A quasi-experimental study to assess effectiveness of comprehensive breastfeeding promotion program on breastfeeding knowledge, practices, and self-efficacy of primigravida mothers in selected hospital of district Mohali, Punjab

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Abstract

Aim: The study aimed to assess the effectiveness of a Comprehensive Breastfeeding Promotion Program (CBPP) on breastfeeding knowledge, practices, and self-efficacy among primigravida mothers in selected hospitals of District Mohali, Punjab. Methods: A quasi-experimental research design was adopted for the study. Primigravida mothers were selected from chosen hospitals and divided into experimental and control groups. Baseline assessment of breastfeeding knowledge, practices, and self-efficacy was conducted using a Structured Knowledge Questionnaire (SKQ), Practice Observation Checklist (POC), and Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF). The experimental group received the Comprehensive Breastfeeding Promotion Program, which included health education, live demonstrations, return demonstrations, and printed educational material, while the control group received routine care. Post-test assessment was conducted to evaluate the effectiveness of the intervention. Results: The findings indicated that primigravida mothers who received the Comprehensive Breastfeeding Promotion Program demonstrated significant improvement in breastfeeding knowledge, correct breastfeeding practices, and self-efficacy compared to the control group. The intervention enhanced mothers'_confidence, improved_breastfeeding techniques, and promoted awareness regarding exclusive breastfeeding and infant nutrition.

Conclusion:

The Comprehensive Breastfeeding Promotion Program was found to be effective in improving breastfeeding-related knowledge, practices, and self-efficacy among primigravida mothers. Structured educational and supportive interventions can play a vital role in promoting successful breastfeeding practices, thereby contributing to improved maternal and child health outcomes.

Keywords:

Breastfeeding, Primigravida Mothers, Self-Efficacy, Breastfeeding Promotion Program, Knowledge and Practice

Introduction

Breastfeeding is widely acknowledged as the most natural, safe, and effective method of infant feeding, providing complete nutrition and essential immunological protection during the early stages of life. Breast milk contains the ideal balance of nutrients required for healthy growth and development and is uniquely designed to meet the changing physiological needs of infants. Global health organizations such as the World Health Organization and UNICEF recommend initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for the first six months, and continuation of breastfeeding along with complementary feeding up to two years or beyond. These recommendations highlight breastfeeding as a vital public health strategy for improving maternal and child health outcomes.

Breastfeeding offers numerous benefits to infants, including protection against respiratory infections, diarrheal diseases, allergies, obesity, and chronic illnesses. It also promotes cognitive development, emotional bonding, and psychological security between mother and child. For mothers, breastfeeding contributes to faster postpartum recovery, reduces the risk of breast and ovarian cancers, supports birth spacing, and enhances emotional well-being. Despite these well-documented advantages, breastfeeding practices remain suboptimal in many countries, particularly among first-time mothers.

Research evidence suggests that structured educational interventions and breastfeeding promotion programs can significantly improve maternal knowledge, practical skills, and confidence regarding breastfeeding. Nurse-led counselling, demonstrations, and continuous support have been found effective in enhancing breastfeeding self-efficacy and encouraging exclusive breastfeeding practices among primigravida mothers. Therefore, there is a growing need for comprehensive breastfeeding promotion programs that combine education, practical training, and emotional support to empower first-time mothers.

The present study was undertaken to assess the effectiveness of a Comprehensive Breastfeeding Promotion Program on breastfeeding knowledge, practices, and self-efficacy among primigravida mothers in selected hospitals of District Mohali, Punjab. The study aims to generate evidence regarding the importance of structured breastfeeding education and support in promoting optimal breastfeeding practices and improving maternal and child health outcomes.

