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**“TO ASSESS THE EFFECTIVENESS OF HOFFMAN’S EXERCISE AMONG  
POSTNATAL MOTHERS WITH NIPPLE DEFECT ADMITTED AT TERTIARY CARE  
HOSPITAL KUPPAM ANDHRA PRADESH.”**

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**ABSTRACT:**

Background and aims: Hoffman's exercise care is the innovative method of taking care of inverted nipple and its management, the main aim of the study is assess the Effectiveness of Hoffman's exercise among Postnatal Mothers admitted at Tertiary care hospital. **Material and Methods:** Quantitative research design was used on selected 30 postnatal mothers who met with the inclusion criteria and Hoffman's exercise is demonstrated. **Results:** Showed the analysis of posttest knowledge scores of postnatal mothers reveled the comparisons of calculated paired t test values of mean SD and "t" and p-values of pre -test and post- test knowledge scores on kangaroo mother care reveals that the post –test mean score were 40.09 with a SD of 19.8 and pre-test mean 25.1 with a SD of 12.43 the "t" value 2.02 was and p value were significant at the level of 0.023. This shows effectiveness of structured teaching programme on kangaroo mother care among post natal mother. **Conclusion:** The overall percentage and mean knowledge scores on Hoffman's exercise among postnatal mothers in posttest was higher than the pretest. So it can concluded that Hoffman's exercise is effective in enhancing the inverted nipple defects among postnatal mothers.

**Key words:** Hoffman's exercise, postnatal mother, quantitative research.

### **Introduction:**

Pregnancy marks the start of a journey towards new life. Motherhood enriches this journey with joy and lasting memories. During pregnancy, the mother and baby are intricately connected as one unit, with the baby receiving essential nutrition through the placenta. After birth, this bond transitions to breastfeeding, a completely natural way to nourish the baby. Breast milk transfers numerous health benefits from mother to child and is considered the ideal food for infants. Additionally, breastfeeding fosters a special bond between mother and baby, providing warmth, security, affection, and protection. It also plays a crucial role in saving lives; according to the World Health Organization (2018), exclusive breastfeeding for the first six months could prevent over 820,000 infant deaths annually.

Hoffman's exercise is a manual technique designed to address inverted nipples by potentially breaking adhesions at their base. Dr. J Brooks Hoffman introduced this method in 1953. It can be performed during pregnancy to prepare the nipples and is safe to continue immediately after childbirth to help evert them.

One of the benefits of this method is that mothers can perform it on their own at any time, without any cost. It is a safe, straightforward, and painless treatment option.

**Need for the study:**

Breastfeeding is recognized as a powerful means to support the Global Strategy for Women's, Children's, and Adolescents' Health (2016-2030), which aims to eliminate preventable deaths within a generation, as outlined in the Sustainable Development Goals. Throughout history, breastfeeding has been viewed as a fundamental human practice crucial for infant survival. The World Health Organization universally recommends exclusive breastfeeding (EBF) for the first 6 months of an infant's life..

Breast problems are highly prevalent during the postnatal period. Globally, the incidence rate of breast engorgement is approximately 1 in 8000, while in India it is around 1 in 6500. About 20.0% of postnatal mothers, particularly first-time mothers, experience breast engorgement within four days after giving birth. According to the Grampian study, 33.0% of women encounter breast issues within the first two weeks postpartum, with 28.0% experiencing them thereafter. This figure may be conservative, as some women might attribute these issues to difficulties with breastfeeding. Apart from mastitis, which is relatively uncommon, these problems may include engorgement, soreness, cracked or bleeding nipples, and inverted nipples.

Therefore, this study aimed to explore and understand this issue, along with identifying the factors that contribute to it.

**Objectives of the study:**

1. To assess the pretest scores of breast feeding among postnatal mothers with Nipple defect
2. To provide effectiveness of Hoffman's exercise to the post natal mother with Nipple defect
3. To assess the post test scores of breast feeding among postnatal mothers with Nipple defect
4. To find out the association the pretest scores of breastfeeding with the selected socio demographic and maternal variables among postnatal mothers with Nipple defect.

**Hypotheses:**

**RH<sub>1</sub>:** There will be a significant difference between pre-test and post-test knowledge scores of breast feeding among postnatal mother with nipple defect

**RH<sub>2</sub>:** There will be a significant association between pre-test knowledge scores of breast feeding among postnatal mother with nipple defect with their Socio demographical and maternal variables.

**Material and methods:**

**Research approach:** Quantitative approach was used to assess the effectiveness of Hoffman's exercise among postnatal mothers with nipple defect admitted at PES Hospital, Kuppam.

