

An Assessment of Prenatal Breastfeeding Self-Efficacy among Primiparous Mothers in a Tertiary Care Setting

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ABSTRACT

Background: Breastfeeding is often described as both a natural process and an acquired skill. In recent years, health systems across the globe have intensified efforts to promote breastfeeding. Despite these initiatives, global breastfeeding rates remain suboptimal. Only 40% of infants under six months are exclusively breastfed, and just 44% of newborns are breastfed within the first hour of birth. Additionally, only 45% of children continue to receive breast milk up to two years of age.

Objectives

1. To assess the level of prenatal breastfeeding self-efficacy among primiparous mothers.
2. To determine the association between prenatal breastfeeding self-efficacy and selected socio-demographic variables.

Methodology: A descriptive cross-sectional study design was adopted. A purposive sampling technique was used to select 80 primiparous mothers attending Krishna Hospital & Medical Research Centre (KH&MRC), Karad. The study utilized a single-group post-test research design. Data were collected using a standardized and validated tool, following informed consent. Both descriptive and inferential statistics were applied for data analysis.

Results: The majority of participants were aged between 24–27 years, Hindu by religion, and had attained at least a graduate-level education. Most were homemakers, belonged to joint families, resided in rural areas, and were from upper middle-class socioeconomic backgrounds. Assessment of prenatal breastfeeding self-efficacy revealed that 81.25% (n=65) of the mothers had low confidence, 15% (n=12) had moderate confidence, and only 3.75% (n=3) reported high confidence. No statistically significant association was found between breastfeeding self-efficacy and the selected socio-demographic variables.

Conclusion: This study explored the level of confidence among first-time mothers regarding breastfeeding during the prenatal period. The findings indicated a generally low level of prenatal breastfeeding self-efficacy, with over 80% of participants lacking confidence. These results highlight the need for targeted antenatal interventions and educational strategies to enhance breastfeeding self-efficacy among primiparous women.

Keywords: Breastfeeding self-efficacy, Primiparous mother, Prenatal breastfeeding self-efficacy.

1. INTRODUCTION

Breastfeeding is not only a natural biological function but also an art that establishes a profound bond between mother and child. Human breast milk is irreplaceable, offering unmatched nutritional, immunological, and developmental benefits for infants. While significant efforts have been made globally to protect, promote, and support breastfeeding—especially under the guidance of UNICEF and the World Health Organization (WHO)—global breastfeeding rates remain suboptimal. Only 40% of infants under six months are exclusively breastfed, 44% are breastfed within the first hour of life, and only 45% continue breastfeeding up to two years of age (1–3).

The benefits of breastfeeding extend beyond infant health. It contributes significantly to maternal well-being, strengthens families, and has broad public health and economic implications. Breastfeeding reduces the incidence of respiratory infections, acute otitis media, diarrhea, dental malocclusion, and promotes cognitive development in children. It also enhances immune responses, which is especially vital in the current global health context. For mothers, breastfeeding reduces the risk of diabetes, breast and ovarian cancers, cardiovascular disease, and osteoporosis.

Economically, breastfeeding minimizes healthcare costs, reduces absenteeism from work, and lessens the burden on healthcare systems. Globally, the financial losses attributed to not breastfeeding are estimated at US\$341.3 billion. On a household level, choosing formula over breastfeeding during a child's first two years could cost families over 6% of their income. For low-income families, breastfeeding is a vital practice, contributing to food security and financial relief—especially during crises like the COVID-19 pandemic when many households face income instability. Promoting breastfeeding thus not only enhances nutritional and health outcomes but also reduces inequalities and supports sustainable development (4).

The WHO considers breastfeeding the most effective strategy for meeting infants' nutritional needs. The organization recommends exclusive breastfeeding for the first six months of life, followed by continued breastfeeding along with appropriate complementary foods for up to two years or beyond (5). Similarly, the Healthy People 2020 initiative by the U.S. Department of Health and Human Services sets goals for breastfeeding initiation (82%), continuation at six months (61%), and at one year (34%). Despite progress, these targets remain unmet, particularly among younger mothers, those from minority groups, and those with lower socio-economic and educational backgrounds. Women who initiate breastfeeding during their first pregnancy are more likely to continue the practice in subsequent pregnancies (5).

A study by Jagdale et al. examined breastfeeding knowledge, attitudes, and practices among semi-primiparous mothers. Their findings revealed that while many mothers had adequate knowledge about breastfeeding, a significant proportion failed to translate this knowledge into practice. No statistically significant association was found between sociodemographic factors and breastfeeding knowledge, attitude, or behavior (6).

