

“Effectiveness of Reflex Zone Therapy on Improvement of Lactation among Postnatal Mothers in Hi-Tech Medical College and Hospital, Pandara, Rasulgarh, Bhubaneswar, Khordha” Odisha

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ABSTRACT

Breast feeding immediately after delivery encourages the "bonding" of the mother to her infant. Therapeutic reflexologies and postpartum, mass use Laura Thomas cites a study in which milk volume increased by 86 percent for participants who received 10 therapeutic reflexology treatments. Reflexology benefits in increasing milk production, mother's relaxation and promotes lactation. This method is useful for post-natal mothers to prevent the use of drugs in lactation that may harm to the baby. The latch is correct when the infant is receiving colostrums or milk. The gold standard for proof of milk transfer from the breast to the infant is .Thus; the purpose of this study was to evaluate the improvement of lactation among postnatal mothers. A pre-experimental research study where one group pre-test-post-test design and non-probability purposive sampling was used for selection of samples. The data were collected from 40 post-natal mothers admitted in Hi-Tech Medical College and Hospital, Bhubaneswar, Khordha, by using LATCH Breastfeeding assessment scale. It was revealed that the calculated 't' values are higher than tabulated 't' value at 5% level of significance, which shows that highly significant and the null hypothesis is rejected. It depicts that there is difference between pre-test and post-test scores which shows high effectiveness of reflex zone therapy on improvement of lactation. There is significant association between post-test level of lactation and age of the mother, educational profile, type of family, sex of the baby and birth weight of the baby except gravid.

Keywords: effectiveness, reflex zone therapy, lactation, postnatal mothers

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I. INTRODUCTION:

Breastfeeding is important for the both mother and infant's health. It is fundamental right of a baby, for breast milk there is no substitutes. "It's all in the latch." Lactation consultants preach about a good latch at the breast. The golden standard for proof of milk transfer from the breast to the infant is audible swallowing. In the first few days of life, infants often suck six or seven times before swallowing the thick colostrums. By the time the infant is 3 to 5 days old, a mother's milk has "come in," and many swallows may be heard following each letdown. This is evidenced by bursts of swallowing, pauses, and more bursts of swallowing. When milk supply increases, about 48 to 72 hours after delivery, breasts may become firm and a little tender. Fullness in breasts occurs naturally from an increase in blood flow. This prepares breasts for increased milk production. Feeding the baby often will help keep breasts soft and prevent engorgement. One of the method to initiate lactation is reflex zone therapy which is the practice of applying pressure to the feet and hands utilizing specific thumb, finger and hand techniques without the use of oil and cream or lotions based on a system of zones and reflex areas that reflect an image of the body on the feet and hands with a premise that such works effects a physical change in the body.

Proportions of babies breastfed by day I (median 72 percent, interquartile range 60-82 percent), and within the first hour (median 36 percent, interquartile range 26-52 percent) were low. For all countries combined, it was estimated that neonatal mortality could be reduced by 24 percent if 99 percent of babies initiated breastfeeding, on day I of life and by 31 percent if 99 percent of initiation was within the first hour.

A global risk assessment of deaths and years of life lost due to suboptimal breastfeeding among children in the developing countries revealed that attributable fractions for deaths due to diarrheal disease and lower respiratory tract infections are 55percent and 53 percent, respectively, for the first six months of infancy, 20 percent and 18 percent for the second six months, and are 20 percent for all-cause deaths in the second year

of life. The authors concluded that globally, as many as 1.45 million lives (117 million years of life) are lost due to suboptimal breast-feeding in developing countries.

The percentage of neonatal deaths could be prevented by initiating breastfeeding in the first hour of life was 41.3 percent. This is equivalent to preventing 22.3 percent of all neonatal deaths. Similarly, initiating breastfeeding on the first day could have saved 30.2 percent of neonatal deaths from days 2.

II. OBJECTIVES OF THE STUDY:

- To assess the level of lactation among postnatal mothers before administering reflex zone therapy.
- To assess the level of lactation among postnatal mothers after administering reflex zone therapy.
- To assess the significant difference in pre test and post-test level of lactation after administering reflex zone therapy.
- To find out the association between posttest scores after administering reflex zone therapy with selected demographic variables among postnatal mothers.

III. METHODS:

RESEARCH APPROACH:

A quantitative research approach was used in this study.

RESEARCH DESIGN:

Pre-experimental research design with one group pre-test and post-test was chosen in this study.