According to WHO data, only 23 countries have achieved exclusive breastfeeding of all newborns for at least 60% of the time. The current percentage of exclusive breastfeeding for infants less than six months is 40%. Only 6% of American nations have an exclusive breastfeeding rate higher than 60%, while 25% of European countries do the same. These low rates are most common in the Americas and Europe.(Liakou et al., 2022) According to data from the World Breastfeeding Trend Initiative study, about half of all African nations started breastfeeding in 2017, and nearly 70% of those countries had high rates of breastfeeding initiation. With just 37.3% of mothers continuing to breastfeed after giving delivery, Ireland ranks worst in the world according to the HSE's Irish Maternity Indicator System study. Of the 51,152 infants born in Ireland's 18 maternity facilities

in 2019, only 19,079 were nursed exclusively. While 38% of infants worldwide and 25% in Europe are nursed exclusively for the first six months, only 15% of Irish children are breastfed exclusively.(Amzat et al., 2024)

Some of the evidence-based treatments that the World Health Organisation and the United Nations Children's Fund have proposed to improve breastfeeding rates include the Global Strategy for Infant and Young Child Feeding and the Baby Friendly Hospital Initiative (BFHI). Consolidation programs using hospital and community-based techniques, including prenatal breastfeeding education and supplementary maternal health services, are part of the Global Strategy for Infant and Young Child Feeding, which aims to strengthen and enhance breastfeeding. The Baby Friendly Hospital Initiative (BFHI) relies heavily on prenatal breastfeeding instruction, and research has shown that it is an effective technique for encouraging and sustaining good nursing habits.(Pérez-Escamilla et al., 2016; WHO, 2023)

Problem Statement:

A quasi-experimental study to assess effectiveness of comprehensive breastfeeding promotion program on breastfeeding knowledge, practices, and self-efficacy of primigravida mothers in selected hospital of district Mohali, Punjab.

Conceptual Framework Based on General System Theory

The conceptual framework for the present study is based on General Systems Theory proposed by **Ludwig von Bertalanffy (1968)**. According to this theory, a system is made up of interacting components or units that function within defined boundaries, allowing inputs to enter from the environment and outputs to return to the environment. The theory recognizes that systems can be either open, with continuous interaction and exchange with their surroundings, or closed, with little or no exchange with the external environment.

RESEARCH METHODOLOGY

Research approach

Based on the statement of the study and objectives, **a quantitative research approach** was considered an appropriate research approach for the present study.

Research design

A research design is a broader scheme to conduct a study.

In present study researcher identified Quasi -experimental design with two group pre-test post-test control group design.

Setting of the Study:

The setting of this study was selected hospital of district Mohali, Punjab.

Population

In present study the study population will be primigravida mothers from selected hospital of district Mohali, Punjab.

Target population

Target population in this study are primigravida mothers from hospital of district Mohali, Punjab.

Accessible population

Accessible population in this study are primigravida mothers from selected hospital of district Mohali, Punjab.

Sample

In the present study, the sample were the primigravida mothers from selected hospital of district Mohali, Punjab who fulfilled the eligibility criteria of the investigation.

Sample Selection Criteria/ Eligibility Criteria:

Inclusion criteria for sampling:

The primigravida mothers who:

- Has delivered a live infant
- Was clinically stable within 24–72 hours postpartum.
- Has infant as clinically stable, able to room-in and attempt direct breastfeeding.
- Has singleton birth.
- Voluntarily consented by participant.
- Able to understand Hindi or English of Punjabi.

EXCLUSION CRITERIA

The primigravida mothers who are:

- Having absolute medical contraindications to breastfeeding.
- Facing mother/infant requiring prolonged separation or mother not clinically stable to receive counselling/participate.
- Major neonatal conditions that preclude direct breastfeeding at enrolment.
- Known psychiatric or cognitive condition.

Sampling techniques

In present study non-probability purposive sampling technique was used to select the hospitals. Whereas convenient sampling technique was used to recruit the samples for the present study.

Sample size

total sample size was determined as 240 primigravida mothers which will be equally allocated among experimental and control group by using simple random sampling technique.

Variables under study

Independent variables:

In this study the knowledge, practices, and self-efficacy of primigravida mothers regarding breastfeeding has been identified as independent variables by the investigator.

Dependent variables:

In this study the dependent variable is Comprehensive Breastfeeding Promotion Program (CBPP).

TOOL & TECHNIQUE OF DATA COLLECTION

Description and development of tool

In this study the research tools consist of four parts, named as Section-I, II, III & IV as per the objectives of the study.

