Article

Comparison of breastfeeding self-efficacy between exclusive and non-exclusive breastfeeding in postpartum women

Parvaneh Sarparastrazmju[1*]

[*1]Department of Midwifery, School of Nursing and Midwifery, Zahedan Islamic Azad University, Zahedan, Iran

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***Corresponding author:**
School of Nursing and Midwifery, Zahedan Islamic Azad University, Zahedan, Iran

Email:
p.sarparastrazmju@iauzah.ac.ir

Abstract

Background: Breastfeeding self-efficacy is an important factor in initiating and continuing breastfeeding.
Objectives: The present study aimed to compare breastfeeding self-efficacy between exclusive and non-exclusive breastfeeding in postpartum women.
Methods: This descriptive comparative study was conducted on 228 women hospitalized in the Social Security Hospital of Zahedan who had given birth 24 hours earlier. Sampling was performed using a convenience method from March to June 2024. Data were collected using a demographic-midwifery questionnaire and the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF). Data analysis was carried out using SPSS version 22 software, employing the Mann-Whitney U and Chi-square tests.
Results: The mean (SD) age of the women was 28.14 (6.7) years. Most participants were housewives (92.54%) and had a diploma or lower level of education (80.26%). The mean (SD) score of breastfeeding self-efficacy was higher in women with exclusive feeding than in those with non-exclusive feeding [49.11 (11) vs 36.9 (11.7)]. There was a statistically significant difference between the exclusive and non-exclusive feeding groups regarding breastfeeding self-efficacy (p=0.000), type of delivery (p=0.034), infant's gender (p=0.000), and the number of breastfeeding per day (p=0.036).
Conclusion: Women who gave birth while exclusively breastfeeding had higher breastfeeding self-efficacy than those who breastfed non-exclusively. To enhance breastfeeding self-efficacy, it is recommended to develop appropriate strategies for initiating and continuing breastfeeding.

Implications of this paper in nursing and midwifery preventive care:
- Identifying mothers at risk of breastfeeding discontinuation due to low breastfeeding self-efficacy
- Assisting health professionals in planning appropriate interventions for mothers with low breastfeeding self-efficacy to increase exclusive breastfeeding.

Introduction

Breast milk, regarded as a divine gift, not only protects the health of infants but also lays the foundation for human health throughout life [1]. It contains enzymes, hormones, growth factors, and immunological substances that help establish an effective host defense against infectious agents [2,3]. Breastfeeding offers numerous advantages for the infant, including aiding in the development of the immune system, stimulating the growth of beneficial bacteria in the digestive tract, initiating passive immunity at birth, maximizing mother-infant contact, reducing infant constipation and lactose intolerance, facilitating easy digestion, providing appropriate temperature, ensuring availability, improving jaw and facial movements, protecting against food allergies, and lowering the risk of type 1 diabetes and heart disease [4,5]. Breastfeeding facilitates the mother's return to prepartum weight, increases uterine contractions to control bleeding, improves uterine retraction due to oxytocin release, reduces the risk of breast cancer, decreases the incidence of osteoporosis and unintended pregnancies, and inhibits the progression of uterine endometriosis [2,6,7]. Despite these recognized benefits and numerous public health interventions aimed at promoting breastfeeding, exclusive breastfeeding rates remain low. According to UNICEF, the global average exclusive breastfeeding rate for infants under six months is 41% [8]. Many women initiate exclusive breastfeeding at birth; however, this rate declines as the child grows older. A study in Spain reported exclusive breastfeeding rates of

