

Knowledge and Attitude About Breastfeeding Positions, Ergonomics and Musculoskeletal Pain Among Early Postnatal Mothers: A Cross-Sectional Survey

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Abstract:

➤ *Background of the study:*

Mothers' knowledge and attitude towards breastfeeding positions may influence the level of musculoskeletal pain. Ergonomic advice was given to improve the breastfeeding position. Early postnatal mothers choosing good breastfeeding positions helps to prevent musculoskeletal pain. To determine the knowledge and attitude about breastfeeding positions and ergonomics among early postnatal mothers. To determine the prevalence of musculoskeletal pain by Orebro musculoskeletal pain questionnaire.

➤ *Design:*

Cross-sectional survey.

➤ *Methodology:*

75 consenting lactating mothers who had been breastfeeding their baby for 2 months volunteered for this cross-sectional survey. A self-developed questionnaire and the Örebro Musculoskeletal Pain Screening Questionnaire (short version), which sought information on maternal socio-demographic variables, knowledge, attitudes, and breastfeeding techniques of mothers, were employed.

➤ *Results:*

The prevalence of musculoskeletal pain in postnatal mothers with > 50 score was 23.2% primiparous, 16.7% multiparous, 31.6% preferred sitting on the side of the bed, 17% preferred sitting on a chair, and 13.1% had musculoskeletal pain by adapting positions according to the comfort of mother/baby. 14.6% preferred cradle hold, 23.1% preferred side-lying, and 45.4% preferred cross-cradle hold. According to this study, the postnatal mothers demonstrated good knowledge and attitude towards breastfeeding positions.

➤ *Conclusion:*

The postnatal mothers demonstrate good knowledge, position and attitude towards breastfeeding. Musculoskeletal pain was present in 17 postnatal women out of 75. The posture and position preferred was sitting, and they chose cradle hold as their preferred hold practice.

Keywords: Knowledge; Attitude; Ergonomics; Early Postnatal Mother; Breastfeeding Positions; Musculoskeletal Pain.

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I. INTRODUCTION

Breastfeeding is one of the most important factors in infants' health. Monitoring mothers' performance and providing them with feedback helps to increase their self-efficacy, interest in learning, and level of performance. Prenatal counselling can increase mothers' breastfeeding self-efficacy and solve most breastfeeding problems during the postnatal period¹.

Musculoskeletal (MSK) pain is the primary contributor to disability worldwide. There is a growing consensus that MSK pain is a recurrent multifactorial condition underpinned by health and lifestyle factors. A majority of studies concluded that education positively influences work-related MSK pain. Further, some studies reported additive effects of physical activity or ergonomic adjustments. There is a knowledge gap regarding the best content and delivery of educational material in the workplace. Although beneficial outcomes were reported, more RCTs are required to determine the effects of educational material compared with other interventions, such as exercise or behavioural therapy².

Ergonomics is the study of people in their workplace and is the process in which workplaces, products, and systems are designed or rearranged so that they fit the people who use them. It aims to improve workspaces and environments to reduce the risk of injury³.

Common BF positions are side-lying hold, cradle hold (same arm), cross-cradle hold (opposite arm), football hold, twins hold, laid-back breastfeeding (biological nurturing), laid-back breastfeeding after cesarean and babysitting breastfeeding^{4,5}. In the side-lying position, the mother's back and hips are kept in a straight line, with pillows placed at the back and the baby's head is cradled in the top arm of the mother; then the face is lifted towards the breast. The cradle hold is a classic BF position in which the mother is sitting with her back and feet supported while cradling the baby in her arm crook, and the baby's face, stomach, and legs are facing towards the mother. In the cross cradle, the baby is not in the crook of the mother's arm; instead, his head is on the

mother's hand to guide towards the breast that's why it is useful for small babies. In the football hold, the baby is on the side under the mother's arm with the face forward and body at the back, like a handbag or football under the arm^{4,5}.

This study was planned to identify the commonly used breastfeeding positions adopted by postnatal mothers and their associated musculoskeletal problems so that further actions can be taken for their education, prevention, and management.