**Research design:** This study utilized a pre-experimental design with a single group, using both pretest and posttest assessments.

**Research setting:** The present study was conducted at PES Hospital, Kuppam it is a Tertiary Teaching Which is NABH, NABL accredited With bed strength of 1100 bedded multispecialty hospital having all specialty services of Inpatients as well Out patients services .On the average overall OPD census per day about 750-800 patients. The maternity unit includes antenatal ward, postnatal ward, labor room, first stage labor room, septic labor room, operation theatre, NICU and OPD services like antenatal services, postnatal service and immunization.

**Population:** All the postnatal others who were admitted in postnatal ward.

**Sample:** The samples of present study includes all the postnatal mothers admitted and are in inclusion criteria at PES Hospital, Kuppam.

**Sample size:** The sample size for the study was determined using power analysis, resulting in a total of 30 postnatal mothers included in the study.

**Sampling technique:** Postnatal mothers admitted at a Tertiary Care Hospital were selected using non-probability purposive sampling.

**Sampling criteria**

**Inclusion criteria:**

- Postnatal mother with nipple defect
- Postnatal mother who can speak Telugu and English
- Those who are willing to participate in the study

**Exclusion Criteria:**

- Postnatal mother with other nipple defects like sore nipple, cracked nipple, infected nipple etc
- Postnatal mothers with preterm babies
- Postnatal mother with low birth weight baby
- Baby with poor Apgar score
- Postnatal mother with NICU baby admission

- Postnatal mother with communicable disease
- Retro positive status women
- History of fetal death or IUD mothers

**Research variables**

**Dependent variables:** Knowledge regarding Breast feeding among postnatal mother with nipple defect among postnatal mothers which was assessed by using structured questionnaire.

**Independent variables:** Hoffman’s Exercise

**Development and description of tools:** A structured knowledge questionnaire was developed by investigator based on the review of literature, and expert opinion by content validity.

**Description of the tool:** In this study the structured knowledge questionnaire consist of 30 questions,

**Section A: Demographical variables** include age of the mother, Religion, Educational qualification, Area of Residency, Type of family, family income, occupation of the postnatal mothers

**Section B: Maternal variables** which includes gravida, type of delivery, gestational age ,sex of baby , Apgar score of baby , birth weight of baby , health condition of baby, intuition of breast milk to the baby, immunization, any health talk received on care of breast.

**Section C:** LATCH scale to assess the breast feeding

**Scorings:**

Poor	0-3
Moderate	4-7
Good	8-10

**Validity:** The tool was given to nursing experts of OBG and child health department. A few questions were modified on the basis of expert's suggestions and 100% agreement was included in the tool, there by content validity was ascertained.

**Reliability:**

The tool's reliability was evaluated among postnatal mothers using the Test-Retest method.. The tool was administered the co-relation coefficient was calculated by using Karl Pearson and the 'r' value was 0.807. Hence the tool was found to be correlation reliable.

**Ethical Clearance:** Ethical approval was obtained from the institutional human ethics committee at a tertiary teaching hospital, A.P. The researcher explained the procedure to the postnatal mothers and got verbal consent.

**Data collection procedure:** Data collection took place over a four-week period, from December 26, 2023, to January 24, 2024. Demographic variables and knowledge questionnaires was collected by face to face interview method for a time period of 40- 45 minutes, the confidentiality of the response was maintained throughout the procedure. The post test was collected after one week gap duration by using same study participants.

**RESULTS:**

The data is organized and presented under the following sections.

**Section-I:** Frequency and percentage distribution of the socio- demographic variables among postnatal mothers.

**Section-: II** Frequency and percentage distribution of the maternal variables among postnatal mothers.

**Section -III:** Frequency and percentage distribution of pre-test and post- test on effectiveness of Hoffman's exercise among postnatal mothers.

**Section –IV:** Comparison of pre-test and post- test mean, SD "t" and p-values on effectiveness of Hoffman's exercise among postnatal mothers.

**Section -V:** Association of pre-test scores on Hoffman’s exercise among postnatal mothers with their selected socio -demographic and maternal variables.

