding position and posture for a certain period can affect neck and low back pain. Methodology- A cross- sectional study was conducted with 95 participants aged between 25 to 35. Each participant had taken part in single session of assessment for breastfeeding posture, position and low back pain, and was assessed using self-administered questionnaire and MODI. Patient was asked to choose an option to answer in relation to breastfeeding postures and positions. For assessing low back pain MODIwas used all the outcome measures was assessed on same day for each participant by the same examiner. Result- Chi-square test was used to find the co-relation of Breastfeeding postures and positions with Low Back Pain in Post-natal woman. The results of the study were generated using SPSS version 28, MS Excel 2016.The study showed no co-relation exist between low back pain and breastfeeding posture and position. Conclusion- The study revealed that breastfeeding posture and position is not only the leading cause of low back pain in post-natal women.Along with it there are multiple factors that may lead to post-natal low back pain.**

***Index Terms*—Low back pain, breastfeeding postures and positions, Modified Oswestry Disability Index, post-natal mothers.**

I. INTRODUCTION

Low back pain is a multifaceted issue that often requires a comprehensive approach to address effectively. Beyond the physical discomfort experienced by individuals, it has far-reaching impacts on various aspects of society, including families, communities, and economies worldwide. In affluent societies, where sedentary lifestyles and prolonged sitting are prevalent, factors such as poor posture, lack of physical activity and excessive sitting can contribute to the development of low back pain. [1] Conversely, in resource-limited settings, where manual labor and heavy lifting are common, occupational hazards and inadequate access to healthcare can exacerbate the problem. The burden of low back pain extends beyond mere physical discomfort, impacting individuals' ability to perform daily tasks, participate in work or social activities, and maintain overall quality of life. It can lead to absenteeism from work, reduced productivity, and increased healthcare utilization, placing a strain on healthcare systems and economies. [1]

During pregnancy, the body undergoes significant changes to accommodate the growing fetus, which can increase the risk of low back pain. Hormonal fluctuations, such as the release of relaxin, can loosen ligaments and joints, contributing to instability and discomfort in the pelvic and lumbar regions.[2] Additionally, the shift in the center of gravity as the uterus expands places added strain on the lower back muscles and spinal structures. Postpartum low back pain is a common concern for many mothers, often persisting beyond the immediate postnatal period. [2]The physical demands of caring for a new-born, combined with sleep deprivation and hormonal changes, can exacerbate existing back pain or lead to the development of new symptoms. Moreover, the psychological and emotional stressors associated with adjusting to motherhood can further exacerbate musculoskeletal discomfort. [2]

Epidural anaesthesia, while providing effective pain relief during childbirth, has been a subject of debate regarding its potential long-term effects on postpartum back pain. While some studies suggest a possible

association between epidural use and prolonged backache, others have found no significant difference in postpartum pain between women who receive epidural anaesthesia and those who do not.[3] In addressing low back pain, a multidisciplinary approach is often recommended, involving healthcare professionals such as physiotherapists, chiropractors, and obstetricians.[3] Treatment modalities may include exercise therapy, manual therapy, ergonomic modifications, and pain management strategies tailored to the individual's needs.[3]

During pregnancy, the body undergoes remarkable adaptations to accommodate the growing fetus, leading to changes in posture and biomechanics. These alterations are necessary but can also result in discomfort for many women, with a significant portion experiencing musculoskeletalissues such as back pain. The hormonal shifts, weight gain, and changes in the center of gravity all contribute to this discomfort, making it nearly unavoidable during pregnancy. [4]

Breastfeeding, while beneficial for both mother and baby, can also contribute to postpartum back pain if not done with proper posture and support. The positions adopted during breastfeeding, such as cradling the baby or leaning forward, can strain the muscles of the lower back, especially if done for extended periods. However, it is important to note that individual factors such as pre-existing back issuesand overall fitness also play a role in determining the impact of breastfeeding posture on low back pain. [5]