II. METHODOLOGY

In this study, 83 lactating postnatal mothers were taken from the Obstetrics and Gynaecology Department at Kovai Medical Centre and Hospital (Coimbatore). Their age ranged from 23 to 30 years. All the procedure was explained to the mothers and informed consent was obtained. The patients were instructed to fill out the self-developed questionnaire and the Örebro Musculoskeletal Pain Screening Questionnaire – Short version of the OMPSQ. The questionnaire was given to those lactating mothers who fulfilled the selection criteria and provided consent to participate in the study. According to the selection criteria, 75 lactating mothers were selected. The inclusion criteria included: a) normal delivery and cesarean delivery; b) postnatal mothers (1-3 months) who are breastfeeding the baby; c) Complaints of neck, upper back, lower back pain due to 2 weeks of breastfeeding.

➤ Design

This is a cross-sectional study. 75 participants were individually selected according to the purposive sampling method from the participating hospital. After a period of 2 weeks, the early postnatal mothers were interviewed about their demographic data and a self-developed questionnaire with the Örebro Musculoskeletal Pain Screening Questionnaire (OMPSQ) short version was given to identify the knowledge and attitude about breastfeeding positions, ergonomics and musculoskeletal pain among early postpartum women.

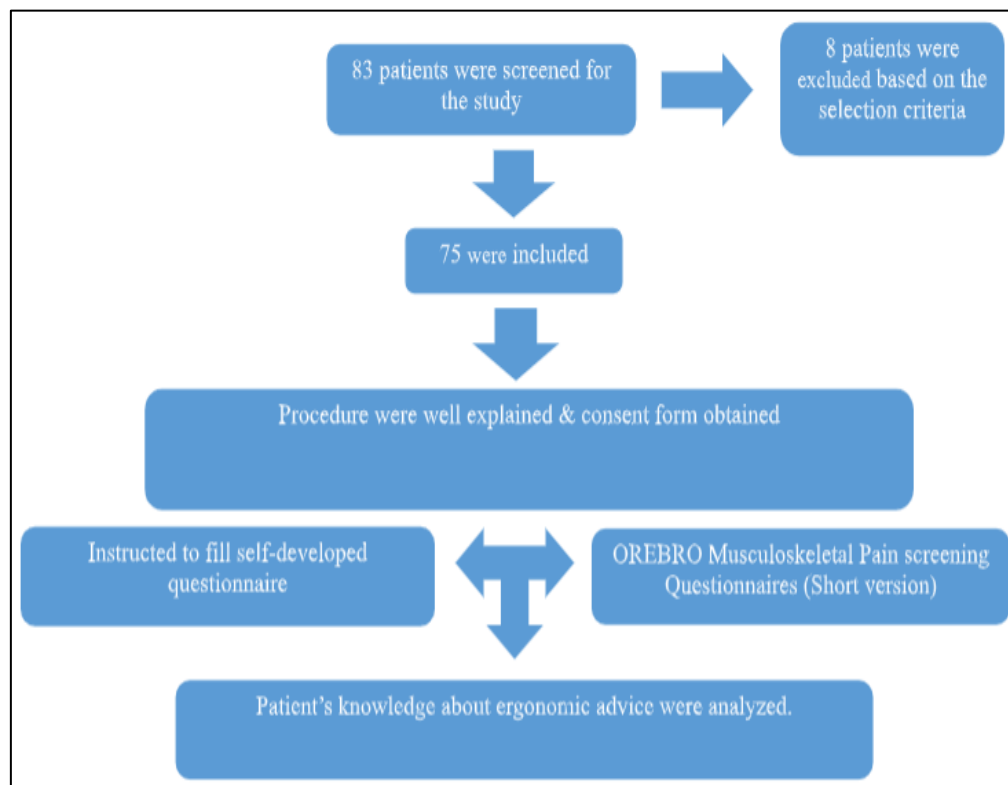
➤ *Intervention/ Methodology*

Fig 1 Intervention/ Methodology

➤ *Outcome Measures*

We used a self-developed questionnaire and the Örebro Musculoskeletal Pain Screening Questionnaire – Short version (OMPSQ) to assess knowledge and attitude about breastfeeding position, ergonomics and musculoskeletal pain among early postpartum women. Demographic data were collected to help identify parity, type of delivery, employment, family type and the co-morbidity like hypothyroidism, hyperthyroidism, Gestational diabetes, hypertension, and no comorbidity.