Table 2 description of tools of the study with the specific objectives

Section	Specific tool	Objectives of tool development
I	Demographic variable	To collect baseline demographic data of participants.
II.	Structured Knowledge Questionnaire (SKQ)	To assess the knowledge of primigravida mothers regarding breastfeeding.
III.	Breastfeeding Observational Checklist (BOC)	To assess the practice of primigravida mothers regarding breastfeeding.
IV.	Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF)	To assess the self-efficacy of primigravida mothers regarding breastfeeding.

Reliability of tool

A pre-test was done to establish the reliability and to determine the language clarity and feasibility of the tool. Reliability of the tool was assessed by using **split – half method**, applying Pearson's formula. In this study the reliability was found to knowledge questionnaire, BOC and BSES-SF was 0.83, 0.89 & 0.89 respectively. Hence the tool was found to be highly reliable for the study.

PLAN FOR DATA ANALYSIS

The data collected from 240 primigravida mothers will be analyzed and interpreted. The data obtained is analyzed in terms of objectives of the study using descriptive and inferential statistics.

RESULTS

The analyzed data presented in following sections:

SECTION-I: FINDINGS AS FREQUENCY AND PERCENTAGE OF SOCIO-DEMOGRAPHIC VARIABLES OF PARTICIPANTS.

Table 1: Occurrences of socio-demographic variables of study participants:

i.Age in years **(N=240)**

Age in years	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
< 21 years	28	23.33	23	19.16	0.938	0.148
21-24 years	**63**	**52.5**	**72**	**60**		
25-28 years	21	17.5	19	15.83		
> 28 years	8	6.66	6	5		

ii.Religion

Religion	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
Hindu	68	56.66	76	63.33	2.615	0.429
Sikh	27	22.5	22	18.33		
Muslim	6	5	5	4.16		
Christian	19	15.83	17	14.16		

iii.Educational status

Educational status	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
No formal education	16	13.33	21	17.5	2.957	0.352
Primary education	37	30.83	33	27.5		
Secondary education	**58**	**48.33**	**63**	**52.5**		
Graduation or above	09	7.5	03	2.5		

iv.Occupational status

Occupational status	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
House-wife	**73**	**60.83**	**78**	**65**	3.086	0.579
Private job	23	19.16	26	21.66		
Self-employed	17	14.16	12	10		
Government	07	5.83	04	3.33		

i.Type of family **(N=240)**

Type of family	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
Joint family	47	39.16	53	44.16	5.307	0.618
Nuclear family	**73**	**60.83**	**67**	**55.83**		

ii.Residential area **(N=240)**

Residential area	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
Urban	**79**	**65.83**	**82**	**68.33**	1.793	0.942
Rural	41	34.16	38	31.66		

iii.Family's monthly income **(N=240)**

Family's monthly income	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
< 20,000	6	5	3	2.5	2.827	0.682
20,001 to 30,000	15	12.56	19	15.83		
30,001 to 40,000	**83**	**69.16**	**78**	**65**		
> 40,001	16	13.33	20	16.66		

iv.Antenatal Visits **(N=240)**

Antenatal Visits	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		
< 2 visits	17	14.16	26	21.66	1.947	0.537
3-4 visits	36	30	31	25.83		
5-6 visits	**61**	**50.83**	**52**	**43.33**		
> 6 visits	06	5	11	9.16		

v.Mode of delivery **(N=240)**

Mode of delivery	Experimental group (N-120)		Control group (N-120)		Chi-square	p-value
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)		

Normal	**68**	**56.66**	**76**	**63.33**	4.861	0.935
CS	52	43.33	44	36.66		

vi.Birth weight of the baby **(N=240)**

Birth weight of the baby	**Experimental group (N-120)**		**Control group (N-120)**		**Chi-square**	**p-value**
	Frequency (f)	**Percentage (%)**	**Frequency (f)**	**Percentage (%)**		
< 2 kg	10	8.33	08	6.66	4.826	0.749
2 to 2.5 kg	**76**	**63.33**	**68**	**56.66**		
2.6 to 3 kg	19	15.83	27	22.5		
> 3 kg	15	12.5	17	14.16		

SECTION-II: FINDINGS RELATED TO ANALYSIS OF PRE-TEST AND POST-TEST LEVEL OF BREASTFEEDING KNOWLEDGE, PRACTICES, AND SELF-EFFICACY AMONG PARTICIPANTS.

