

Effectiveness of Prenatal Breastfeeding Self-efficacy Intervention Program on Successful Breastfeeding among the Primi mothers Admitted to RGGW and CH, Puducherry

B. Meenatchi¹, Manju Bala Dash^{*2}

¹Department of Nursing, AIIMS, Raipur, MP, India, ²Department of Obstetrics and Gynecology Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry, India

Abstract

Objectives: The objectives of this study were as follows: (1) To evaluate the effectiveness of the breastfeeding self-efficacy interventional program (BSEIP) among the experimental Groups I and II in comparison with control group, (2) to correlate post-test level self-efficacy with the successful breastfeeding, and (3) to associate the post-test level of self-efficacy with a selected demographic variable in experimental Groups I and II.

Methods: Quantitative approach and experimental post-test only design were used for the study. Simple random sampling technique was used to select the 90 mothers (30 in each Groups I-III). Breastfeeding self-efficacy intervention program was given to the experimental Group I (video-assisted teaching method) and experimental Group II (demonstration with flip chart), and hospital routine care was provided to the control Group III of primi mothers during the antenatal period. After delivery of the baby, post-test was conducted using the modified short form breastfeeding self-efficacy scale. The data collection was done after delivery of the baby in the postnatal ward and post-operative ward, from both experimental and control group mothers. The investigator evaluated the maternal breastfeeding self-efficacy on successful breastfeeding using latch scale.

Results: The results depict that the post-test mean self-efficacy score for experimental Groups I and II is 59.47 ± 3.22 and 61.87 ± 3.41 , whereas for the control group is 24.86 ± 5.77 . Further, the calculated unpaired “t” value between experimental Groups I and II revealed that $t = 2.801$ which is statistically significant ($P < 0.01$). The calculated unpaired “t” value between experimental Group I and control group and between experimental Group II and control group shows that $t = 30.817$ and $t = 32.679$ indicate that there is the statistically significant difference between experimental I and II with control group.

Conclusions: Hence, it is concluded that BSEIP is effective to increase successful breastfeeding.

Keywords: Breastfeeding, primi mothers, intervention program

INTRODUCTION

“If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning.”

Mahatma Gandhi

Breast milk is not only the best nutrient for babies but also contains certain antibodies that can guard the infant against various infections. Exclusive breastfeeding can prevent undernourishment, infections, and mortality in young infants.^[1,2]

Many countries in the world many mothers prematurely discontinue exclusive breastfeeding against their prenatal intention to breastfeed. In 2012, the World Health Organization (WHO) has reported that only 33% of mothers were exclusively breastfed in the first 6 months in India. The National Family Health Survey has reported that the rank of states for EBF - Exclusive breastfeeding Chhattisgarh (82%), Assam (63.1%), and Andhra Pradesh (62.7%) holds the first

Access this article online

Website: <http://innovationalpublishers.com/Journal/ijnmi>

ISSN No: 2656-4656

DOI: 10.31690/ijnmi/29

Address for Correspondence:

Dr. Manju Bala Dash, Department of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry.

E-mail: manju_narayan@rediffmail.com

This is an open-access journal, and articles are distributed under the terms of the Creative Commons Attribution Noncommercial Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms

three places. The surrounding states of Tamil Nadu - Karnataka with 58%, Kerala with 56.2% occupy 7th place and 9th place, the Tamil Nadu with 33.3% occupy 20th place, and Puducherry with 45.5% among 29 states. The total percentage of EBF in India is 46.4%.^[3,4]

Breastfeeding self-efficacy intervention program in prenatal period enhances maternal self-efficacy.^[3] It is one of the factors that play a major role in increasing breastfeeding duration.^[5] Woman with a higher perceived self-efficacy for breastfeeding tends to initiate breastfeeding and persist even through challenges, whereas a woman with a lower perceived self-confidence may decide not even to initiate breastfeeding or wean prematurely due to lack of confidence or ineffective coping skills.^[6]

Globally, only 45% of newborns are put to the breast within the 1st h of birth, and roughly, the same proportion of infants <6 months of age is exclusively breastfed. The data show that about three-quarters of children aged 12–15 months are still breastfeeding. The WHO recommends that this practice continue until age 2 and beyond, yet only about half of the young children aged 20–23 months are benefitting from it. In India, there is 100% institutional delivery but the early initiation of breastfeeding (within 1 h of birth) - 41%, exclusive breastfeeding rate - 46%, continued breastfeeding rate - 77%, and prevalence of stunting (moderate and severe) - 48%.^[7-12]