The self-developed questionnaire helps to find out the breastfeeding position of the early postnatal mothers. It consists of seven questions, which includes the breastfeeding posture practice was advisable or not advisable, which position they prefer the most, why that particular position was preferred the most, what type of breastfeeding hold was preferred by the mother, the latch-on breast practice preferred by the mother and whether during breastfeeding the mother experiences any pain or discomfort.

The Örebro Musculoskeletal Pain Screening Questionnaire (Short Version) OMPSQ includes 10 items selected from the full version (see Linton, Nicholas & MacDonald, 2011)⁸. These items are scored 0-10, where 0 refers to the absence of impairment and 10 to severe impairment. However, three items need to be reversed in order for all the questions to be oriented in the same direction. The scoring method has been built into the questionnaire and scoring boxes are provided to the right of each item: a) Item 1, on pain duration, the categories 1-10 represent periods of

time ranging from “0-1 week” (first box on the left) to “over 1 year” (last box to the right). Thus, “6-8 weeks”, for example, would be scored “5”; b) Items 2, 5, 6, 7, 9, and 10: the score was the number circled; c) Items 3, 4, and 8: the score was 10 minus the number circled. These items were marked with “10-x” above the scoring box; d) Write the score for each item in the shaded scoring box; e) Add all the scores to obtain the total score and write it in the last shaded box. The total score would range between 1 and 100, with a score >50 indicating higher estimated risk for future work disability.

➤ *Statistical Analysis:*

Microsoft Excel was used to describe the data. “Descriptive statistics – Frequencies” and percentages were calculated.

The percentage was calculated by taking the frequency in the category divided by

The total number of participants and multiplied by 100%.

- Demographic Data In Frequency & Percentage
- Breastfeeding Postures, Positioning, Hold Practice And Latching Techniques
- Perception Of Musculoskeletal Pain (Median And Standard Deviation)
- Prevalence Of Musculoskeletal Pain In Postnatal Mothers

➤ Graphical Representation

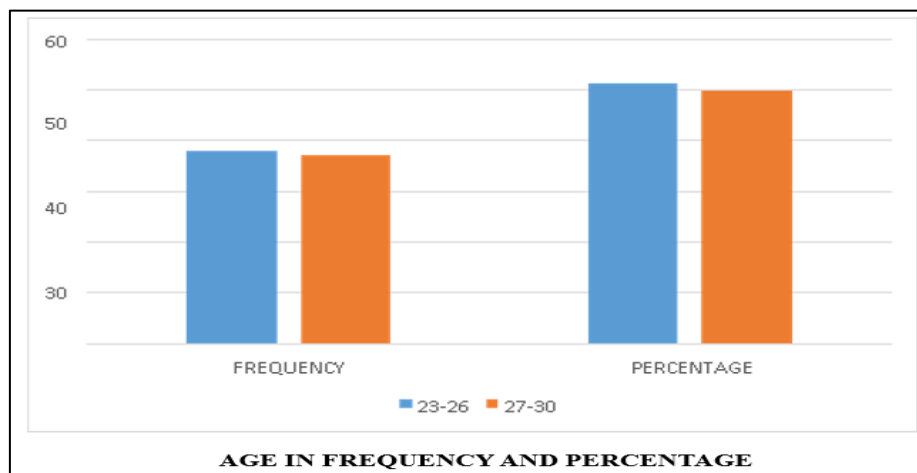
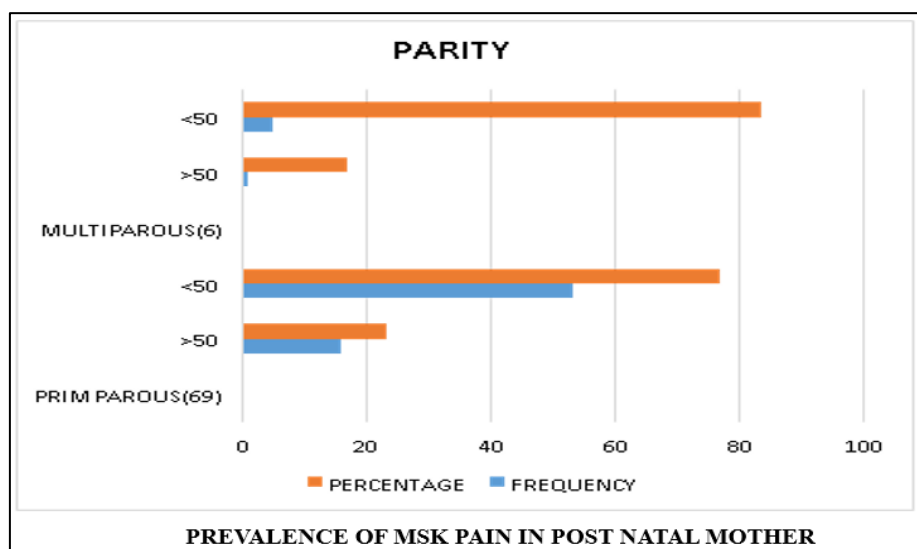


