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Effect of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defect

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Abstract

Breastfeeding is the most cost-effective intervention for reducing infant morbidity and mortality worldwide. Having flat or inverted nipples is among the reasons that prevent exclusive breastfeeding. Hoffman's exercise is a manual exercise that may help break adhesions at the base of the nipple that keep it inverted. The present study aims to assess the effect of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defect admitted at TMM hospital, Thiruvalla. The objectives of the study were to assess the pretest level of breastfeeding among postnatal mothers with nipple defect, to evaluate the effect of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defect and to find the association between pretest levels of breastfeeding with selected baseline variables. Purposive sampling technique was used to select 50 samples, the exercise was taught to the mothers and the practices were assessed. The post test score was increased after the practice of Hoffman's exercise and there was no association between pretest levels of breastfeeding with selected baseline variables. The study concluded that Hoffman's exercise was effective in improving the level of breastfeeding among postnatal mothers with nipple defect.

Keywords: Breastfeeding, Hoffman's exercise, postnatal mother, nipple defect

Introduction

Pregnancy is a unique, exciting and often joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. Breastfeeding is a completely natural way of feeding the baby. Numerous health benefits have been proven to pass from mother to child through breast milk. It is an ideal food for the baby. Breast milk is the most ideally balanced source of nutrition and it provides a combination of nutrients and immunological factors that can't be replicated. It also decreases the risk of maternal bleeding, chronic conditions such as obesity, diabetes mellitus and the risk of breast and ovarian cancer. Successful breastfeeding relies on correct positioning of both the mother and her baby along with baby's attachment to mother's breast, thereby improving suckling which in turn promotes the production of milk thus increasing the duration of breastfeeding.

There are many possible breast abnormalities that breastfeeding mothers may encounter such as long nipple, short nipple, flat and inverted nipple and cracked nipple which may cause difficulties in feeding. Inverted, flat or short nipples have been treated through using different strategies as inverted syringe, rubber band and breast shells. Nowadays non-pharmacological strategies are more in trend as compare to pharmacological strategies. Among all the non-pharmacological measures, the most effective approach is Hoffman's exercise.

Hoffman's exercise was introduced by Dr. J Brooks Hoffman in the year 1953. This is a manual exercise that helps to break the nipple base adhesions that keep it inverted, flat or short. This exercise can be practiced up to 5 times a day and can be started at 37 weeks of gestation or immediately after delivery of the newborn in order to draw nipples out and preparing them for breastfeeding. Hoffman's exercise is advantageous over other methods that treat nipple inversion because it is safe, simple and painless exercise. In addition, it can be carried out by the mother at any time without need from health care provider.

Padmavathi P had conducted a quasi-experimental nonequivalent posttest only study to assess the effectiveness of Hoffman's exercise on successful breast feeding among 30

primipara mothers (15 in control group and 15 in experimental group) immediately after delivery with flat and retracted nipples. The study was conducted at Government Hospital and Nirmala Hospital, Erode, in 2015 by using purposive sampling technique. The tools used to collect the data were demographic variables and modified Via Christi breast feeding assessment tool. Experimental group received Hoffman's exercise five times a day for 3 days. The levels of successful breast feeding were assessed in both groups. The study findings shows that in control group majority (80%) of primipara mothers were medium risk and 20% of them were low risk where as in experimental group 73 of them were low risk and 27% of them had medium risk. The overall mean percentage was 56% in control group whereas in experimental group 78% with t' value 6.82, significant at $p < 0.05$ and the study concluded that Hoffman's exercises was effective in improvement of breast feeding among primipara mothers.

Statement of the problem

Effect of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defect admitted at TMM hospital, Thiruvalla.

Objectives

- To assess the pretest level of breastfeeding among postnatal mothers with nipple defect.
- To evaluate the effect of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defect.
- To find the association between pretest level of breastfeeding with selected baseline variables among postnatal mothers with nipple defect.

Hypothesis

H1: There is a significant increase in the level of breast feeding score among postnatal mothers with nipple defect after Hoffman's exercise.

H2: There is an association between the pretest levels of breast feeding score with selected baseline variables of postnatal mothers with nipple defects.