One of the most influential psychological constructs in predicting breastfeeding behavior is maternal self-efficacy. Breastfeeding self-efficacy (BSE) refers to a mother's belief in her ability to successfully breastfeed her infant. It significantly influences her decision to initiate and continue breastfeeding, her persistence during difficulties, and her emotional responses to challenges (7–9). Low breastfeeding self-efficacy, inadequate breastfeeding support, and lack of encouragement from family are commonly cited barriers to successful breastfeeding (8). Educational interventions during the antenatal period can play a critical role in enhancing mothers' confidence, knowledge, and skills, ultimately promoting optimal breastfeeding practices and benefiting both maternal and child health (10).

2. METHODOLOGY

A descriptive cross-sectional study was conducted among 80 primiparous mothers attending the antenatal outpatient department (OPD) and admitted to the labor room at Krishna Hospital and Medical Research Centre (KH&MRC), a major tertiary care institution located in Karad, Maharashtra. KH&MRC is known for offering comprehensive promotive, preventive, curative, and rehabilitative health services to a wide population. The study was carried out over a two-month period.

A **purposive sampling technique** was employed to recruit participants. Eligible participants included primiparous women who were at 37 weeks of gestation or more, had a singleton pregnancy, were attending the antenatal OPD or admitted for delivery in the labor room during the study period, and who expressed willingness to participate. Informed consent was obtained, and participants were made available for follow-up and data collection during the investigation. Women who were mentally or physically challenged, had inverted nipples, high-risk pregnancy complications, or other medical contraindications were excluded from the study.

Data Collection Tools

The data collection instrument comprised four parts:

- **Part A:** Captured socio-demographic details such as age, education, occupation, family type, residence, and income.
- **Part B:** Included obstetric information relevant to the current pregnancy.
- **Part C:** Employed a standardized tool—**Prenatal Breastfeeding Self-Efficacy Scale** developed by Wells (2022)—consisting of 20 items assessing the mother's confidence in her ability to breastfeed. Each item was scored on a 5-point Likert scale ranging from 1 ("Not at all sure") to 5 ("Completely sure"), yielding a total score ranging from 20 to 100.

Statistical Analysis

Data were analyzed using both **descriptive and inferential statistics**. Descriptive statistics such as frequencies and

percentages were used to summarize socio-demographic characteristics and levels of prenatal breastfeeding self-efficacy. To explore associations between self-efficacy and selected demographic variables, the **Chi-square test** was applied. Statistical significance was interpreted in accordance with standard thresholds.

Ethical Considerations

Prior to data collection, ethical clearance was obtained from the **Institutional Ethics Committee** of Krishna Institute of Nursing Sciences. Formal permissions were secured from the **Principal**, the **Medical Director**, the **Chief Nursing Officer**, and the **Head of the Obstetrics and Gynecology Department** at KH&MRC. Participants were informed about the purpose and procedures of the study, and written informed consent was obtained. Confidentiality, anonymity, and the right to withdraw from the study at any point were assured to all participants.

3. RESULTS

Table No.1: Distribution of Primiparous Mothers according to Demographic Variables

N=80

SOCIODEMOGRAPHIC VARIABLE	RESPONDENTS	
	FREQUENCY (F)	PERCENTAGE (%)
Age in years		
20-23 years	32	40 %
24-27 years	36	45 %
28-31 years	9	11.25 %
32 years and above	3	3.75 %
Age at marriage in years		
18-21 years	29	36.25 %
22-25 years	34	42.5 %
26-29 years	14	17.5 %
30 years and above	3	3.75 %
Religion		
Hindu	76	95 %
Muslim	4	5 %
Education		
Secondary school	18	22.5 %
Degree	62	77.5 %
Occupation		
Housewife	75	93.75 %
Job	5	6.25 %
Family type		
Joint family	72	90 %
Nuclear family	8	10 %
Residency		

Urban	27	33.75 %
Rural	53	66.25 %
Socioeconomic class		
Upper class	21	26.25 %
Upper middle class	59	73.75 %
Source of Knowledge		
News paper	14	17.5 %
Television	15	18.75 %
Healthworker	35	43.75 %
Friends	6	7.5 %
Family members	69	86.25 %

Table 1 presents the socio-demographic profile of the 80 primiparous mothers included in the study. Regarding age distribution, the majority of participants (36, 45%) were aged between **24–27 years**, followed by **32 mothers (40%)** aged 20–23 years. A smaller proportion belonged to the **28–31 years** age group (9, 11.25%) and **32–35 years** (3, 3.75%).

In terms of **age at marriage**, the highest proportion of participants (34, 42.5%) got married between **22–25 years**, followed by **29 mothers (36.25%)** in the 18–21 years group. Fewer respondents were married between **26–29 years** (14, 17.5%) and **30–33 years** (3, 3.75%).