SETTING OF THE STUDY:

The study was conducted at post-natal ward at Hi-tech Medical College and Hospital, Bhubaneswar Khordha, Odisha.

POPULATION:

All postnatal mothers who undergone normal delivery or caesarean section at Hi-tech Medical College and Hospital, Bhubaneswar, Khordha, Odisha.

SAMPLE:

The postnatal mothers who were in the first postnatal day, who met the inclusion criteria, and were available during data collection, were sample for the study.

SAMPLE SIZE:

The sample consists of the postnatal mothers who fulfill the inclusion criteria and the sample size is 40.

SAMPLING TECHNIQUE:

Non-probability purposive sampling technique was used to select the samples for this study.

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria: The study includes postnatal mothers who:

- Have undergone normal delivery or caesarean section and delivered full term normal new-born admitted in post-natal ward at Hi-tech Medical College and Hospital, Bhubaneswar, Khordha, Odisha.
- Speak and understand local language.
- Show willingness to participate in the study.

Exclusion criteria: The study excludes postnatal mothers who:

- are contraindicated to reflex zone therapy e.g. Deep vein thrombosis.
- Delivered premature baby.

SELECTION AND DEVELOPMENT OF RESEARCH TOOLS:

A structured LATCH breastfeeding assessment scale to assess the level of lactation among post-natal mothers was developed for this study. The tool consisting of section A consisted of demographic profile such as age of the mother, educational profile, type of family, gravida, sex of the baby and birth weight of the baby and section B consisted of LATCH breastfeeding assessment scale (Jenson D, Wallase S and kelsay P) for assessing the level of lactation. The researcher used standardized LATCH breastfeeding assessment scale. This consists of 5 factors to assess the effectiveness of reflex zone therapy to promote lactation. Question covers various aspect of breastfeeding such as latch, audible swallowing, type of nipple, comfort and hold. Maximum

score was 10 and minimum score was 1. Interventional procedure- The intervention was provided 5 hours after delivery once daily for three days. The total duration of the procedure was 10 minutes.

IV. RESULTS AND FINDINGS:

The findings of the study showed that; A pre-test score shows that 30% of post-natal mothers having least favourable level of lactation and 70% having favorable level of lactation and post-test score shows that 35% of post-natal mothers having favorable level of lactation and 65% having most favorable level of lactation. Paired 't' test was calculated to assess the significant difference between pre and post-test lactation scores which shows highly significant difference between pre-test and post-test lactation scores. Hence the null hypothesis was rejected ($p < 0.05$) and statistical hypothesis was accepted. Then Chi square (χ^2) test to find out whether there is any association between post-test levels of lactation with different parameters of demographic variables. The hypothesis is tested at 5% level of significant. The result reveals that there is significant association between age, educational profile, type of family, sex of the baby and birth weight of the baby but there is no significant association between gravida of the mothers.

ANALYSIS AND INTERPRETATION OF DATA:

SECTION-I: Description of socio demographic variables.

Sample characteristics	Categories	Frequency (f)	Percentage (%)
Age of the Mother	20-25yrs	17	42.50%
	26-30 yrs.	13	32.50%
	31-35 yrs.	04	10%
	Above 35 yrs.	06	15%
Educational Profile	No formal education	11	27.50%
	Primary and secondary	23	57.50%
	Higher Secondary and above	06	15%
Type of Family	Joint Family	20	50%
	Nuclear Family	20	50%
Gravida	Prime gravida	26	65%
	Multi gravida	14	35%
Sex of the Baby	Male child	24	60%
	Female child	16	40%
Birth weight of the Baby	2.5- 3kg	26	65%
	3-3.5 kg	10	25%
	3.5-4 kg	04	10%

SECTION II: Data on overall pre and post-test level of lactation among postnatal mothers in postnatal word.

Categorization of level of lactation was done according to the scale (LATCH breastfeeding assessment scale). The scale interpretation is; 1-3 shows least favorable level of lactation, 4-6 shows favorable level of lactation and 7-10 shows most favorable level of lactation.

Sample Characteristics	Category	Pre-test (%)	Post-test (%)
Comparison of overall pre-test and post-test level of lactation	least favorable	30%	00%
	favourable	70%	35%
	most favourable	00%	65%
	Total	100%	100%

Factor wise distribution of pre and post-test level of lactation scores among post-natal mothers.