Table 2: Comparison of distribution of breastfeeding knowledge level among primigravida mothers in pre-test:

N=240

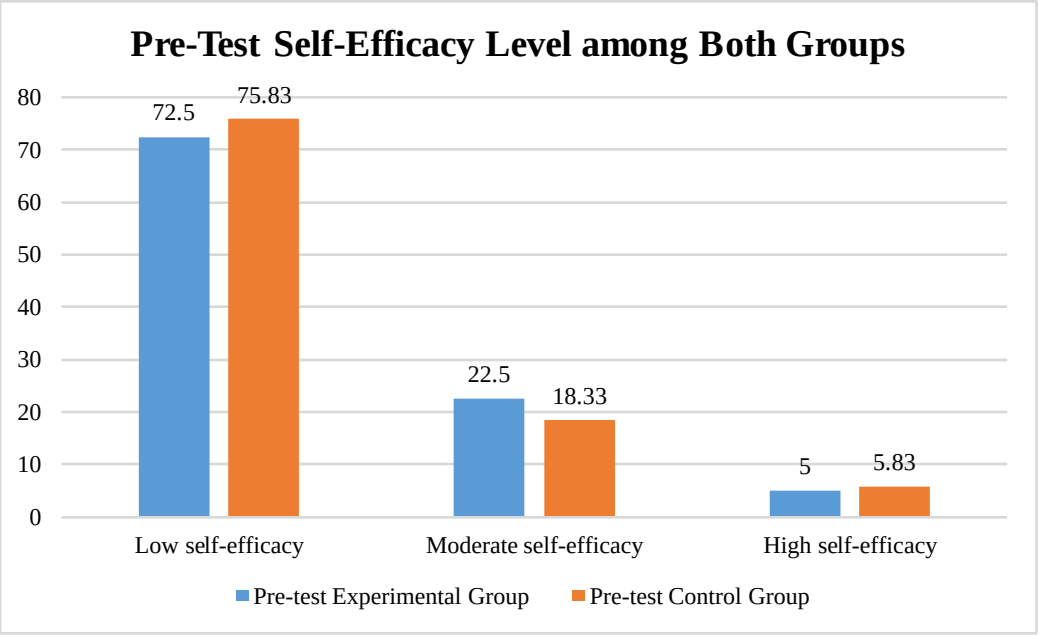
Knowledge Level	**Experimental group (N-120)**		**Control group (N-120)**	
	Pre-test		**Pre-test**	
	F	**%**	**F**	**%**
Inadequate Knowledge	**79**	**65.83**	**83**	**69.16**
Average knowledge	36	30	29	24.16
Adequate knowledge	05	4.16	08	6.66

Table 3: Comparison of distribution of breastfeeding practice level among primigravida mothers in pre-test:

N=240

Practice Level	**Experimental group (N-120)**	**Control group (N-120)**
	Pre-test	**Pre-test**

	F	%	F	%
Good Breastfeeding	11	9.16	09	7.5
Fair Breastfeeding	17	14.16	16	13.33
Poor Breastfeeding	**92**	**76.66**	**95**	**79.16**



Graph-13: Occurrences of participants based on their self-efficacy level in pre-test among both groups

Table 5: Comparison of distribution of breastfeeding knowledge level among primigravida mothers in post-test:

N=240

Knowledge Level	Experimental group (N-120)		Control group (N-120)	
	Post-test		Post-test	
	F	%	F	%
Inadequate Knowledge	09	7.5	**80**	**66.66**
Average knowledge	23	19.16	32	26.66
Adequate knowledge	**88**	**73.33**	08	6.66

Table 6: Comparison of distribution of breastfeeding practice level among primigravida mothers in pre-test:

N=240

Practice Level	Experimental group (N-120)		Control group (N-120)	
	Post-test		Post-test	
	F	%	F	%
Good Breastfeeding	**99**	**82.5**	12	10
Fair Breastfeeding	12	10	19	15.83
Poor Breastfeeding	09	7.5	**89**	74.16

Table 7: Comparison of distribution of breastfeeding self-efficacy level among primigravida mothers in pre-test:

N=240

Self-efficacy Level	Experimental group (N-120)		Control group (N-120)	
	Post-test		Post-test	
	F	%	F	%
Low self-efficacy	11	9.16	**86**	**71.66**
Moderate self-efficacy	13	10.83	19	15.83
High self-efficacy	**96**	**80**	15	12.5

SECTION-III: FINDINGS RELATED TO EFFECTIVENESS OF COMPREHENSIVE BREASTFEEDING PROMOTION PROGRAM ON BREASTFEEDING KNOWLEDGE, PRACTICES, AND SELF-EFFICACY AMONG PARTICIPANTS.