Overall, the postpartum period presents numerous challenges for mothers, both physically and emotionally. While some discomfort may be inevitable, implementing strategies to support proper posture and ergonomics can help alleviate some of the musculoskeletal issues commonly experienced during this time. [5] The consideration of individual factors such as pre-existing back issues,overall fitness level, and body mechanics is crucial when addressing low back pain in breastfeeding women. Women with a history of back problems or weakened core muscles may be more susceptible to experiencing discomfort during breastfeeding.[6] To prevent or alleviate this pain, mothers can focus on maintaining proper posture, using supportive pillows, taking breaks to stretch and change positions, and incorporating exercises to strengthen their core and back muscles. Consulting with healthcare professionals, like lactation consultants and physical therapists, is important for personalized advice and treatment options if the pain persists or worsens.[6]

Physical activity is generally safe and beneficial for pregnant women, provided there are no contraindications. Pregnancy presents an opportunity for lifestyle modifications, and engaging in moderate to vigorous physical activity (MVPA) can benefit both the mother and the fetus with appropriate adjustments.[7] Such activity hasbeen associated with decreased rates of caesarean births, reduced risks of obesity during pregnancy, and lowered incidence of complications like pre-eclampsia, gestational hypertension, and gestational diabetes. Specific exercises, such as low backstretches and low-impact aerobics activities like walking, cycling, and swimming, can help alleviate backaches and strengthen abdominal muscles. Pelvic floor exercises like Kegel's exercises performed in a controlled manner can also be beneficial.[7]

Previous studies have shown that nursing mothers often have good knowledge of appropriate infant carrying positions but lack understanding and positive attitudes toward proper breastfeeding positions. Adapting abnormal breastfeeding postures for extended periods can contribute to neck and back pain. Therefore, there is aneed to explore the correlation between breastfeeding postures and positions and low-back pain in postnatal women to better understand and address this issue.[6]

II. MATERIALS AND METHODS

The study protocol was presented for approval in front of institutional ethical committee & protocol committee of D.Y. Patil university Kolhapur, after that consulting subjects were approached & purpose of the study was explained. Participants fulfilling the inclusion criteria were enrolled for the study.

A. Inclusion criteria

Primi gravida women in & around Kolhapur aged between 25-35 years of age, subjects not involved in any health care profession, lower segment cesarean section (LSCS) at least 6 months.

B. Exclusion criteria

Participants having any health issue that could interfere with breast feeding (Previousbreast surgery), previous spinal surgery, previous spinal trauma,

subjects in critical conditions after delivery, numbness or neural signs in leg, Spondylolisthesis, Tumor, Fracture Spine, Subjects not willing to participate.

The sample size taken for this study was 95 participants. An initial examination including demographic data such as name, age, height weight & BMI was assessed for correlation of breastfeeding postures and positions with low back pain in women. Further, they were asked to undergo assessments using the MODI questionnaire and a self-administered questionnaire. Low back pain assessment was done by using Modified Oswestry Low Back Pain Disability Questionnaire (MODI). Scores were recorded on a data collection sheet for 95 participants. Subsequently, a master chart was prepared containing participant number, age, posture (advisable/ non advisable), breastfeeding position practice, reason for position, Breastfeeding holdpractice, LBP score.

III. OUTCOME MEASURES

In the above study, Modified Oswestry Disability Index was used as a disability assessment tool in accordance with score. The ODI examined 10 everyday activities including: Pain intensity, Personal care, Lifting, Walking, Sitting, Standing, Sleeping, Social life, Travel, Employment. Each item consisted of 6 statements which were scored from 0 to 5, with 0 indicating the least disability and 5 the greatest. The item scores were summed for a total score between 0 and 100, with higher numbers representing greater levels of disability. The ODI score interpretation was as follows-

0-20 minimal disability
21-40 moderate disability
41-60 severe disability
61-80 crippled back pain
81-100 patients are either bed – bound or have an exaggeration of their symptoms.

The self-administered questionnaire sought information about postures , positioning , hold practice and latching techniques.

Questionnaire consist of various self-administered questions which include:

Breastfeeding posture practice.
Breastfeeding position practice.
Reason for Breastfeeding position practice.
Breastfeeding hold practice.
Latch-on to breast practice.
Essential ergonomic posture while sitting to breastfeeding.

