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Evaluating non-pharmacological approaches in managing Pain and Disability in Nursing Mothers: Postural Practices and Ergonomic Support.

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Abstract
Background: The World Health Organisation (WHO) states that breastfeeding is a normal and appropriate technique of giving infants the nutrients they need for healthy growth. It is advised that breastfeeding begin during the first hour of life and continue for the infant's first six months of life. Because breastfeeding demands recurrent use of the upper extremities, women are frequently seen staring at their babies during feeding sessions with continuous neck flexion postures, which in most cases results in neck and back pain in the mothers. In developing countries like India mothers may find it difficult to breastfeed well due to their lack of understanding about the proper posture technique. Thus, this study was planned to treat the postural pain and disabilities in nursing mothers who underwent caesarean section and normal delivery through non-pharmacological approaches and ergonomically designed practices.
Methods: 30 nursing mothers aged between 18 to 35 years diagnosed with postural pain and disabilities when they underwent feeding session were included in this study. Subjects were divided into two groups based on Simple Random Sampling and the data was collected. The subjects were assessed for neck and back pain with Visual Analogue Scale (VAS). For neck and back disabilities, the subjects were assessed with Neck Disability Index (NDI) and Oswestry Low Back Disability Questionnaire (OLBPQ) respectively. Home based Intervention and ergonomically designed practices were given for total 2 months and the subjects were re-assessed for pain and disability by filling questionnaire.
Results: The findings of the present study indicated a significant effect of both non-pharmacological approaches along with ergonomically designed practices and ergonomically designed practices alone in treating pain and disabilities among nursing mothers. However, statistically it is proved that improvement is more in nursing mothers who are treated with both non-pharmacological approaches and ergonomically designed practices.
Conclusion: This study concluded that physiotherapy interventions should be implemented early in postpartum period, as it will be helpful in resolving the musculoskeletal issues, thus improving the physical function.

Keywords: Back pain, nursing mothers, neck disability index, neck pain, oswestry low back disability questionnaire, visual analogue scale

Introduction

Breastfeeding is the act of transferring milk from the mother to the child [1]. It is one of the most effective ways to ensure a child's adequate health and survival. To ensure bonding and close monitoring during feeding sessions, mothers are often observed to be gazing at their infants with a sustained neck flexion posture which causes neck and back pain in most of the mothers because breastfeeding requires repetitive use of upper extremities [2].

Despite the infant and maternal benefits of Breastfeeding, there are some related adverse health effects including musculoskeletal pain and other maternal discomforts [1]. Prevalence of breastfeeding related neck pain was seen in 51.7% of women, of which 55% reported moderate pain intensity and mechanical low back pain was experienced by 22% women [3]. Nursing mothers often experience physical discomfort and musculoskeletal issues due to prolonged breastfeeding sessions and inadequate postural support. Breastfeeding related musculoskeletal pain may also be attributed to hormonal influence on the musculoskeletal tissues in combination with the biomechanical and ergonomic stress of child related activities. Poor positioning when bathing, feeding, nappy changing and manoeuvring the baby may all contribute to musculoskeletal changes and discomfort [4]. These musculoskeletal postural problems have a higher dependency on different positions attained during infant care and causes mechanical change in cervical, thoracic and lumbar spine that alters the correct posture of the body leading to long term deformities by disturbing the normal curvature of spine and producing hyper lordosis, hyper kyphosis and forward head posture along with disability, ligamentous and collagenous connective tissue changes.

Mothers' poor knowledge about the correct breastfeeding positioning technique particularly in developing countries, may influence practice of effective breastfeeding. Thus, there is an urgent requirement of spreading awareness among mothers about correct technique of breastfeeding. Also, considering the impact of breastfeeding on musculoskeletal discomfort, there are good reasons to study the effect of interventions among breastfeeding mother. Therefore, to address these problems the purpose of the present study is to investigate the efficacy of non-pharmacological approaches along with ergonomically designed practices on pain and disability in nursing mothers.

Materials and Methods

30 Nursing mothers, both having normal delivery and caesarean at the 4th week of postpartum aged 18-35 years were included in this study. The mothers diagnosed with

neck and back pain due to abnormal breastfeeding posture, were also selected. Subjects were divided into two groups based on Simple Random Sampling. The subjects were assessed for neck and back pain and disability with Visual Analogue Scale (VAS), Neck Disability Index (NDI), and Oswestry Low Back Disability Questionnaire (OLBDQ) respectively. Intervention was given for total 2 months in which Group a received non-pharmacological approach along with ergonomically designed practices and Group B received ergonomically designed practices only.

Home based exercise program included Strengthening Exercise Program and Spinal Stretches. Strengthening Exercise Program included Neck Isometrics, Abdominal Strengthening and Pelvic Floor Exercises 10-12 repetitions twice a day [5, 6]. Spinal stretches were also included [7]. In the intervention program mothers who underwent normal delivery were advised to start home based exercise program after 5 weeks and the caesarean mothers after 2 months of delivery. Ergonomic training was given to both groups after 1 month of delivery. The subjects were re-assessed after the completion of the treatment i.e.2 months and the questionnaire were filled.