During the clinical posting, the investigator observed that almost all the mothers find difficulty in the proper technique of breastfeeding and ignore about the importance of proper breastfeeding techniques. Correct sucking technique is related to the long-term success of breastfeeding and the prevention of breastfeeding complications. The researcher has chosen video-assisted teaching and flip chart with demonstration method to increase the degree of self-efficacy which will help the mothers for successful breastfeeding.^[13-17]

Objectives of the study

The objectives are as follows:

1. To evaluate the effectiveness of the breastfeeding self-efficacy interventional program among the experimental Groups I and II in comparing with the control group.
2. To associate the post-test level of self-efficacy with the selected demographic variable in experimental Groups I and II.
3. To correlate post-test level self-efficacy with the successful breastfeeding.

Hypotheses

- H_1 - There will be a significant difference between the post-test level self-efficacy on successful breastfeeding among the Groups I and III mothers
- H_2 - There will be a significant difference between the post-test level self-efficacy on successful breastfeeding among Groups II and III mothers
- H_3 - There will be a significant difference between the post-test level self-efficacy on successful breastfeeding

among Groups I and II mothers

- H_4 - There will be a significant correlation in self-efficacy level with successful breastfeeding and
- H_5 - There will be a significant association in the level of self-efficacy among Groups I and II mothers with the selected demographic variable.

MATERIALS AND METHODS

The quantitative approach and experimental post-test only design were used for the study. Simple random sampling technique was used to select the 90 mothers (30 in each Groups I-III). Breastfeeding self-efficacy intervention program was given to the experimental Group I (video-assisted teaching method) and experimental Group II (demonstration with flip chart), and hospital routine care was provided to the control Group III of primi mothers during antenatal period admitted in the antenatal ward. After delivery of the baby, post-test was conducted using the modified breastfeeding self-efficacy scale-short form. The data collection was done in the postnatal ward and post-operative ward from both experimental and control group mothers. The investigator evaluated the maternal breastfeeding self-efficacy on successful breastfeeding using latch scale.^[18-21]

RESULTS AND DISCUSSION

This chapter deals with the analysis and interpretation of the data collected from 90 elderly (30 experimental Group I, 30 experimental Group II, and 30 control group) to assess the effectiveness of prenatal breastfeeding self-efficacy intervention program on successful breastfeeding among the prim mother admitted to RGGW and CH, Puducherry. The data were organized, tabulated, and analyzed according to the objectives. Data analysis begins with a description that applies to the study in which the data are numerical with some concepts. Descriptive statistics allow the researcher to organize the data and to examine the quantum of information, and inferential statistics is used to determine the efficacy, relationship, and association.

Table 1 depicts the self-efficacy level the calculated unpaired “*t*” value between experimental Groups I and II with “*t*” value 2.801 ($P < 0.01$), between experimental Group I and control group with “*t*” value 30.817 ($P < 0.001$), and between experimental Group II and control group with “*t*” value 32.679 ($P < 0.001$) which was found to be statistically significant, and it clearly indicates that there was a significant difference in the level of self-efficacy among primi mothers in experimental I and experimental Group II and with the control group mothers.

In successful latching, the calculated unpaired “*t*” value between experimental Groups I and II with “*t*” 1.452 ($P = 0.152$) which was not found to be statistically significant, and it clearly indicates that there was no significant difference in the level of latch score among primi mothers in experimental I and experimental Group II. Whereas between experimental

Table 1: Comparison of self-efficacy level on successful breastfeeding scores among primi mothers in the experimental Group I, experimental Group II, and control group

Group	Self-efficacy level mean $\pm$ SD	Unpaired “t” value	Successful breastfeeding mean $\pm$ SD	Unpaired “t” value
Experimental I and II	59.47 $\pm$ 3.22	$t=2.801$ $P=0.007$, S**	8.27 $\pm$ 0.69	$t=1.452$ $P=0.152$, N.S
Experimental I and control	61.87 $\pm$ 3.41	$t=30.817$ $P=0.001$, S***	8.53 $\pm$ 0.73	$t=11.844$ $P=0.000$, S***
Experimental II and control	24.86 $\pm$ 6.54	$t=32.679$ $P=0.000$, S***	5.03 $\pm$ 1.32	$t=12.666$ $P=0.000$, S***

*** $P<0.001$, S: Significant, NS: Not significant

Group I and control group with “ t ” 11.844 ($P < 0.001$) and between experimental Group II and control group revealed $t = 12.666$ ($P < 0.001$) which was found to be statistically significant at level, and it clearly indicates that there was significant difference in the level of latch score among primi mothers in experimental I and II with control group.