Table:8 Comparison of distribution of breastfeeding knowledge level among participants inpre and post-test among both groups:

N=240

Knowledge Level	Experimental group (N-120)				Control group (N-120)			
	Pre-test		Post-test		Pre-test		Post-test	
	F	%	F	%	F	%	F	%
Inadequate Knowledge	**79**	**65.83**	09	7.5	**83**	**69.16**	**80**	**66.66**

Average knowledge	36	30	23	19.16	29	24.16	32	26.66
Adequate knowledge	05	4.16	**88**	**73.33**	08	6.66	08	6.66

Table:10 Comparison of distribution of practice level among participants in pre and post-test among both groups:

N=240

Practice Level	**Experimental group (N-120)**				**Control group (N-120)**			
	Pre-test		**Post-test**		**Pre-test**		**Post-test**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Good Breastfeeding	11	9.16	**99**	**82.5**	09	7.5	12	10
Fair Breastfeeding	17	14.16	12	10	16	13.33	19	15.83
Poor Breastfeeding	**92**	**76.66**	09	7.5	**95**	**79.16**	**89**	**74.16**

Graph-18: Occurrences of participants based on their Practice level at pre and post-test at both groups

Table:12 Comparison of distribution of self-efficacy level among participants in pre and post-test among both groups:

N=240

Self-efficacy Level	**Experimental group (N-120)**				**Control group (N-120)**			
	Pre-test		**Post-test**		**Pre-test**		**Post-test**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Low self-efficacy	**87**	**72.5**	11	9.16	**91**	**75.83**	**86**	71.66
Moderate self-efficacy	27	22.5	13	10.83	22	18.33	19	15.83
High self-efficacy	06	5	**96**	**80**	07	5.83	15	12.5

SECTION IV- FINDINGS RELATED TO CORRELATION IN BETWEEN POST-TEST LEVEL OF BREASTFEEDING KNOWLEDGE, PRACTICES, AND SELF-EFFICACY AMONG PARTICIPANTS.

Table:14 Correlational level among post-test level of knowledge with post-test level of Practice and self-efficacy among primigravida mothers:

			Post-test Practice	Post-test self-efficacy
Spearman's rho	Post-test knowledge	Correlation Coefficient	.369*	.281
		Sig. (2-tailed)	.048	0.042
		N	240	240
*. Correlation is significant at the 0.05 level.				

The table illustrates the association between post-test knowledge and both post-test practice and post-test self-efficacy, using Spearman's rho correlation coefficient.

The findings indicate a modest to moderate positive association between post-test knowledge and post-test practice (r = 0.369), which is statistically significant at the 0.05 level (p = 0.048). This suggests that primigravida mothers with greater knowledge levels generally exhibit superior practices, but the correlation is modest in strength. Furthermore, a small positive connection exists between post-test knowledge and post-test self-efficacy (r = 0.281), which is statistically significant (p = 0.042). This indicates that a rise in knowledge correlates with a modest enhancement in self-efficacy among participants.

The data indicated that knowledge significantly enhances both practice and self-efficacy, with a greater correlation shown in practice than in self-efficacy. This underscores the significance of knowledge development in augmenting behavioural outcomes and confidence levels.

IMPLICATIONS

The findings of the study provide recommendations for many domains of nursing education, nursing practice, nursing research, and nursing administration.

Nursing Education:

Possible implications for improved use of the current research results in nursing educations are as follows:

- Integration of organised breastfeeding modules: Nursing courses must provide thorough and systematic modules on the promotion of breastfeeding. The research revealed that the majority of primigravida mothers had insufficient knowledge during the pre-test phase, highlighting a significant need for enhanced educational preparation. These programs should emphasise both academic understanding and practical application, as well as confidence enhancement. This will assist future nurses in properly educating and supporting mothers.