Regarding **religion**, the majority were **Hindu (76, 95%)**, and a small proportion were **Muslim (4, 5%)**.

With respect to **educational qualification**, most participants (72, 77.5%) had completed **graduation**, while 18 mothers (22.5%) had completed **secondary education**.

In terms of **occupation**, the vast majority (75, 93.75%) were **housewives**, while only 5 participants (6.25%) were **employed**.

When categorized by **type of family**, a substantial number of primiparous mothers (72, 90%) belonged to **joint families**, and only 8 (10%) belonged to **nuclear families**.

Considering **residential area**, most participants resided in **rural areas** (53, 66.25%), while **27 mothers (33.75%)** lived in **urban areas**.

Regarding **socio-economic status**, a significant portion (59, 73.75%) of mothers belonged to the **upper middle class**, and 21 (26.25%) belonged to the **upper class**.

In terms of **source of information regarding breastfeeding**, **69 mothers (86.25%)** reported **family members** as the primary source. Other sources included **health workers** (35, 43.75%), **television** (15, 18.75%), **newspapers** (14, 17.5%), and **friends** (6, 7.5%).

Table No.2: Distribution of Primiparous Mothers according to Maternal Characteristics

N=80

MATERNAL CHARACTERISTICS	RESPONDENTS	
	FREQUENCY (F)	PERCENTAGE (%)
Gestational age at 1st visit in weeks		
8-16 weeks	28	35 %
17-25 weeks	11	13.75 %
26-34 weeks	41	51.25 %
No. of ANC visits till 37 weeks		

1-4 visits	33	41.25 %
5-8 visits	42	52.5 %
9-11 visits	5	6.25 %
Height in cm		
145-153 cm	35	43.75 %
154-162 cm	36	45 %
163-171 cm	9	11.25 %
Weight in kg		
45-54 kg	13	16.25 %
55-64 kg	34	42.5 %
65-74 kg	28	35 %
75-84 kg	4	5 %
85-94 kg	1	1.25 %
BMI		
Underweight < 18.50	1	1.25 %
Normal range 18.50 - 24.99	32	40 %
Overweight \geq 25.00	1	1.25 %
Obese \geq 30.00	46	57.5 %
History of infertility		
Yes	1	1.25 %
No	79	98.75 %

Table 2 highlights the obstetric history and physical characteristics of the primiparous mothers enrolled in the study.

Regarding **gestational age at the time of the first antenatal visit**, the majority of participants (41, 51.25%) reported initiating antenatal care between **26–34 weeks** of gestation. A smaller proportion (28, 35%) attended their first antenatal visit between **8–16 weeks**, while **11 mothers (13.75%)** did so between **17–25 weeks**.

In terms of the **total number of antenatal care (ANC) visits**, more than half of the participants (42, 52.5%) completed **5 to 8 visits**, followed by **33 mothers (41.25%)** who completed **1 to 4 visits**. A small number (5, 6.25%) completed **9 to 11 visits** during their pregnancy.

For **maternal height**, the majority (36, 45%) had a height range of **154–162 cm**, followed closely by **35 participants (43.75%)** who measured **145–153 cm**. Only **9 mothers (11.25%)** had a height between **163–171 cm**.

With regard to **maternal weight**, most mothers (34, 42.5%) fell within the range of **55–64 kg**, followed by 28 participants (35%) with weight between **65–74 kg**, 13 participants (16.25%) in the **45–54 kg** range, 4 participants (5%) between **75–84 kg**, and only 1 mother (1.25%) weighing between **85–94 kg**.

Concerning **Body Mass Index (BMI)** classification, the majority of mothers (46, 57.5%) had a **BMI \geq 30.00**, indicating obesity. **32 mothers (40%)** were within the **normal BMI range (18.50–24.99)**. Only one participant each (1.25%) was categorized as **underweight (<18.50)** and **overweight (\geq 25.00 but <30.00)**.

When assessed for **history of infertility**, nearly all participants (79, 98.75%) reported **no history of infertility**, while only one participant (1.25%) reported a **positive history** of infertility.