Table 2 revealed the highly positive relationship between self-efficacy and latch score in experimental Groups I and II and control group having Karl Pearson’s correlation value of $r = 0.515$, $r = 0.694$, and $r = 0.696$, respectively. All three groups show a positive correlation which was found to be statistically significant at $P < 0.01$ level. This indicates that when the self-efficacy increases the latch score also increases.

Table 3 shows that none of the demographic variables had shown statistically significant association with post-test level of self-efficacy among primi mothers in experimental Group I.

Table 4 shows that none of the demographic variables had shown statistically significant association with post-test level of self-efficacy among primi mothers in experimental Group II.

RESULTS

The results depict that the post-test mean self-efficacy score for experimental Groups I and II is 59.47 ± 3.22 and 61.87 ± 3.41 , whereas for the control group is 24.86 ± 5.77 . Further, the calculated unpaired “ t ” value between experimental Groups I and II revealed that $t = 2.801$ which is statistically significant ($P < 0.01$). The calculated unpaired “ t ” value between experimental Group I and control group and between experimental Group II and control group shows that $t = 30.817$ and $t = 32.679$ indicate that there is the statistically significant difference between experimental I and II with control group.

DISCUSSION

The discussion of the present study was based on the findings obtained from the statistical analysis of the post-test level of breastfeeding self-efficacy and successful breastfeeding among experimental group mothers.

The third objective was to evaluate the effectiveness of breastfeeding self-efficacy intervention program to the experimental Groups I and II in comparing with control group. The result reveals that almost all 30 (100%) had a high level of self-efficacy in experimental Groups I and II and 22 (73.33%) had low self-efficacy and 8 (26.66%) had average self-efficacy

Table 2: Correlation between post-test self-efficacy and latch scores among primi mothers in the experimental Group I, experimental Group II, and control group

Group	Variable	Mean	S.D	“r” value
Experimental I	Self-efficacy	59.47	3.22	$r=0.515$
	Latch	8.27	0.69	$P=0.004$, S**
Experimental II	Self-efficacy	61.87	3.41	$r=0.694$
	Latch	8.53	0.73	$P=0.000$, S**
Control	Self-efficacy	24.86	6.54	$r=0.696$
	Latch	5.03	1.32	$P=0.000$, S**

** $P<0.01$, S: Significant

among primi mothers in control group.

In relation with successful breastfeeding, almost all 30 (100%) had good latching in experimental Groups I and II and almost all 20 (66.6%) had poor latching and 10 (33.3%) are having good latching among primi mothers in control group.

The first hypothesis H_1 : From the result, it is clear that there is a significant difference between the post-test level self-efficacy on successful breastfeeding among the Groups I and III mothers. Hence, the research hypothesis H_1 is accepted.

The second hypothesis H_2 : From the result, it is clear that there is a significant difference between the post-test level self-efficacy on successful breastfeeding among Groups II and III mothers. Hence, the research hypothesis H_2 is accepted.

The third hypothesis H_3 : From the result, it is clear that there is a significant difference between the post-test level self-efficacy on successful breastfeeding among Groups I and II mothers. Hence, the research hypothesis H_3 is accepted.

This study result is similar to an experimental study on “Educational intervention to promote maternal self-efficacy in breastfeeding with a aim to build, validate and assess an educational intervention using the flip chart titled “I Can Breastfeed My Child.” Using a pre-test, intervention, and post-test, as well as a control group among 201 women, who had been hospitalized immediately and stay for at least 6 h postpartum. The mothers were allocated to the intervention (100 women) or control groups (101 women) according to the length of their hospital stay. By this, experimental study assessed the educational strategy mediated through the flip chart titled “I Can Breastfeed My Child” as being effective both in increasing self-efficacy and increasing the duration of breastfeeding.^[22]

The fourth objective was to correlate post-test level self-efficacy with the successful breastfeeding. The results

Table 3: Association of post-test level of self-efficacy of primi mothers with selected demographic variables in experimental Group I