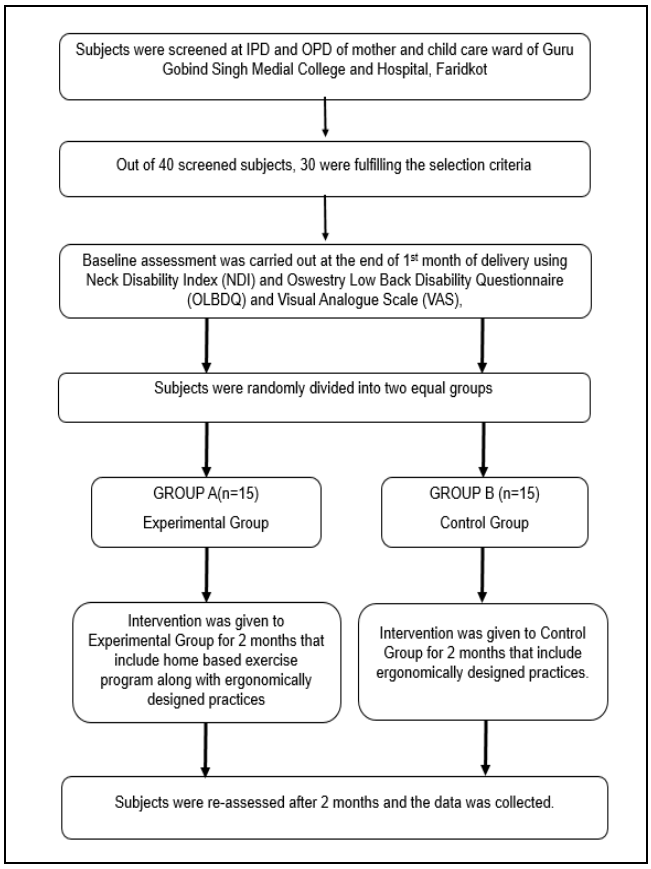

Fig 1: Flow Chart of Treatment Procedure

Results

Total no. of subject were 30. Out of which 15 subjects were involved in Experimental group with mean age of 27.2 years and remaining 15 subjects were included in Control group with mean age of 26.67 years. Unpaired t-test was used for comparison at 1st month to after 2 months score measurement of Neck Disability Scale and Oswestry Low Back Disability Questionnaire and Visual Analogue Scale between group A and B respectively.

Table 1: Unpaired t-test for comparison of Mean Difference score measurements of Neck Disability Index between Experimental Group-A and Control Group-B.

	Group A	Group B
Mean	21.2	35.2
S.D.	6.70	13.439
Number	15	15
Unpaired t test	3.611	
p-value	0.000118*	
Result	Significant	

Table 2: Unpaired t-test for comparison of Mean Difference score measurements of oswestry low back disability questionnaire between experimental group-a and Control group-b

	Group A	Group B
Mean	24.87	33.13
S.D.	3.378	5.604
Number	15	15
Unpaired t test	4.893	
p-value	0.000037*	
Result	Significant	

Table 3: Unpaired t-test for comparison of Mean Difference score measurements of visual analogue scale for neck PAIN between Experimental GROUP-A and Control Group-B

	Group A	Group B
Mean	4.4	3.47
S.D.	0.737	0.743
Number	15	15
Unpaired t test	3.454	
p-value	0.002*	
Result	Significant	

Table 4: Unpaired t-test for comparison of Mean Difference score measurements of visual analogue scale for back pain between experimental group-a and Control Group-b

	Group A	Group B
Mean	4.6	3.27
S.D.	0.737	0.799
Number	15	15
Unpaired t test	4.752	
p-value	0.00005*	
Result	Significant	

After the statistical analysis, the findings of the present study indicated that the reduction in pain is more after 2 months of treatment in nursing mothers treated with non-pharmacological approaches and ergonomically designed practices in Experimental Group A as compared to the Control Group B mothers treated with only ergonomically designed practices program with p value(<0.05).Thus, physiotherapy interventions should be implemented early in postpartum period, as it will be helpful in resolving the musculoskeletal problems.

Discussion

The basic aim of the current study is to investigate the efficacy of non-pharmacological approaches along with ergonomically designed practices and ergonomically designed practices alone on pain and disability in nursing mothers. The statistical analysis of the data supports the beneficial effect of non-pharmacological approaches along with ergonomically designed practices in postural pain in postpartum mothers.

Study conducted by other authors stated that there is a significant effect of postpartum exercises on betterment of mother's physical health which showed that postpartum back pain was common and decreased considerably over the time with core stabilizing exercises. In both the groups postpartum women were treated with core stabilization exercises along with postural correction in different positions i.e. supine, crook lying and half sitting position & prone position [6]

Result of the present study was supported by other authors who stated that there is a high prevalence of Breastfeed related neck pain among nursing mothers. Although maternal characteristics and BF positions were not associated with reported Breastfeed related neck pain, the results suggest that changing BF positions reduces neck pain during nursing sessions. Therefore, this study recommends that nursing mothers should regularly change their BF positions to increase relaxation and comfort [3].

Results of the present study was supported by other authors who concluded that there is a statistically significant effect of the ergonomic education of breastfeeding posture on the scores of Grading of effective mouth attachment and suckling of the infant and Rapid Upper limb assessment for the mothers during breastfeeding session. They also highlight the importance of the role of a Physiotherapist in the early postpartum period that involves imparting knowledge to the postpartum mothers regarding breastfeeding postures and helping them achieve a happy and pain-free puerperium as well as motherhood [8].

Conclusion

In conclusion, this study showed that that both non-pharmacological approaches and ergonomically designed practices are effective in reducing neck and back pain among nursing mothers who had normal delivery and caesarean section. However, the results suggested that physiotherapy interventions should be implemented early in postpartum period, as it will be helpful in resolving the musculoskeletal issues, thus improving the physical function.

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Declaration

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Ethical approval

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