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EFFECT OF HOFFMAN'S EXERCISE ON INVERTED NIPPLES AMONG PRIMIPARA MOTHERS

Premalatha Paulsamy^{*1}, Krishnaraju Venkatesan², Rajalakshimi Vasudevan²,
Pranave Sethuraj³

¹*College of Nursing for Girls, King Khalid University, Khamis Mushayit, Asir Province, Saudi Arabia.

²Department of Pharmacology, College of Pharmacy, King Khalid University, Abha, Asir Province, Saudi Arabia.

³Vee Care College of Nursing, Chennai, Tamilnadu, India.

ABSTRACT

Inverted and flat nipple is frequently affecting primipara mothers which hinder the early initiation of the breastfeeding. During postnatal phase, nipple abnormalities are often come across in clinical practice in relation to lactation problems. The purpose of the study is to assess the effect of Hoffman's exercise on inverted nipples among primipara mothers. A quasi experimental design with 60 primipara mothers who had flat or inverted nipples was conducted. The mothers were selected using convenient sampling technique and allotted to study (n=30) and reference (n=30) group. The video module on Hoffman's exercise was developed and teaching was given to the mothers' on the Hoffman's exercise and monitored them to practice the exercise at least 5 times a day. A dairy was maintained for 3 days and the data was collected on day one and day 4 with the modified Via Christi (mVC) Breastfeeding Assessment Tool. The mean score on level of breastfeeding on day 3 was 8.01 ± 0.98 and 3.59 ± 1.21 in study and reference group respectively. The mean difference was 4.42 and the improvement in the level of breasting status was significant at $p = 0.001$ level. This result showed that the Hoffman's exercise was very effective in treating the flat or inverted nipple and helped to initiate as well as maintain the early breastfeeding among primipara mothers.

KEYWORDS

Inverted and flat nipple, Hoffman's exercise, modified Via Christi (mVC) breast feeding assessment tool and Primipara mothers.

Author for Correspondence:

Premalatha Paulsamy,
College of Nursing for Girls,
King Khalid University, Khamis Mushayit,
Asir Province, Saudi Arabia.

Email: pponnuthai@kku.edu.sa

INTRODUCTION

Pregnancy is the beginning of a new life. This journey is made more memorable and enjoyable by motherhood. Because the baby receives necessary nourishment from the mother through the placenta during pregnancy, the mother and baby are considered a single unit. Soon after birth, this bonding is replaced by breastfeeding. Breastfeeding

is the most natural way to feed the baby. Breast milk has been shown to deliver numerous health benefits from mother to child and proved to be an excellent infant food. Breastfeeding provides new-borns the finest start in life and provides health and wellbeing benefits for both mothers and new-borns. Breastfeeding also has financial advantages for the entire family and society. Exclusive nursing is recommended until the baby is roughly six months old, after which appropriate complementary feeding (foods and beverages other than breast milk) should be introduced.

Breastfeeding women may have a variety of breast deformities, including long nipple, short nipple, flat and inverted nipple and cracked nipple, all of which can create feeding difficulties. In primipara women, inverted and flat nipples are prevalent. It is preferable to treat antenatally since it allows the new-born baby to readily suck and gets feeding. Sucking by an infant is also beneficial to mothers because stimulating the nipples shortly after birth causes the release of oxytocin, which causes the uterus to contract. This helps to decrease postpartum bleeding and speeds up the uterus's return to its pre-pregnant state^{1,2}.

Additionally, a mother who is breast-feeding for the first time is in a vulnerable position and needs care, encouragement and expert advice. She must make the shift from insecurity, anxiety and self-doubt to self-assurance and confidence in her competence. Each breast feeding should be planned ahead of time and the mother should be assisted with supportive measures.

The nipple must be able to draw to the back of the baby's mouth in order to nurse efficiently. The nipple is called flat or inverted if it lacks this flexibility and the baby may not be able to maintain it in his or her mouth. Furthermore, the lacteal sinuses beneath the areola will not be able to reach the baby's jaw, preventing successful milking of the breast. The flat or inverted nipples are an issue for most mothers who have to initiate breastfeeding to their babies for the first time as it is difficult to be latched on by the baby^{2,3}. The flat nipples might contribute to postnatal depression and lower quality of life among primipara mothers. Because there are few researches on the

effect of Hoffman's approach for flat and inverted nipples in prenatal mothers and difficulty to feed properly, this study was undertaken in order to properly improve breastfeeding.