Demographic variables	<Mean <i>n</i> (%)	>Mean <i>n</i> (%)	Chi-square value
Age in years			
15–20	3 (10.0)	1 (3.3)	$\chi^2=2.010$ d.f=3 $P=0.570$ N.S
21–25	10 (33.3)	6 (20.0)	
26–30	6 (20.0)	3 (10.0)	
30–35	0 (0)	1 (3.0)	
Dwelling			
Urban	11 (36.7)	5 (16.7)	$\chi^2=0.433$ d.f=1 $P=0.510$ N.S
Rural	8 (26.7)	6 (20.0)	
Socioeconomic status			
Upper (I)	-	-	$\chi^2=0.656$ d.f=2 $P=0.720$ N.S
Upper middle (II)	-	-	
Middle/lower middle (III)	1 (3.3)	0	
Lower/upper lower (IV)	9 (30.0)	6 (20.0)	
Lower (V)	9 (30.0)	5 (16.7)	
Religion			
Hindu	11 (36.7)	9 (30.0)	$\chi^2=2.943$ d.f=2 $P=0.230$ N.S
Christian	4 (13.3)	2 (6.7)	
Muslim	4 (13.3)	0	
Others	-	-	
Mode of delivery			
Vaginal	12 (40.0)	8 (26.7)	$\chi^2=0.287$ d.f=1 $P=0.592$ N.S
Cesarean section	7 (23.3)	3 (10.0)	

N.S: Not significant

Table 4: Association of post-test level of self-efficacy of primi mothers with selected demographic variables in experimental Group II

Demographic variables	<Mean <i>n</i> (%)	>Mean <i>n</i> (%)	Chi-square value
Age in years			
15–20	3 (10.0)	1 (3.3)	$\chi^2=5.614$ d.f=3 $P=0.132$ N.S
21–25	10 (33.3)	11 (36.7)	
26–30	0	4 (13.3)	
30–35	0	1 (3.3)	
Dwelling			
Urban	7 (23.3)	8 (26.7)	$\chi^2=0.136$ d.f=1 $P=0.713$ N.S
Rural	6 (20.0)	9 (30.0)	
Socioeconomic status			
Upper (I)	-	-	$\chi^2=0.222$ d.f=1 $P=0.638$ N.S
Upper middle (II)	-	-	
Middle/lower middle (III)	-	-	
Lower/upper lower (IV)	5 (16.7)	8 (26.7)	
Lower (V)	8 (26.7)	9 (30.0)	
Religion			
Hindu	8 (26.7)	13 (43.3)	$\chi^2=0.873$ d.f=2 $P=0.646$ N.S
Christian	3 (10.0)	2 (6.7)	
Muslim	2 (6.7)	2 (6.7)	
Others	-	-	
Mode of delivery			
Vaginal	8 (26.7)	12 (40.0)	$\chi^2=0.271$ d.f=1 $P=0.602$ N.S
Cesarean section	5 (16.7)	5 (16.7)	

N.S: Not significant

revealed the relationship between self-efficacy and latch score in experimental Groups I and II and control group the Karl Pearson's correlation value of $r = 0.515$, $r = 0.694$, and $r = 0.696$, respectively. This shows a positive correlation which was found to be statistically significant at $P < 0.01$ level. This indicates that when the self-efficacy increases the LATCH score also increases.

The fourth hypothesis H_4 : From the result, it is clear that there is a significant correlation in self-efficacy level with

successful breastfeeding. Hence, the research hypothesis H_4 is accepted.

The fifth objective was to associate the post-test level of self-efficacy with a selected demographic variable in experimental Groups I and II. The results depict that there was no association between demographic variables with the level of self-efficacy among primigravida mothers in the experimental group. Hence, it shows that the BSEIP can be applicable to all the mothers invariably according to their age, dwelling, religion,

socioeconomic status, and mode of delivery to enhance breastfeeding self-efficacy among primi mother.

The fifth hypothesis H_5 : From the result, it is clear that there is a no association in the level of self-efficacy among Groups I and II mothers with the selected demographic variable. Hence, the research hypothesis H_5 is not accepted.

CONCLUSION

The major conclusion drawn from the study was that the mean post-test self-efficacy level was 8.27, 8.53, and 5.03 in the experimental Groups I and II and a control group of mothers, respectively. In comparing experimental Group I with experimental Group II mothers with the “ t ” value $t = 1.452$, similarly in comparing experimental Group I with the control group mothers with the “ t ” value $t = 11.844$, while comparing experimental Group II with the control group mothers with the “ t ” value is $t = 12.666$. The result shows a highly significant difference between the experimental I and II and control group mothers. Among the total 60 mothers in experimental Groups I and II, 60 (100%) mothers had high self-efficacy satisfied by breastfeeding self-efficacy intervention program. There was no significance association between post-test level of self-efficacy and selected demographic variables of experimental group mothers.