Nursing Practice:

Following actions can be taken under nursing practice:

- Prompt commencement of breastfeeding: Nurses need to promote breastfeeding within the first hour post-delivery. Timely commencement enhances neonatal health outcomes. It further fosters the connection between mother and infant. Nurses are essential in enabling this practice.

Nursing Administration:

Nursing administrators were informed of the results of the current investigation:

- Execution of standardized breastfeeding initiatives: Hospitals need to implement organized breastfeeding promotion initiatives as an integral component of standard treatment. The research indicated substantial improvements in knowledge, practice, and self-efficacy after the intervention. Standardization guarantees uniformity in the provision of care. It also facilitates improved maternal and newborn outcomes.

Nursing Research:

The results of this study point to a few potential areas for further investigations, like:

- Promotion of empirical research: The study illustrated the efficacy of an intervention, underscoring the need for more experimental research. Such investigations provide compelling evidence. They assist in formulating efficient plans. This enhances nursing expertise.
- Extended longitudinal studies: Subsequent investigations need to evaluate the enduring effects of treatments. This assists in assessing the sustainability of advantages. It also delineates areas for improvement. Longitudinal data provide significant value.

Limitations

- Restricted Generalizability: The research was performed at a singularly chosen hospital in Mohali, Punjab, which limits the applicability of the results to other geographical areas, healthcare environments, and cultural contexts.
- Non-Probability Sampling Method: Utilizing convenience sampling may result in selection bias, hence limiting the sample's representativeness and impacting external validity.
- Brief Follow-up Period: The post-test evaluation was performed after a brief intervention duration of 15 days, which fails to reflect long-term information retention, enduring habits, or ongoing nursing self-efficacy.

Recommendations for Further Study

Following recommendations are offering by researcher as per experience throughout the investigation:

- A Multicentric Study to Assess the Efficacy of Comprehensive Breastfeeding Promotion Programs Among Primigravida Mothers in Varied Healthcare Environments.

- A Mixed-Methods Investigation of Knowledge, Practices, and Self-Efficacy Regarding Breastfeeding in Primigravida Mothers.
- An Investigation on the Efficacy of Family-Inclusive Breastfeeding Education Programs on Breastfeeding Outcomes in Primigravida Mothers.
- An interventional study to assess the effect of antenatal breastfeeding education on postnatal breastfeeding practices and self-efficacy.
- An Investigation on the Efficacy of Mobile-Based Breastfeeding Education Interventions on Knowledge and Practices Among First-Time Mothers.
- A study to create and assess a standardized module for breastfeeding promotion aimed at enhancing maternal knowledge and practices.
- An Experimental Study Assessing the Efficacy of Follow-Up Reinforcement Sessions in Maintaining Breastfeeding Practices.
- An Investigation on the Efficacy of Nurse-Led Breastfeeding Counselling on Knowledge, Practices, and Self-Efficacy in Primigravida Mothers.
- An Evaluative Study on the Execution of Baby-Friendly Hospital Initiative (BFHI) Practices and Their Effect on Breastfeeding Outcomes.
- An Investigation on the Impact of Regular Breastfeeding Self-Efficacy Evaluation on Enhancing Breastfeeding Duration and Exclusivity.
- An Examination of the Effects of Government-Funded Breastfeeding Promotion Initiatives on Maternal and Infant Health Results.
- An Investigation of the Efficacy of Simulation-Based Breastfeeding Instruction in Nursing Education on Clinical Proficiency.