Fig 2 Age in Frequency and Percentage



PREVALENCE OF MSK PAIN IN POST NATAL MOTHER

Fig 3 Prevalence of MSK Pain in Post Natal Mother

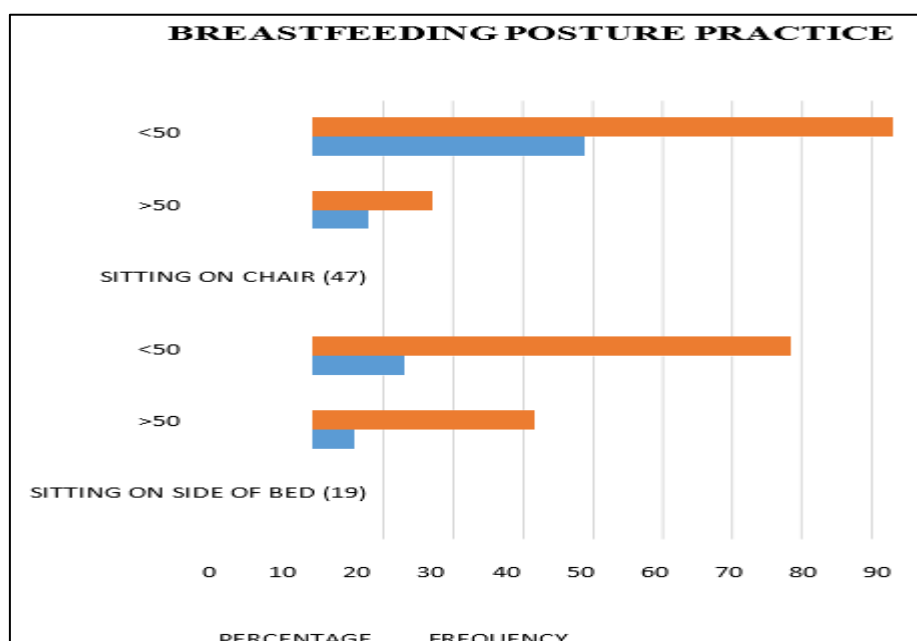


Fig 4 Breastfeeding Posture Practice

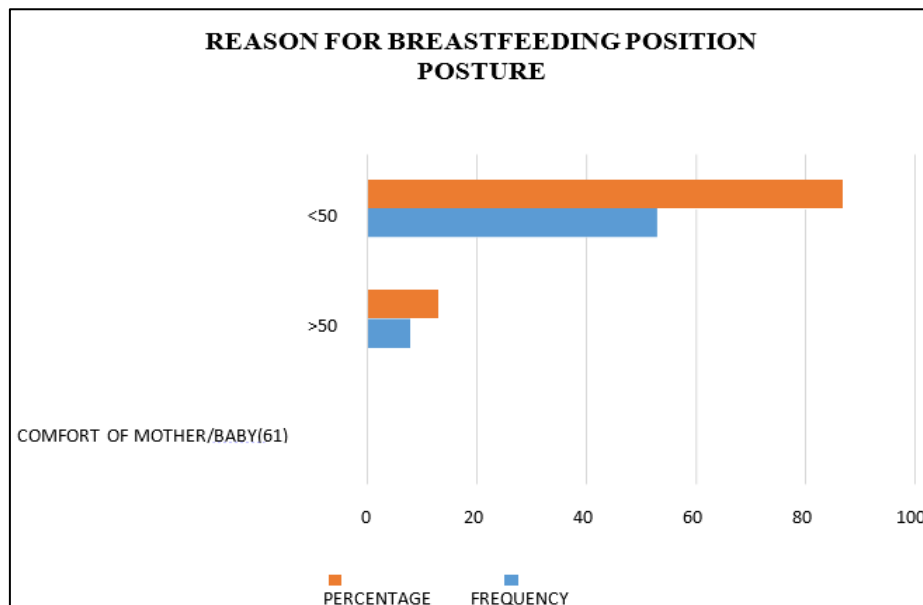


Fig 5 Reason for Breastfeeding Position Posture

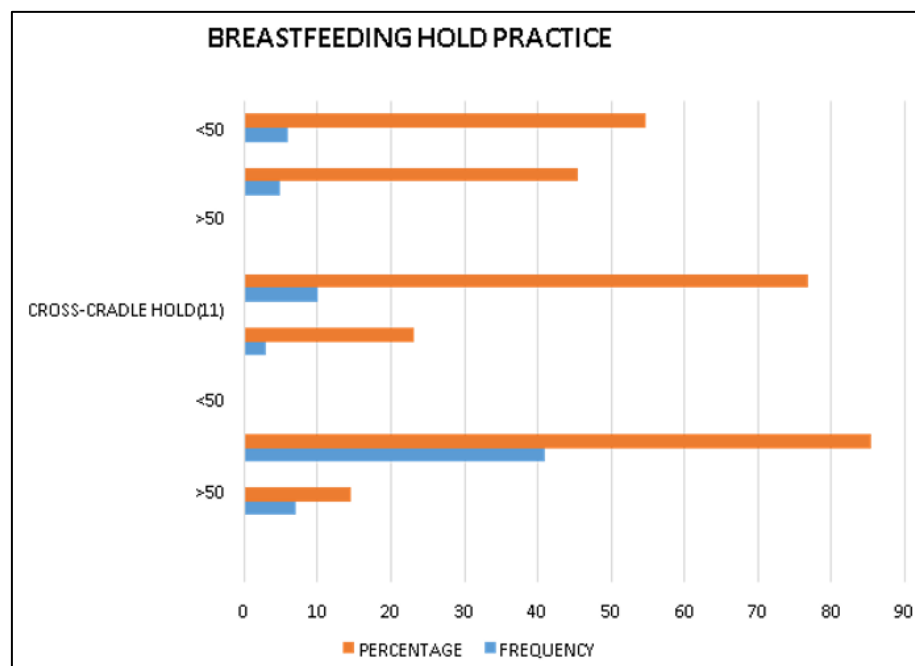


Fig 6 Breastfeeding Hold Practice

➤ *Prevalence of Musculoskeletal Pain in Postnatal Mother*

Table 1 Prevalence of Musculoskeletal Pain in Postnatal Mother

COMPONENTS & OMPSQ SCORING	NO. OF POSTNATAL MOTHER	PERCENTAGE
Parity		
Prim parous(69)		
>50	16	23.2
<50	53	76.8
Multiparous(6)		
>50	1	16.7
<50	5	83.3

Breastfeeding position practice		
Sitting on the side of the bed (19)		
>50	6	31.6
<50	13	68.4
Sitting on a chair (47)		
>50	8	17
<50	39	83
Reason for breastfeeding position practice		
Comfort of mother/baby (61)		
>50	8	13.1
<50	53	86.9
Breastfeeding hold practice		
Cradle hold (48)		
>50	7	14.6
<50	41	85.4
Side-lying (13)		
>50	3	23.1
<50	10	76.9
Cross-cradle hold (11)		
>50	5	45.4
<50	6	54.6

III. RESULTS

75 Early postnatal mothers (aged 23-30) were studied after 2 weeks postpartum. Data were collected using a self-developed questionnaire and the Örebro Musculoskeletal Pain Screening Questionnaire - Short version (OMPSQ). 92% were primiparous (69), 8% multiparous (6). 44% had a normal delivery (33), 56% had a C-section (42). 80% were employed (60), 20% were unemployed (15). 41.3% had a nuclear family (31), 58.7% had a joint family (44). 6.7% had hypothyroidism (5), 12% had hyperthyroidism (9), 8% had gestational diabetes (6), and 73.3% had no comorbidity (55). 23.2% of primiparous and 16.7% of multiparous mothers had OMPSQ scores >50, indicating musculoskeletal pain. 31.6% preferred sitting on the side of the bed, and 17% preferred sitting on a chair. 13.1% experienced musculoskeletal pain due to adjusting positions for comfort. 14.6% preferred cradle hold, 23.1% side-lying, and 45.4% cross-cradle hold.