Hence, from the above result, it is concluded preparing women prenatally to be successful in breastfeeding their babies can have a major impact on the health of the infants in our society. There will be exclusive breastfeeding and malnutrition can be prevented. The importance of breastfeeding's impact on the public's health is being recognized nationally.

REFERENCES

- Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, Eidelman AI. Breastfeeding and the use of human milk. *Pediatrics* 2005;115:496-506.
- Bartick M, Reinhold A. The Burden of Suboptimal Feeding in the United States: A Pediatric Cost Analysis; 2010. Available from: <http://www.pediatrics.aappublications.org/content/early/2010/04/05/peds>.
- UNICEF. Programming Guide: Infant and Young Child Feeding. New York: UNICEF; 2012. p. 173.
- World Health Organization and UNICEF. Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services. Switzerland: World Health Organization; 2003.
- Bandura A. Cultivate self-efficacy for personal and organizational effectiveness. In: Locke EA, editor. *Handbook of Principles of Organization Behavior*. UK: Blackwell Publishers; 2000. p. 120-36.
- Blyth R, Creedy D. Effect of maternal confidence on breastfeeding duration: An application of breastfeeding self-efficacy theory. *Birth* 2002;29:278-74.
- Brand E, Kothari C, Stark MA. Factors related to breastfeeding discontinuation between hospital discharge and 2 weeks postpartum. *J Perinatal Educ* 2011;20:36-44.
- Ramos DE. Breastfeeding: A bridge to addressing disparities in obesity and health. *Breastfeeding Med* 2012;7:354-7.
- Brenner MG, Buescher E. Breastfeeding: A clinical imperative. *J Women's Health* 2011;20:1767-73.
- Dai X, Dennis C. Translation and validation of the breastfeeding self-efficacy scale into Chinese. *J Midwifery Women's Health* 2003;48:350-6.
- Horta BL, Victora CG. Long-term Effects of Breastfeeding. Pelotas: World Health Organization; 2013.
- Khan J. Timing of breastfeeding initiation and exclusivity of breastfeeding during the first month of life: Effects on neonatal mortality and morbidity—a systematic review and meta-analysis. *Matern Child Health J* 2015;19:468-79.
- Dennis CL. The breastfeeding self-efficacy scale: Psychometric assessment of the short form. *J Obstetr Gynecol Neonatal Nurs* 2002;32:734-44.
- Glassman ME, McKearney K, Saslaw M, Sirota DR. Impact of breastfeeding self-efficacy and sociocultural factors on early breastfeeding in an Urban, predominantly Dominican community. *Breastfeed Med* 2014;9:301-7.
- Griese M. Promoting breastfeeding success through prenatal education. *Int J Childbirth Educ* 1996;11:30-1.
- Hoddinott P, Kroll T, Raja A, Lee AJ. Seeing other women breastfeed: How vicarious experience relates to breastfeeding intention and behaviour. *Matern Child Nutr* 2010;6:134-46.
- Kingston D. Exploring breastfeeding self-efficacy. *J Perinat Neonatal Nurs* 2007;21:207-15.
- McQueen K, Dennis C, Stremmler R, Norman C. A pilot randomized controlled trial of a breastfeeding self-efficacy intervention with primiparous mothers. *J Obstetr* 2011;22:304-7.
- Nichols J, Schutte NS, Brown RF, Dennis CL, Price I. The impact of a self-efficacy intervention on short-term breast-feeding outcomes. *Health Educ Behav* 2009;36:250-8.
- Noel-Weiss J, Rupp A, Cragg B, Bassett V, Woodend AK. Randomized controlled trial to determine effects of prenatal breastfeeding workshop on maternal breastfeeding self-efficacy and breastfeeding duration. *J Obstetr Gynecol Neonatal Nurs* 2006;35:616-24.
- Oriá MOB, Ximenes LB, Almeida PC, Glick DF, Dennis CL. Psychometric assessment of the Brazilian version of the breastfeeding self-efficacy scale. *Public Health Nurs* 2009;26:574-83.
- Otsuka K, Taguri M, Dennis CL, Wakutani K, Awano M, Yamaguchi T, *et al*. Effectiveness of a breastfeeding self-efficacy intervention: Do hospital practices make a difference? *Matern Child Health J* 2014;18:296-306.

How to cite this article: Meenatchi B, Dash MB. Effectiveness of Prenatal Breastfeeding Self-efficacy Intervention Program on Successful Breastfeeding among the Primi mothers Admitted to RGGW and CH, Puducherry. *Int J Nurs Med Invest*. 2018;03(3):69-73