Research Methodology

Quantitative approach with pre experimental one group pre-test post-test research design was used to determine the effectiveness of Hoffman's exercise on level of breastfeeding among postnatal mothers with nipple defects. The conceptual framework of the study was based on Wiedenbach's Helping art of Clinical Nursing Theory (1964). Ethical clearance was taken from the ethical committee. The tool used in this study consists of two sections. Section I was a structured questionnaire to collect the baseline variables of the samples, and section II was Modified Christi Breastfeeding Assessment Scale to observe the level of breastfeeding. A non-probability purposive sampling technique was used to select the samples and data were collected from 50 postnatal mothers with nipple defects after getting consent from mother. The data were analyzed using descriptive and inferential statistic. The pre-test and post-test level of breastfeeding was determined using Modified Christi Breast Feeding Assessment Tool on 1st and 3rd day of delivery respectively. Hoffman's exercise was taught to the mothers with the help of pamphlet and the

practice was assessed by self-reported checklist and regular follow up by the researcher. Hoffman's exercise is advised the mother to place the thumbs of both hands opposite to each other at the base of the nipple. The thumbs are pulled away from each other gently but firmly. This is done by up and down and sideways. It should be done five times a day, five times in each direction.

Data Analysis

Table 1: Distribution of mothers according to their baseline variables

Demographic variables	Frequency (f)	Percentage (%)
Age in years		
a) 18-23	2	4
b) 24-29	31	62
c) 30-35	13	26
d) >35	4	8
Residential area		
a) Rural	37	74
b) Urban	13	26
Type of family		
a) Nuclear family	37	74
b) Joint family	7	14
c) Extended family	6	12
Education		
a) Primary education	2	4
b) Secondary education	2	4
c) Degree and above	33	66
d) Others	13	26
Occupation		
a) Home maker	17	34
b) Self employee	5	10
c) Private employee	25	50
d) Government employee	3	6
Religion		
a) Hindu	14	28
b) Christian	33	66
c) Muslim	3	6
d) Others	-	-

Table 2: Showing frequency and percentage distribution of demographic variables of mothers.

Variables	Frequency (f)	Percentage (%)
Body built		
a) Overweight	20	40
b) Normal weight	14	28
c) obesity	16	32
Parity		
a) Primi para	39	78
b) Multi para	11	22
Mode of delivery		
a) Vaginal	37	74
b) Cesarean	13	26
Nipple preparation during antenatal period		
a) Done	7	14
b) Moderate	3	6
c) Not done	40	80

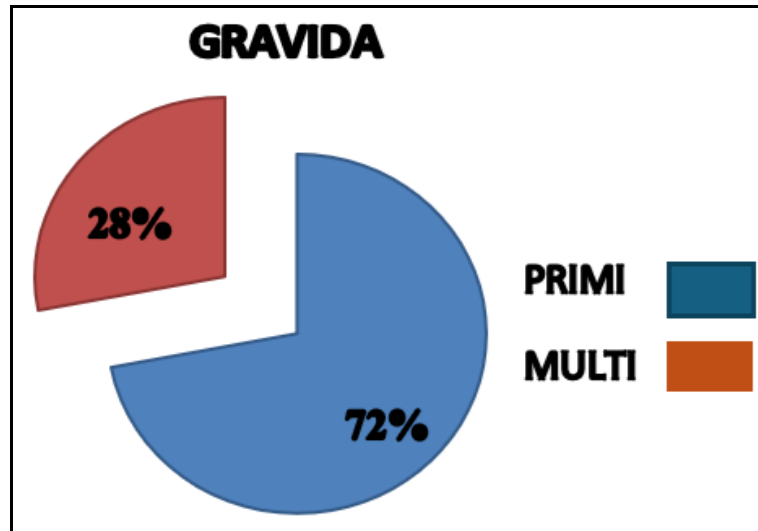


Fig 1: Showing frequency and percentage distribution of gravida status of samples.