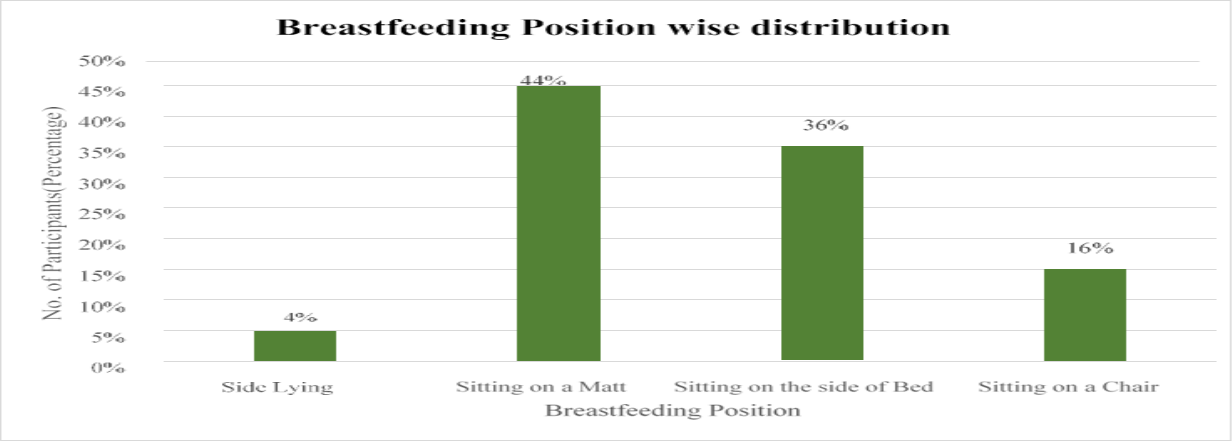
Analysis was done by descriptive statistics. That is mean, standard deviationand frequency.

Chi-square test was used to find co- relation between breastfeeding postures and positions with low back pain. SPSS version 28 and MS Excel 2016 was used for analysis.

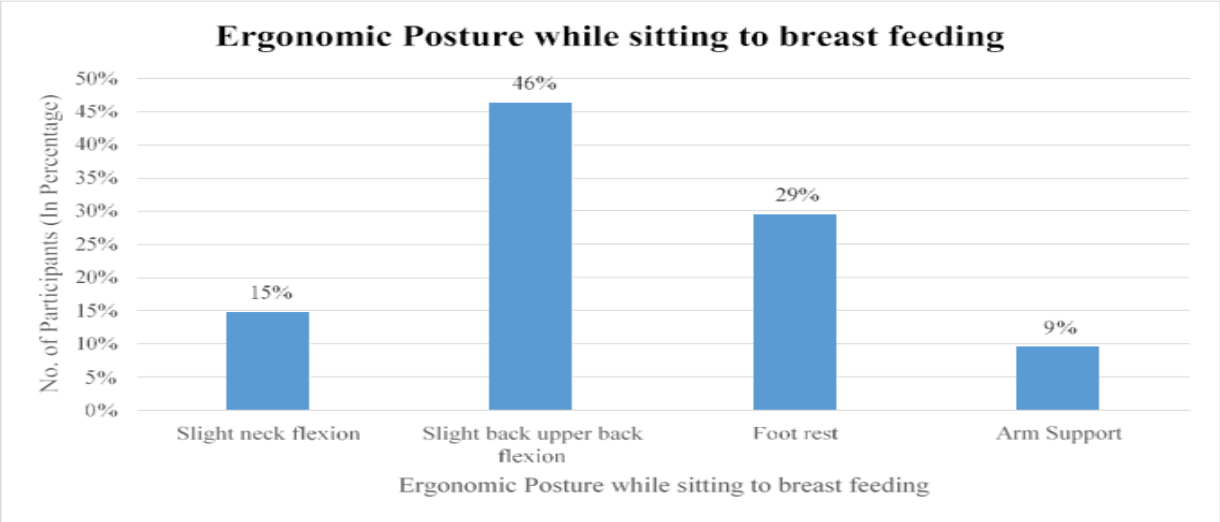
IV. RESULT

Variables	Mean	SD
Age(years)	28.51	2.54
Height (in cm)	156.15	6.57
Weight (in kg)	56.15	6.57
BMI	22.9	0.9