References:

Abang Abdullah, A. F., Azlisham, N., Ellias, M. F., Nunis, M. A., Syed Abdullah, F. I., Mohd Shukri, N. H., & Zainudin, Z. (2025). Knowledge, Attitudes, and Practices of Breast Milk Feeding Among Mothers of Very Low Birth Weight Infants: A Study From Two Tertiary Centers. *Cureus*, *17*(11), e95900. https://doi.org/10.7759/cureus.95900

Abd El-Aziz, N. M., Mansour, H. M. M., Elbakatoshy, M. R., Mehany, T., Zannou, O., Tahergorabi, R., & Shehata, M. G. (2025). Comparative nutritional analysis and sensory evaluation of three baby foods with low allergen ingredients for infants. *Food Chemistry: X*, *28*, 102533. https://doi.org/https://doi.org/10.1016/j.fochx.2025.102533

Aboraiah, M., Fadel, E., Hussien, M., & Ezzat, N. (2021). Effect of Antenatal Educational Sessions on

Primigravida Women's Breastfeeding Knowledge, Attitude, and Self-efficacy. *Egyptian Journal of Health Care*, *12*, 1521–1534. https://doi.org/10.21608/ejhc.2021.209941

Abuhammad, S., & Johnson, T. (2021). Breastfeeding and maternal attachment during infancy period among Jordanian mothers: A cross-sectional study. *Annals of Medicine and Surgery (2012)*, *66*, 102395. https://doi.org/10.1016/j.amsu.2021.102395

Ahmad, R. S., Sulaiman, Z., Nik Hussain, N. H., & Mohd Noor, N. (2022). Working mothers' breastfeeding experience: a phenomenology qualitative approach. *BMC Pregnancy and Childbirth*, *22*(1), 85. https://doi.org/10.1186/s12884-021-04304-4

Ali, S. A., Lakshmi, C. V. S., Mirza, N. A., Siddiqui, S., Anis, H., & Manfusa, H. (2023). Barriers to exclusive breastfeeding in first 6 months of life in infants born in a tertiary care center in Hyderabad. *International Journal of Contemporary Pediatrics*, *10*(11), 1644–1651. https://doi.org/10.18203/2349-3291.ijcp20233232

Aljbory, B., & Witwit, S. (2026). Knowledge of Primigravida Women Regarding Exclusive Breastfeeding. *Journal of Obstetrics, Gynecology and Cancer Research*, *11*, 48–55. https://doi.org/10.24200/jogcr.11.1.48

Amin, S. M., Mahrous, E. S., Alrimawi, I., & Elbialy, A. A. (2022). The effectiveness of an interactive digital-based educational program in improving breastfeeding knowledge, attitudes and self-efficacy among primiparous women in Egypt. *African Journal of Reproductive Health*, *26*(11s), 79–91. https://doi.org/10.29063/ajrh2022/v26i11.8

Amzat, J., Aminu, K., Matankari, B., Ismail, A., Almu, B., & Kanmodi, K. K. (2024). Sociocultural context of exclusive breastfeeding in Africa: A narrative review. *Health Science Reports*, *7*(5), e2115. https://doi.org/10.1002/hsr2.2115

Araban, M., Karimian, Z., Karimian Kakolaki, Z., McQueen, K. A., & Dennis, C.-L. (2018). Randomized Controlled Trial of a Prenatal Breastfeeding Self-Efficacy Intervention in Primiparous Women in Iran. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *47*(2), 173–183. https://doi.org/https://doi.org/10.1016/j.jogn.2018.01.005

Arslanoglu, S., Boquien, C.-Y., King, C., Lamireau, D., Tonetto, P., Barnett, D., Bertino, E., Gaya, A., Gebauer, C., Grovslien, A., Moro, G. E., Weaver, G., Wesolowska, A. M., & Picaud, J.-C. (2019). Fortification of Human Milk for Preterm Infants: Update and Recommendations of the European Milk Bank Association (EMBA) Working Group on Human Milk Fortification. *Frontiers in Pediatrics, Volume 7-*.

Asaro, T., Gutema, B. T., & Weldehawaryat, H. N. (2023). Colostrum avoidance practice and associated factors among mothers of infants less than six months in Chencha District: cross-sectional study. *BMC Nutrition*, *9*(1), 18. https://doi.org/10.1186/s40795-023-00674-4

Babakazo, P., Donnen, P., Akilimali, P., Ali, N. M. M., & Okitolonda, E. (2015). Predictors of discontinuing exclusive breastfeeding before six months among mothers in Kinshasa: a prospective study. *International Breastfeeding Journal*, *10*, 19. https://doi.org/10.1186/s13006-015-0044-7

Bake

https://doi.org/10.1016/j.eclinm.2021.100971