Table 3: Association of prenatal Breastfeeding self-efficacy among women who are primiparous and their chosen demographic characteristics

N=80

Sr.No.	Demographic variables	Prenatal breastfeeding self-efficacy						χ^2	P value	Result
		Low confident		Moderate confident		High confident				
		N	%	N	%	N	%			
1.	Age in years							5.100	0.5311	NS
	20-23 years	28	87.5	4	12.5	0	0			
	24-27 years	27	75	6	16.66	3	8.33			
	28-31 years	8	88.88	1	11.11	0	0			
	32-35 years	2	66.66	1	33.33	0	0			
2.	Age at marriage in years							6.057	0.4169	NS
	18-21 years	25	86.20	4	13.79	0	0			
	22-25 years	29	85.29	3	8.82	2	5.88			
	26-29 years	9	64.28	4	28.57	1	7.14			
	30-33 years	2	66.66	1	33.33	0	0			
3.	Education							5.360	0.0686	NS
	Secondary school	18	22.5	0	0	0	0			
	Degree	47	75.50	12	19.35	3	4.83			
4.	Residency							2.048	0.3591	NS
	Urban	20	74.07	5	18.51	2	7.40			
	Rural	45	84.90	7	13.20	1	1.88			
5.	Socioeconomic class							4.319	0.1154	NS
	Upper class	14	66.66	6	28.57	1	4.76			
	Upper middle class	51	86.44	6	10.16	2	3.38			
6.	Source of Knowledge							5.628	0.6888	NS
	News paper	12	92.30	0	0	1	7.69			
	Television	12	80	2	13.33	1	6.66			
	Healthworker	24	68.57	8	22.85	3	8.57			
	Friends	4	66.66	1	16.66	1	16.66			
	Family members	54	78.26	12	17.39	3	4.34			

Table 3 presents the analysis of the relationship between **prenatal breastfeeding self-efficacy** and various **selected socio-demographic characteristics** of the primiparous mothers. The statistical findings indicate that there was **no significant association** between prenatal breastfeeding self-efficacy and the demographic variables assessed, including age, education, occupation, type of family, place of residence, socio-economic status, and source of information.

These results suggest that the **level of self-efficacy related to breastfeeding among first-time mothers** was **independent of their demographic background** in this study sample.

4. DISCUSSION

One of the modifiable psychological factors consistently linked to successful breastfeeding outcomes is **maternal self-efficacy** (12). In the present study, prenatal breastfeeding self-efficacy among primiparous mothers was found to be considerably low. Out of 80 participants, **65 mothers (81.25%) demonstrated low confidence**, while only **12 (15%) had moderate confidence** and a mere **3 mothers (3.75%)** reported high confidence during the pretest. These findings highlight the critical need for targeted interventions to enhance breastfeeding self-efficacy among first-time mothers during the antenatal period.

Comparable findings were reported by **Reham M. et al. (2018)**, who conducted a cross-sectional study in Saudi Arabia to assess prenatal breastfeeding self-efficacy among pregnant women. The study revealed a mean self-efficacy score of 70, with a standard deviation of 11.913, supporting the notion that breastfeeding self-efficacy remains moderate among expectant mothers.

Similarly, a study conducted by **Lannitra S. (2009)** in Finland assessed the knowledge, attitude, and confidence levels regarding breastfeeding among 123 pregnant women and 49 fathers. The results showed **insufficient levels of knowledge, attitude, and confidence**, indicating a need for prenatal breastfeeding education.

In contrast, a study by **Alyousefi N. et al. (2018)** involving pregnant women with gestational diabetes in Saudi Arabia reported a slightly lower mean prenatal breastfeeding self-efficacy score of **64.07 ± 16.315**, reinforcing the idea that certain maternal health conditions may influence confidence levels in breastfeeding.

Moreover, a U.S.-based evidence-based practice project involving **eight adolescent nulliparous high school students (aged 14–18)** evaluated the effects of antenatal education on BSE. The results showed **no significant improvement** in breastfeeding self-efficacy post-intervention, highlighting the importance of tailoring interventions to the age and developmental needs of the population (16).

Aguirre et al. (2018) further contributed to this body of evidence by demonstrating that the impact of prenatal interventions on BSE may vary over time. While no significant differences were observed at baseline or in the immediate postpartum period, **self-efficacy scores significantly improved at 6 weeks, 3 months, and 6 months postpartum**, suggesting a **delayed but positive impact** of educational interventions (17).

A Japanese study also supports this finding, emphasizing the **importance of institutional environment**. Pregnant women in both "Baby-Friendly Hospitals" (BFH) and non-Baby-Friendly Hospitals (nBFH) were given a workbook on BSE. Four weeks postpartum, significant improvements in **exclusive breastfeeding rates and BSE scores** were observed **only in BFH settings**, indicating that **hospital policies and breastfeeding support systems** play a critical role in intervention success (18).

5. CONCLUSION

This study assessed prenatal breastfeeding self-efficacy among primiparous mothers and found that a substantial majority (81.25%) exhibited low confidence in their ability to breastfeed. These findings underscore the need for structured, evidence-based antenatal education programs focused on enhancing maternal self-efficacy in breastfeeding. Improving BSE in primiparous mothers can positively influence breastfeeding initiation, duration, and exclusivity—ultimately improving maternal and neonatal health outcomes.

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