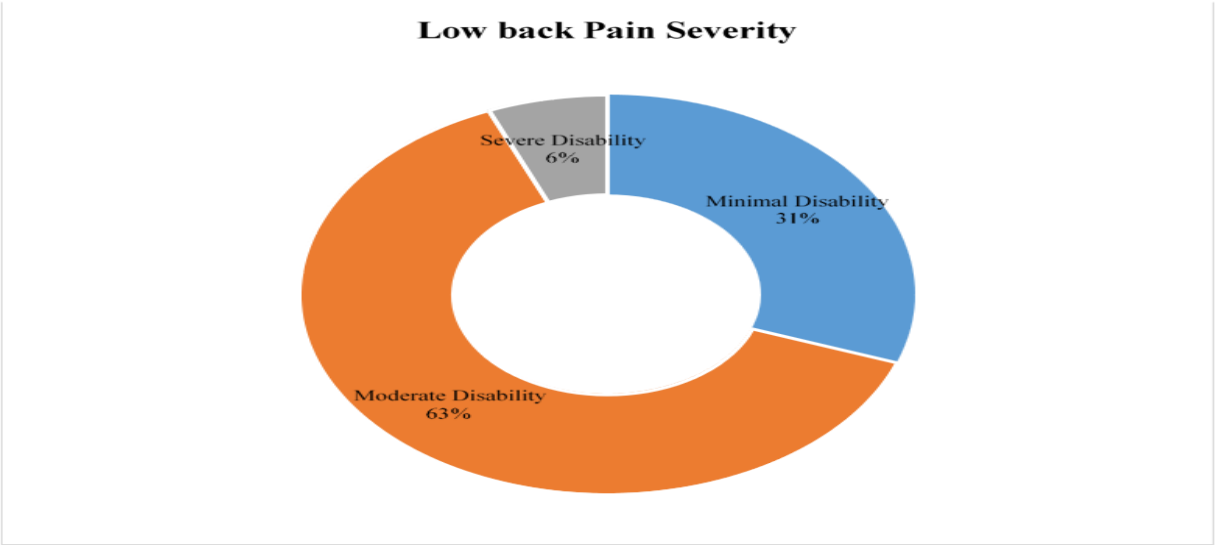
Table no.1 Descriptive statistics (mean, standard deviation) of age, height, weight, BMI.



Graph 1. Breastfeeding position wise distribution



Graph 2. Ergonomic posture while sitting to breastfeeding



Graph. 3 Distribution of low back pain severity in post-natal women

Table no. 2 Descriptive statistics of breastfeeding position with low backpain severity score.

Breastfeeding position	Minimal Disability	Moderate Disability	Severe Disability	Total	P value
Side Lying	1	3	0	4	
Sitting on a Matt	12	27	3	42	
Sitting on the side of Bed	10	23	1	34	
Sitting on a Chair	6	7	2	15	0.75
Total	29	60	6	95	

IV. DISCUSSION

The above study was done among the non-specific low back pain post-natal women with age of 25-35 year, with mean value of 28.51 and standard deviation 2.54. Amna Asif et.al concluded that the manner of delivery and baby feeding throughout the postpartum period, with low back pain is more common than neck pain. Low back painis the primary cause of disability among the post-partum females .[8] In a study, **Nusrat et.al** concluded that lower back pain is a problem after childbirth, whether after a caesarean section or after a normal vaginal delivery. Back pain is associated with certainrisk factors that can be avoided, thus requiring special strategies and a treatment plan during pregnancy, childbirth or anaesthesia. Back pain occurs in 5-40% postpartum and lasts long after childbirth. It not only causes disability, but also affects the general health of the patient .[4] Three yearsafter giving birth, 20 percent of pregnant women who experienced back pain reported that the pain was still there. The body changes position, weakening the abdominal muscles to make room for the growing uterus. Due to twisting, twisting and bad posture, it repeatedly damages the disc, zygapophyseal joints, muscles, ligaments and spinaljoints.

In the above study, most of the mothers referred advisable breastfeeding posture. Among 95 participants , 49 participants adjudged advisable breastfeeding posture and 46 with non-advisable breastfeeding posture. However, there is disagreement about the ideal sitting position, as the best sitting position has been debated. Additionally, there was no consensus on the best breastfeeding positions. The study included only prime-gravida women with caesarean section. Participants were assessed post 6 months after the delivery. Women in this study had signed the written consent and were assessed using Modified Oswestry Disability Index.