**Section-I:** Frequency and percentage distribution of the socio- demographic variables among postnatal mothers.

N=30

S.NO	DEMOGRAPHIC VARIABLES OF POSTNATAL MOTHERS	FREQ UENCY	PERCEN TAGE
<b>1</b>	<b>Age of the mother (in years)</b>	<b>f</b>	<b>%</b>
	a) <25 years	7	23.3%
	b) >25 years	23	76.7%
<b>2</b>	<b>Religion</b>		
	a. Hindu	17	56.7%
	b. Muslim	7	23.3%
	c. Christian	6	20%
<b>3</b>	<b>Educational status of mother</b>		
	a. Illiteracy	2	6.7%
	b. Primary school	10	33.3%
	c. Middle school	6	20%
	d. Secondary school	6	20%
	e. Higher Secondary school	4	13.3%
	f. Degree	2	6.7%
<b>4</b>	<b>Occupation of the mother</b>		
	a) Housewife	7	23.3%
	b)Coolie	9	30%
	c) Private Job	11	36.7%
	d)Government	3	10%
<b>5</b>	<b>Type of family</b>		
	a. Nuclear family	14	46.7%
	b. Joint family	16	53.3%
<b>6</b>	<b>Family income per month (in rupees)</b>		
	a. ≤ 10000	3	10%
	b. 10001 to 20000	16	53.3%
	c. 20001 to 30000	9	30%
	d.>30001	2	6.7%

**Section:- II** Frequency and percentage distribution of the maternal variables among postnatal mothers.

N=30

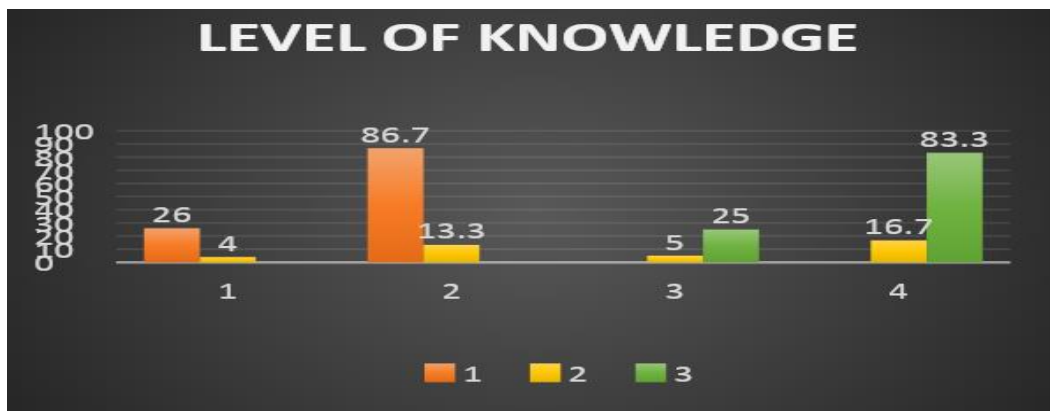
<b>S.NO</b>	<b>MATERNAL VARIABLES</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
<b>1</b>	<b>Gravida</b>		
	a. primi	10	33.3%
	b. G2	14	46.7%
	c. G3	6	20%
<b>2</b>	<b>Gestational age of mother</b>		
	a) 36 weeks	2	6.7%
	b) 37 weeks	8	26.7%
	c) 38 weeks	17	56.7%
	d) 39 weeks	3	10%
<b>3</b>	<b>Type of delivery</b>		
	a. Normal vaginal delivery	15	50%
	b. Normal vaginal delivery with Episiotomy	12	40%
	c. Lower segment Cesarean section	3	10%
<b>4</b>	<b>Sex of the baby</b>		
	a) male	15	50%
	b) female	15	50%
<b>5</b>	<b>Weight of the baby</b>		
	a.1-2 kg	14	46.7%
	b.2-3 kg	15	50%
	c.>3 kg	1	3.3%
<b>6</b>	<b>Apgar score of the baby</b>		
	a) <5	0	0%
	b. 6 to 9	30	100%
<b>7</b>	<b>Initiation of breast feeding</b>		
	a) Less than one Hour	10	33.3%
	b) more than one hour	20	66.7%
<b>8</b>	<b>Immunization of baby</b>		
	a) yes	30	100%
	b) no	0	0%
<b>9</b>	<b>Health condition of baby</b>		
	a) Healthy	30	100%
	b) Unhealthy	0	0%



**Section -III:** Frequency and percentage distribution of pre-test and post- test on effectiveness of Hoffman’s exercise among postnatal mothers.