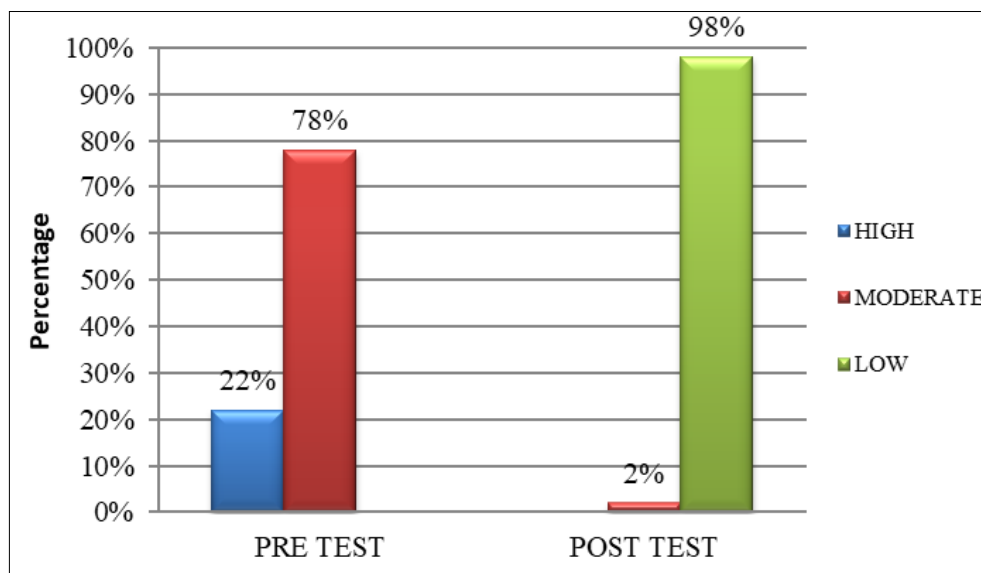


Fig 2: Distribution of mothers according to the level of breastfeeding in the pre and post test

During the pretest, 78% of mothers were belonged to moderate risk group (moderate level of breastfeeding), 22% had belonged to high risk group (inadequate level of breastfeeding) and none of them belonged to low risk group (adequate level of breastfeeding). After Hoffman’s exercise the post test revealed that 98% mothers were in low risk level, 2% moderate risk and 0% in high risk category.

Table 3: Effect of Hoffman’s exercise on level of breastfeeding among postnatal mothers with nipple defects.

	Mean	Standard deviation	t’ value	Table value
Pretest	7.78	2.76	25	1.67*
Posttest	16.86	1.69		

*0.05 level of significance

Table 4: Association between pretest levels of breast feeding with selected baseline variables.

Variables	Moderate	High	Test used	P value	Chi square value	Remark
Age						
a) 18-23	2	0	Fisher’s exact	0.4806	-	NS
b) 24-29	22	9				
c) 30-35	10	3				
d) >35	2	2				
BMI						
a) 18.5-25	14	3	Fisher’s exact	0.123	-	NS
b) 25-30	15	9				
c) >30	6	3				
Gravida						
a) Primi	26	10	Chi square test	-	1 (Table value =3.84)	NS
b) Multi	8	6				

The study found that there was no association between pretest levels of breast feeding with selected baseline variables. Hence H_2 is rejected.

Result

The study revealed that that in the pretest, 78% belongs to moderate risk group (moderate level of breastfeeding), 22% belongs to high risk group (had inadequate level of breastfeeding) and 0(0%) had adequate level of breastfeeding. In the post test, 0(0%) belongs to high risk group (had inadequate level of breastfeeding), 2% belongs to moderate risk group (had moderate level of breastfeeding) and 98% were in low risk category (had adequate level of breastfeeding). The mean post test score is 16.86 which is greater than the mean pretest score 7.78. Hence there is significant increase in the level of breastfeeding after Hoffman's exercise. The calculated paired one tailed "t" value at 49 degree of freedom at 5% level of significance is 25 which is greater than the table value (1.67), hence the research hypothesis is accepted (H1: There is a significant increase in the level of breastfeeding score among postnatal mothers with nipple defect after Hoffman's exercise). The study found that there was no association between pretest levels of breast feeding with selected baseline variables.

Limitations

- The duration of intervention was limited to three days
- Since examination of nipple is a sensitive issue, researcher faced difficulty in obtaining permission from mothers.
- Small size sample.
- Some neonatal problems interfered with study such as physiological jaundice.

Recommendations

- In service education program regarding Hoffman's exercise can be provided to the nursing personnel to help mothers to gain comfort during postnatal period.
- Leaflet or pamphlet which contains information regarding, nipple defects and its managements including Hoffman's exercise, its merits and demerits can be distribute among antenatal mothers during their antenatal visit.
- Same study can be conducted with large sample size to generalize the results of the study and can also use pretest posttest control group design.
- It is easier for the maternity nurse to conduct the study than a student researcher while considering its sensitive aspects.

Conclusion

Breastfeeding is one of the most natural and beneficial acts a mother can do for her child. There is no other single action by which a mother can impact the present and future health of her baby. The nurse midwife plays an important role in establishing an effective breastfeeding among postnatal mothers. The postnatal mothers with nipple defects face problems with breastfeeding. They require some interventions to improve the level of breastfeeding. The present study assessed the effectiveness of Hoffman's exercises on successful breast feeding among postnatal mothers with nipple defects. The study findings revealed

that Hoffman' exercises was effective in improvement of breast feeding among postnatal mothers with nipple defects. It is simple, economic, effective and safe method.

Conflict of Interest

Not available

Financial Support

Not available

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