Among 95 women considered for the study,the mean age(year) of the study participants 28.51 years with the standarddeviation of 2.54 years. The minimum and maximum age was 25 and 35. The mean height (cm) of the study participants 156.15 cm with standard deviation of 6.57 cm. The mean weight (kg) of the study participants 56.15kg with standard deviation of 6.57 kg. The mean BMI 22.9 with standard deviation of 0.9.

Also, amongst 100%, 4% of them followed side lying , 44%, Sitting on a mat, 36% sitting on the side of bed, 16% sitting on a chair.

Among total 100%, 15% women posture was slight neck flexion while breastfeeding, 46% participants followed slight back upper back flexion, 29% participants followed foot rest posture while sitting for breastfeeding, 9% participants followed arm support while sitting for breastfeeding.

Among total 95 participants, 31% women had minimal disability, 6% women had severe disability and 63% women had moderate disability.

4 women practiced side lying position out of which 1 subject had minimal disability 3 of them were found with moderate disability. Total 42 women practiced sitting on mat out of which 12 subjects suffered minimal disability, 27 subjects where found out to be moderate disability and 3 women with severe disability. 34 women practiced sitting on the side of bed out of which 10 women where with minimal disability, 23 with moderate disability, 1 woman with severe disability. 15 women practiced sitting on a chair foe breastfeeding out of which 6 with minimal disability, 7 with moderate disability and 2 women with severe disability. Since p- value > 0.05, there is no co-relation of breastfeeding position with low back pain.

V. CONCLUSION

From the above study, it can be concluded that there isn't a notable correlation between non-specific low back pain and the posture and position adopted during breastfeeding. It suggests that while breastfeeding, posture and position may be commonly perceived as the primary cause of low back pain in post-natal women, the reality is more nuanced. The research suggests that there are various factors beyond breastfeeding that can contribute to post-natal low back pain. For instance, factors like weight gain during pregnancy and changes in the body's centre of gravity are highlighted as significant contributors to low back pain in mothers after childbirth. Therefore, the study emphasizes the importance of considering multiple factors when addressing and understanding post-natal low back pain, rather than focusing solely on breastfeeding posture and position.

REFERENCES

[1] Damian Hoy, Christopher Bain, Gail Williams, Lyn March et al. A systematic review of the Global Prevalence of Low Back Pain. American College of Rheumatology, 2012; Vol 64, No 6 :2028-2037.

[2] D.Hoy, P. Brooks, F.Blyth, R. Buchbinder. The Epidemiology of low back pain. BestPractice & Research Clinical Rheumatology (2010);769-781.

[3] Amna Asif, Fareeha Amjad, Hamza Dastgir et al. Prevalence of Neck and Low BackPain in Women During Postpartum Period. The Healer Journal of Physiotherapy and Rehabilitation Sciences. 2022;2(4):271-278.

[4] Nusrat Rasheed, Muhammed Hassan Khan, Naseem Rasheed. Comparison of Incidence of Low Back Pain in Women with Normal Vaginal Delivery and Cesarean Section Vol 29 (4) December 2017 : 14-18.

[5] Mamta Parashar, MD, Satyavir Singh, MD, Jugal Kishor, MD, and Bilkish N. Patavegar, DPH. Breastfeeding Attachment and Positioning Technique, Practices and Knowledge of Related Issues Among Mothers in a Resettlement Colony of Delhi. ICAN: Infant, Child, & Adolescent Nutrition, 2015; 7 (6): 317 – 322.

[6] Chidozie E Mbada, Adekemi E Olowookere, Joel O Faronhi, Falasade C Oyinlola–Aromolaran et al. Knowledge, attitude and techniques of breastfeeding among Nigerian mothers from a semi-urban community. BMC Research Notes, 2013; 1-8.

[7] Ojukwu Chidiebele Petronilla, Mbada Chidozie, et.al. Knowledge and Practice of Suitable Breastfeeding and Infant Carrying Positions among Nigerian Nursing Mothers. Archivers of Physiotherapy & Global Researchers 21(1). 2017.

[8] Amna Asif, Fareeha Amjad, et.al. Prevalence of neck and low back pain in women during postpartum period. The Healer Journal. Vol (2): 271 – 278