IV. DISCUSSIONS

Breastfeeding is one of the most important factors in infants' health. Monitoring mothers' performance and providing them with feedback helps to increase their self-efficacy, interest in learning, and level of performance. The postural changes after pregnancy due to poor breastfeeding positions may cause cervical kyphosis and lumbar lordosis; this change in posture is responsible for the musculoskeletal pain. The importance of knowledge of ergonomic advice in postnatal mothers on breastfeeding positions will reduce the musculoskeletal pain that occurs due to poor positioning while breastfeeding⁵⁻⁷.

This study was done to find the knowledge and attitude about breastfeeding position, ergonomics, and musculoskeletal pain among postnatal mothers. A total of 75 early postnatal mothers were selected.

After 2 weeks, the early postnatal mothers were interviewed about their demographic data, and a self-developed questionnaire with the Örebro Musculoskeletal Pain Screening Questionnaire (OMPSQ) short version was given to identify the knowledge and attitude about breastfeeding positions, ergonomics and musculoskeletal pain among early postnatal mothers.

The postnatal mothers demonstrated good knowledge, position and attitude towards breastfeeding. Musculoskeletal pain for 17 postnatal women out of 75. The posture and position most preferred was sitting and they chose cradle hold as their preferred hold practice.

A self-developed questionnaire was given to analyse the breastfeeding postures, positioning, hold practice and latching techniques. 86.7% said that breastfeeding posture practice was advisable and preferred breastfeeding position; 62.7% said sitting on a chair and 25.3% said sitting on the side of the bed. Here, 9.3% side-lying and 2.7% sitting on a mat were the least preferred positions. 81.4% said that, according to the comfort of the mother/baby, the breastfeeding position was used. 9.3% said that due to their convenience and 9.3% said due to no obvious reason, they preferred the position practice. 64% said that cradle hold was the best breastfeeding hold practice and the less preferred hold practices were 17.3% side-lying and 14.7% cross-cradle hold. In this, the football hold was the least preferred by postnatal mothers was 4%. In this, 40% of mothers who specified breast-to-baby and baby-to-breast preferred the latch-on-to-breast position the most. 4% of slight neck flexion, 8% of the footrest, 14.7% of arm support and 73.3% of all of the above essential ergonomic posture while sitting to breastfeed were preferred.

By using the Örebro Musculoskeletal Pain Screening Questionnaire - Short version (OMPSQ), the pain for postnatal mothers was analysed. The prevalence of musculoskeletal pain in postnatal mothers with >50 scores was 23.2% primiparous, 16.7% multiparous, 31.6% prefer sitting on the

side of the bed, 17% prefer sitting on a chair, and 13.1% have musculoskeletal pain by adapting position according to the comfort of mother/baby. 14.6% prefer cradle hold, 23.1% prefer side-lying, and 45.4% prefer cross-cradle hold.

V. CONCLUSIONS

This study assessed the knowledge, attitude, and impact of breastfeeding positions on musculoskeletal pain in 75 postnatal mothers. Most mothers preferred sitting while breastfeeding, with cradle hold being the most common practice. Musculoskeletal pain was present in 17 mothers, with higher prevalence in those preferring certain positions. Ergonomic posture, including proper support and alignment, was recognised as important by most participants. Overall, postnatal mothers demonstrated good awareness of breastfeeding positions and their effects on musculoskeletal health.

➤ Limitations

- This cross-sectional study could be done after 6 months or 1 year.
- Area and type of pain determinants were not identified.
- For Posture and pain assessment, quantifiable measurement not used.

➤ Suggestion

- Longitudinal study at various time points: 6 months, 1 year.

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