25.4% at six months and only 7.7% at two years [9]. The exclusive breastfeeding rate in Japan was reported to be 21%, while in Canada it was 68.7%; however, studies conducted in Iran indicate that this rate varies from 23% to 47% [10]. Despite effective efforts to promote breastfeeding, the exclusive breastfeeding rate in Iran has been reported to be 56.8% at four months and 27.7% at six months at the national level. In urban areas, the rate of exclusive breastfeeding is 56% at four months and 27% at six months, while in rural areas, it is 58% at four months and 29% at six months, respectively [11]. The World Health Organization (WHO) recommends initiating breastfeeding within the first hour after birth, exclusive breastfeeding for six months, and continued breastfeeding until the child is two years old [9]. The World Breastfeeding Association has set a global target of 70% exclusive breastfeeding for six months by 2030 [12]. One of the strategies to achieve the WHO's goals in the field of breastfeeding is to focus on the factors affecting mothers' breastfeeding [6]. The mother's knowledge, supportive systems, social and economic status, and self-efficacy in breastfeeding affect the increase in breastfeeding [7,8]. A mother's confidence in her ability to breastfeed is referred to as breastfeeding self-efficacy, which is an important psychological factor affecting the duration of breastfeeding [9]. Self-efficacy, as one of the constructs of Bandura's social cognitive theory from 1977, includes an individual's belief and confidence in his or her ability to perform health behaviors, including successful exclusive breastfeeding [13]. Breastfeeding self-efficacy is influenced by four main factors: past breastfeeding experiences, vicarious experiences (watching other women breastfeed), verbal persuasion (e.g., encouragement from influential individuals such as spouses, friends, family, and lactation consultants), and emotional arousal (illness, fatigue, stress, and anxiety) [14]. Ballesta et al. conducted a cohort study on the relationship between prenatal factors and the duration of exclusive breastfeeding among 5,671 Spanish lactating women from 2013 to 2018. They found that maternal intention to breastfeed was associated with older maternal age, higher education, breastfeeding education, number of children, breastfeeding of previous children, and the mother's understanding and support from her husband regarding the duration of exclusive breastfeeding [15]. Breastfeeding self-efficacy is a potentially modifiable factor that can play a significant role in promoting exclusive breastfeeding [16]. In this context, physicians, nurses, midwives, and other healthcare workers need to identify mothers at risk of discontinuing exclusive breastfeeding. Given the importance of exclusive breastfeeding and the decline in exclusive breastfeeding rates in recent years, the present study examined and compared breastfeeding self-efficacy in women with exclusive and non-exclusive breastfeeding.

Methods

This descriptive comparative study was conducted to compare breastfeeding self-efficacy in mothers with exclusive and non-exclusive breastfeeding. The research took place at the Social Security Hospital in Zahedan. The study population consisted of all mothers who had given birth either vaginally or by cesarean section. Inclusion criteria included women who had given birth in the hospital within the past 24 hours to a healthy live child born at term, with no known abnormalities, an intention to breastfeed, no readmission of the mother or baby to the hospital, no history of infertility, and no history of any physical or mental illness, as well as no self-reported addiction to smoking, alcohol, or drugs. Mothers were selected using convenience sampling from April to June 2024. After obtaining the necessary permissions and providing an explanation of the study's objectives to the authorities, the researcher visited the postpartum and cesarean section wards of the hospital for sampling. Written informed consent was obtained from mothers who were willing to participate. They were informed that their decision not to participate in the study would not affect the treatment services provided. The sample size was estimated to be 228 individuals based on the study by Moafi et al. [11], considering a 95% confidence level, $d = 1$, and $S = 7.65$.

Data were collected using a demographic-midwifery questionnaire and the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF), which were completed by the mothers. For illiterate mothers, the researcher completed these forms. The demographic-midwifery questionnaire

included questions related to age, education, occupation, place of residence, family income level, and obstetric factors, including the number of pregnancies, number of children, type of delivery, time of first breastfeeding, number of breastfeeding per day, and decision-making regarding the type of breastfeeding for the newborn.

The BSES-SF, consisting of 13 items, is rated on a 5-point Likert scale ranging from always confident (score 5) to not at all confident (score 1). The total score for each item reflects the breastfeeding self-efficacy score, with minimum and maximum scores of 13 and 65, respectively. A higher score indicates a greater level of self-efficacy in breastfeeding [17]. According to the psychometric analysis of the Persian version of the BSES-SF by Araban et al., exploratory factor analysis demonstrated its appropriate construct validity, and its desirable reliability was confirmed by a Cronbach's alpha of 91% [18]. In this study, Cronbach's alpha was used to assess the internal reliability of the scale, which was found to be 92.7%. The Kolmogorov-Smirnov test was employed to check the normality of the data, and since the data did not follow a normal distribution, non-parametric tests were utilized. Data analysis was conducted using SPSS 22 software, employing descriptive statistics (mean and standard deviation, frequency distribution tables, and percentages) and inferential statistics, including chi-square and Mann-Whitney U tests. A significance level of less than 0.05 was considered.

Results

In the present study, a total of 250 questionnaires were completed. Fifteen cases were excluded for not meeting the inclusion criteria, and seven incomplete questionnaires were discarded, resulting in the information from 228 participants being reviewed.

The mean (SD) age of the women was 28.14 (6.7) years. The majority of subjects had a high school diploma or less (80.26%), were housewives (92.54%), lived in the city (78.50%), and had a middle to high-income level (67.10%). Most participants experienced a vaginal delivery (63.59%). Additionally, 82.9% of mothers reported exclusive breastfeeding, while 17.1% reported non-exclusive breastfeeding during their stay in the postpartum ward. Both groups were similar and homogeneous in terms of personal characteristics, and there was no statistically significant difference ($p>0.05$). Demographic characteristics are presented in Table 1.