FACTOR	PRE-TEST			POST-TEST		
	Least favourable	Favourable	Most favourable	Least favourable	Favourable	Most favourable
Latch	25%	75%	0%	0%	42%	58%
Audible swallowing	18%	77%	05%	0%	50%	50%
Type of nipple	08%	57%	35%	0%	22%	78%
Comfort	45%	30%	25%	0%	45%	55%
Hold	30%	70%	0%	0%	80%	20%

Factor wise analysis of pre and post test level of lactation shows that; highest 77% of mothers had favourable lactation score in relation to audible swallowing during pre-test whereas 35% of mothers had most favourable level of lactation in relation to type of nipple. Highest or more or less similar 77% and 75% of mothers had favourable lactation in relation to the audible swallowing and latch whereas highest 45% of mothers had least favourable score in relation to the factor comfort. In none of them had most favourable score in pre-test in relation to the factor latch and hold, however during post-test 78% of mothers had most favourable level of lactation in relation to the factor type of nipple. In none of them had least favourable score of lactation in post-test in Favorable relation to all factors. Hence reflex zone therapy is effective on improvement of lactation among post-natal mothers.

SECTION-III: Comparison between the pre-test and post-test level of lactation score among post-natal mothers.
Represents the mean, standard deviation and paired ‘t’ value of pre-test and post-test level of lactation

LATCH breastfeeding assessment scale	Pre Test			Post Test		
	MEAN	SD	PAIRED, ‘T’ VALUE	MEAN	SD	PAIRED, ‘T’ VALUE
L	0.75	0.43	10.81	1.57	0.5	19.89
A	0.87	0.46	11.94	1.5	0.5	18.73
T	1.27	0.59	13.47	1.77	0.42	26.54
C	0.8	0.82	6.15	1.55	0.5	19.45
H	0.7	0.46	9.53	1.2	0.4	18.73

Section-IV: Evaluation of effectiveness of reflex zone therapy is effective on improvement of lactation among post-natal mothers.

COMPARISON	MEAN	SD	MEAN DIFFERENCE	PAIRED ‘T’ VALUE	TABLE VALUE
Pre-Test	4.4	1.64	3.2	14.27	2.02
Post-Test	7.6	2.98			

df-39 p<0.05 ,Table value -2.02

Paired ‘t’ test computed between pre-test and post- test lactation level among postnatal mothers was statistically significant at 0.05 level of significance. The calculated Paired ‘t’ value (14.27) is greater than table value (2.02). This calculation shows that the effectiveness of reflex zone therapy is effective on improvement of lactation among post-natal mothers Hence H1 hypothesis is accepted.

Section-V: To assess the association between post-test level of lactation and their selected demographic variables.

SI No.	Sample characteristics	Chi Square value	df value	Tabulated value	Inference
1	Age of the mother	14.34	3	7.82	Significant
2	Educational profile	6.81	2	5.99	Significant
3	Type of Family	3.95	1	3.84	Significant
4	Gravida	1.74	1	3.84	Not Significant
5	Sex of the Baby	4.09	1	3.84	Significant
6	Birth Weight of baby(Kg)	6.76	2	5.99	Significant

*Significant

Chi square (x²) test to find out whether there is any association between post- test levels of lactation with different parameters of demographic variables. The hypothesis is tested at 0.05 level of significance. The result reveals that there is significant association between age, educational profile, type of family, sex of the baby and birth weight of the baby but there is no significant association between gravida of the mothers. (x²)=1.74,df=1,at p<0.05). Hence H2 hypothesis is accepted.

V. DISCUSSIONS:

A description cross sectional survey approach was used to collect data from 40 mothers to assess the effectiveness of reflex zone therapy to promote lactation among post-natal mothers using LATCH Breastfeeding Assessment scale. Percentage wise distribution of the mother according to their age shows that majority 42.5% mothers are in age group of 20-25 years, 32.5% were in the age group 26-30 years, 10% were in the age group above 31-35 years, and 15% were in the age group above 35 years, educational profile shows that 27.5% mothers having no formal education, 57.5% mothers having primary and secondary education, and 15%

mothers having higher secondary and above education , type of family shows that 50% mothers were from joint family and 50% mothers were from nuclear family ,gravida 65% mothers were primigravida and 35% mothers were multigravida, sex of their baby 60% mothers having male child and 40% mothers having female child and birth weight of their baby, majority 65 % mothers having baby of birth weight 2.5-3 Kg,25% mothers having baby of birth weight 3-3.5 Kg, and 10% mothers having baby of birth weight 3 .5-4 Kg.