N=30

SI NO	KNOWLEDGE LEVEL	PRE TEST		POST TEST	
		f	%	f	%
1	<b>Poor</b>	26	86.7%	0	0%
3	<b>Moderate</b>	4	13.3%	5	16.7%
4	<b>Good</b>	0	0%	25	83.3%

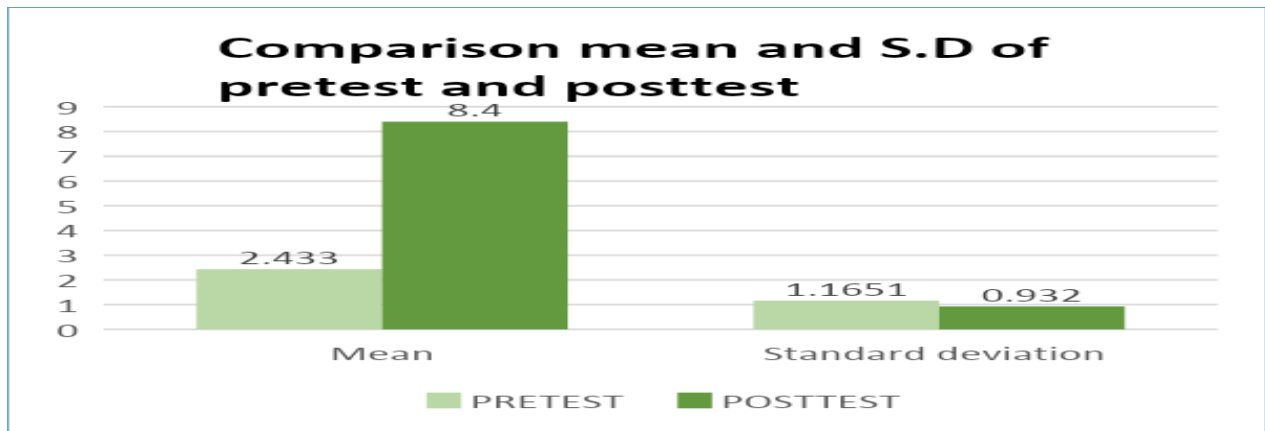


The above figure and table showed the pretest and post – test scores on effectiveness of Hoffman’s exercise among postnatal mothers. In pre-test majority 26(87.7%) of the postnatal mothers had poor level of effective breastfeeding, 4(13.3%) of them had moderate level of effective breastfeeding, and no mothers were having good level of effective breastfeeding. In post –test majority 25(83.3%) of the postnatal mothers had good level of effective breastfeeding, 5(16.7%) had moderate level of effective breastfeeding and no postnatal mothers had poor level of effective breastfeeding.

**Section –IV:** Comparison of pre-test and post- test mean, SD “t” and p-values on effectiveness of Hoffman’s exercise among postnatal mothers.

N=30

EFFECTIV- ENESS SCORE POSTNATAL MOTHERS	OF	MEAN	SD	P- VALUE	“t” VALUE	RESULT
PRETEST		2.433	1.1651	0.004	-17.872	Effective
POSTTEST		8.4	0.932			



The above figure showed the comparisons of calculated paired t test values of mean SD and “t” and p-values of pre -test and post- test effectiveness of Hoffman’s exercise on postnatal mothers reveals that the post –test mean score were 8.4 with a SD of 0.932 and pre-test mean 2.433 with a SD of 1.1651 the “t” value was 17.872 and p value were significant at the level of 0.514.so the research hypothesis **RH<sub>1</sub> was accepted.** This shows effectiveness of Hoffman’s exercise among post natal mothers.

**Section -V:** Association of pre-test scores on Hoffman’s exercise among postnatal mothers with their selected socio -demographic and maternal variables.

Describes association of pre-test scores of effective breastfeeding among postnatal mothers with nipple defect with their selected socio -demographic and maternal variables, showed that there were significant association with the Gestational age of mother with the p value 0.005, weight of the baby 0.001 and the Initiation of breast feeding with the p value 0.005 remaining variables showed no significance .Hence the corresponding **RH<sub>2</sub> was accepted.**

**Discussion:**

The first objective of the study was to assess the pretest scores of breast feeding among postnatal mothers with Nipple defect admitted at tertiary care teaching Hospital, Kuppam. In pre-test majority 26(87.7%) of the postnatal mothers had poor level of effective breastfeeding, 4(13.3%) of them had moderate level of effective breastfeeding, and no mothers were having good level of effective breastfeeding. The second objective of the study is To assess the post test scores of breast feeding among postnatal mothers with Nipple defect, In post –test majority 25(83.3%) of the postnatal mothers had good level of effective breastfeeding, 5(16.7%) had moderate level of effective breastfeeding and no postnatal mothers had poor level of effective breastfeeding. The comparisons of calculated paired t test values of mean SD and “t” and p-values of pre -test and post- test effectiveness of Hoffman’s exercise on postnatal mothers reveals that the post –test mean score were 8.4 with a SD of 0.932 and pre-test mean 2.433 with a SD of 1.1651 the “t” value was 17.872 and p value were significant at the level of 0.514.so the research hypothesis **RH. was accepted.** This shows effectiveness of Hoffman’s exercise among post natal mothers.

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