Hoffman's exercise is a manual exercise that can assist break adhesions that keep the nipple inverted by breaking adhesions at the base of the nipple. It was first introduced in 1953 by Dr. J Brooks Hoffman^{4,5}. At the base of the nipple, both hands' thumbs are placed opposite each other. The thumbs are gently but firmly pulled away from each other. This is accomplished by moving up and down as well as sideways for at least 5 times a day. It can be done both during pregnancy to prepare the nipples and after the baby is delivered to safely draw them out. This procedure has an advantage over other ways in that it may be done by the mother herself at any time and it is cost effective, painless, easy and safe procedure. Hence, this study was undertaken to assess the effect of Hoffman's exercise on inverted nipples among primipara mothers in a selected hospital.

MATERIAL AND METHODS

The quantitative research approach with quasi experimental design was used for the study. The sample size of the study comprised of 60 primipara mothers who had flat or inverted nipples and selected using convenient sampling technique. The mothers were allotted as 30 in each study and reference group. Ethical clearance was taken from the ethical committee and consent from the participants was obtained. The video module on Hoffman's exercise was developed and validated by the experts. The tool consists of personal data and the modified Via Christi tool. The modified Via Christi (mVC) Breastfeeding Assessment Tool measures whether a mother is "pleased," "somewhat pleased," or "not pleased" with her baby's breastfeeding performance⁴. This component summarizes the breastfeeding experience as viewed by the mother. The video assisted teaching was given to the mothers on the Hoffamn's exercise and monitored them to practice the exercise at least 5 times a day for 3 days. A diary was maintained for 3 days and the data was collected on day one and day 4

with mVC. Descriptive and inferential statistics was used to analyse the data.

RESULTS AND DISCUSSION

The findings showed that majority of the primipara mothers in both study and reference group were in the age group of 21-25 years as 23(76.6%) and 17(56.6%) respectively. Eighty percent and 76.6 % of reference as well as study group mothers were homemakers. The 17(56.7%) in study and 18(60%) in reference group mothers completed their high school education. About the type of family, 63.3% and 70% of the study and reference group mothers live in a nuclear family. Majority of the mothers, 83.3% and 76.6% of the mothers had the family income of Rs. 15,000-20,000 as monthly income.

The Table No.1 shows the level of breastfeeding risk among study and reference group in which the study group shows that 17 mothers had high risk on day 1 and it improved to one after the Hoffman’s exercise on day four whereas the reference group did not show any difference between the day one and four in the high risk status of the breastfeeding. The similar study findings were reported in few studies which show that the Hoffman’s exercise was an successful intervention on effective breastfeeding among antenatal mothers with nipple defects^{6,7}.

Table No.2 illustrates the level of breastfeeding after Hoffman’s exercise among study and reference group which shows that the mean of 8.01±0.98 and 3.59±1.21 in study and reference group respectively.

The mean difference was 4.42 and the improvement in the level of breasting status which was significant at p = 0.001 level. This result shows that the Hoffman’s exercise was very effective in treating the flat or inverted nipple and initiate as well as maintain the early breastfeeding among primipara mothers. Similar results were found with few studies^{6,7}.

Regarding the demographic variables, none of the variables showed significant relationship with the level of breastfeeding among the primipara mothers in both the groups. The similar findings were seen in the study by Kaur A, Saini P and Sharma, K. (2020) revealed that there was no association between selected demographic variables and level of breastfeeding at p<0.05 level⁷. To elicit the relationship between demographic variables and the level of risk in breast feeding, larger study samples can be selected and a retrospective study can be done.

Table No.1: The level of breastfeeding risk among the primipara mothers

S.No	Level of Breastfeeding	Study Group (%)		Reference Group (%)	
		Day 1	Day 4	Day 1	Day 4
1	High Risk	17	1	15	14
2	Medium Risk	12	4	13	13
3	Low Risk	1	25	2	3

Table No.2: Effect of Hoffman’s exercise among study and reference group

S.No	Level of Breastfeeding	Mean	SD	Mean Difference	t' value	df	p' value
1	Study Group	8.01	0.98	4.42	11.23	47	0.001***
2	Reference Group	3.59	1.21				

CONCLUSION

The purpose of this study was to observe if Hoffman's exercise was helpful in successful breastfeeding among primipara mothers with flat or inverted nipple. Hoffman's exercises were found to be useful in improving breast feeding among primipara mothers. As it is simple, cost effective and safe method to initiate early breastfeeding, it can be included in the antenatal mothers' education, so that early initiation of the breast feeding can be implemented without any issues.

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DECLARATION OF CONFLICTING INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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