A pre-test score shows that 30% of post-natal mothers having least favourable level of lactation and 70% having favourable level of lactation. post-test score shows that 35% of post-natal mothers having favorable level of lactation and 65% having most favorable level of lactation.'t' test was calculated to assess the significant difference between pre and post-test lactation scores which shows highly significant different between pre-test and post-test lactation scores. Hence the null hypothesis was rejected ($p < 0.05$) and statistical hypothesis was accepted.Chi square (χ^2) test to find out whether there is any association between post- test levels of lactation with different parameters of demographic variables. The hypothesis is tested at 5% level of significant' The result reveals that there is significant association between age, educational profile, type of family, sex of the baby and birth weight of the baby but there is no significant association between gravida of the mothers.

VI. CONCLUSION:

From the findings of the present study it has been concluded that reflex zone therapy was effective on improvement of lactation among post-natal mothers. It was revealed that the calculated 't' value is higher than the tabulated 't' value at 5% level of significance, which shows highly significance and null hypothesis is rejected. It depicts that the post-test scores of Lactation are significantly higher than pre-test scores of lactation which shows high effectiveness of reflex zone therapy on improvement of lactation. There is significant association between age, educational profile, sex of the baby and birth weight of the baby but there is no significant association between gravida of the mothers on improvement of lactation at 5% level of significance.

Post-natal mothers should be aware about lactation improvement measures like reflex zone therapy, its importance and also its effectiveness, that will help her to overcome from lactation failure.

CONFLICT OF INTEREST: The authors have no conflicts of interest regarding this investigation.

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REFERENCES:

- [1]. Manjuri. A E, Lather F F (2016), Effectiveness Of Foot Reflexology And Back Massage In Improving Quality Of Sleep Among Caesarean Mothers,,, Int. J. Of Res., Volume 7, Issue 5.
- [2]. Anita Asrani, "Asian Journal Of Medical Science And Paediatric, 2018
- [3]. ILCA 2011(Clinical) Guidelines For The Establishment Exclusive Breastfeeding.
- [4]. International Lactation Consultantassociationrevisiontaskforce.Retrievedfrom <Http://Www.Breastfeeding.Com>.
- [5]. Degirmen N. Ozerdogan N. Sayiner D.(2010). Effectiveness Of Foot And Hand Massage In Post Caesarean Enhancing Lactation In A Group Of Turkish Pregnant Women.Applnurs Res; 23(3): 153-8.
- [6]. Amanda Gwynne Long.Reflexology In Pregnancy And Birth. (2009). Retreived From: <Http://Www.Highlandholostics.Co.Uk/Reflexology.Pdf>.
- [7]. Edmond KM, Zandoh C, Quigley MA. (2000). Delayed Breastfeeding Initiation Increases Risk Of Neonatal Mortality.Paediatrics
- [8]. Fifer WP. Moon CM. The Role Of Mother's Voice In The Organization Of Brain Function In The Newborn. Act A Paediatric A Supplement.
- [9]. Illingworth RS. Abilities & Reflexes Of The Newborn In The Development Of The Infant & Young Child: Normal And Abnormal. Available From: (<Http://Www.Pubmed.Com>)
- [10]. Laura Thomas.(2007). Reflexology To Support Breastfeeding And Increase Lactation. Available From: <Http://Www.Mamatoto.Co.Za/Reflexology-Breastfeeding/1/2>.
- [11]. K.Sakha.MD.A.G.G.Behbahan.MD. The Onset Time Of Lactation After Delivery.Medical Journal Of The Islamic Republic Of Iran. 2005. August; 2(19) 135-137.
- [12]. Siu-Lan Li. Effect Of Foot Reflexology In 217 Parturient Women. Beijing International Reflexology Conference (Report). China Preventive Medical Association And The Chinese Society Of Reflexology. Beijing; 1996 P. 14
- [13]. Illingworth RS. Abilities & Reflexes Of The Newborn In The Development Of The Infant & Young Child: Normal And Abnormal. Available From: (<Http://Www.Pubmed.Com>)
- [14]. Laura Thomas.(2007). Reflexology To Support Breastfeeding And Increase Lactation. Available From: <Http://Www.Mamatoto.Co.Za/Reflexology-Breastfeeding/1/2>.
- [15]. K.Sakha.MD.A.G.G.Behbahan.MD. The Onset Time Of Lactation After Delivery.Medical Journal Of The Islamic Republic Of Iran. 2005. August; 2(19) 135-137.