Table 1: Comparison of demographic characteristics of women between the two groups practicing exclusive and non-exclusive breastfeeding (N=228)

Variable		Exclusive breastfeeding n (%)	Non-exclusive breastfeeding n (%)	Chi-square test result
Mother's education	Elementary	23 (12.2%)	6 (15.4%)	p=0.524
	Guidance school	86 (45.5%)	13 (33.3%)	
	Diploma	45 (23.8%)	10 (25.6%)	
	Bachelor's degree and above	35 (18.5%)	10 (25.6%)	
Mother's occupation	Housewife	176 (93.1%)	35 (89.7%)	p=0.465
	Employed	13 (6.9%)	4 (10.3%)	
Family income	Weak	60 (31.7%)	15 (38.5%)	p=0.603
	Moderate to high	129 (68.3%)	24 (61.5%)	
Place of residence	Urban	147 (77.8%)	32 (82.1%)	p=0.554
	Rural	42 (22.2%)	7 (17.9%)	

The mean (SD) breastfeeding self-efficacy score was higher in women with exclusive breastfeeding than in women with non-exclusive breastfeeding [49.11 [11] vs 36.9 (11.7)]. The results of the Mann-Whitney U test indicated a significant difference in breastfeeding self-efficacy between the two groups ($p < 0.001$).

The results of the Chi-square test revealed a significant difference between the two groups in obstetric factors, including type of delivery ($p=0.034$), infant gender ($p<0.001$), and the number of breastfeedings per day ($p=0.036$). Exclusive breastfeeding showed no significant relationship with the number of pregnancies

(p=0.790), number of children (p=0.713), skin-to-skin contact (p= 0.378), duration of skin-to-skin contact (p=0.212), time of first breastfeeding (p=0.235), and previous breastfeeding experience (p=0.728). Table 2 compares midwifery characteristics between the two groups of exclusive and non-exclusive breastfeeding.

Table 2: Comparison of obstetric characteristics between the two groups practicing exclusive and non-exclusive breastfeeding (N=228)

Variable		Exclusive breastfeeding n (%)	Non-exclusive breastfeeding n (%)	Chi-square test result
Type of delivery	Vaginal	126 (66.7%)	19 (48.7%)	p=0.034*
	Cesarean section	63 (33.3%)	20 (51.3%)	
Infant's gender	Female	102 (54%)	20 (51.3%)	p<0.001*
	Male	87 (46%)	19 (48.7%)	
Number of pregnancies	1-3	127 (67.2%)	24 (61.5%)	p=0.790
	≥4	62 (32.8%)	15 (38.5%)	
Number of children	1-3	143 (75.7%)	28 (71.8%)	p=0.612
	≥4	46 (24.3%)	11 (28.2%)	
Skin-to-skin contact	Yes	148 (78.3%)	28 (71.8%)	p=0.378
	No	41 (21.7%)	11 (28.2%)	
Length of skin-to-skin contact	No skin-to-skin contact	41 (21.7%)	11 (28.2%)	p=0.212
	Half an hour	95 (50.3%)	23 (59%)	
	An hour or more	53 (28.1%)	5 (12.8%)	
Time of first breastfeeding	Immediately after birth	75 (39.7%)	12 (30.8%)	p=0.235
	An hour later	82 (43.4%)	16 (41%)	
	Two hours later and more	32 (16.9%)	11 (28.2%)	
Number of breastfeeding per day	6-7	31 (16.4%)	12 (30.8%)	p=0.037*
	≥8	158 (83.6%)	27 (69.2%)	
Previous breastfeeding experience	Yes	96 (50.8%)	21 (53.8%)	p=0.728
	No	93 (49.2%)	18 (46.2%)	

Discussion

The present study aimed to compare breastfeeding self-efficacy between women practicing exclusive and non-exclusive breastfeeding who were hospitalized in the postpartum ward of Zahedan Social Security Hospital in 1403. The results indicated that mothers who exclusively breastfed their infants during hospitalization had higher self-efficacy scores. Rafizadeh et al. identified breastfeeding self-efficacy as one of the factors influencing exclusive breastfeeding [19]. Studies conducted by Taheri and Bakuei in Babol [20], Khorshidi et al. in Kashan [21], and Pourshaban in Rasht [22] reported a significant relationship between breastfeeding self-efficacy and exclusive breastfeeding. Conversely, Gonzalez in the Philippines found no significant relationship between exclusive breastfeeding and breastfeeding self-efficacy scores, which contradicts the findings of the present study [23]. In the aforementioned study, mothers' breastfeeding self-efficacy was assessed 2 to 6 weeks after delivery, which may have influenced the results.

In the present study, no significant relationship was found between exclusive breastfeeding and demographic variables, which is consistent with the findings of the study by Moafi et al. in Qazvin [11]. In contrast, a study by Mir Ahmadizadeh et al. in Fars reported a significant relationship between exclusive breastfeeding, place of residence, and mother's occupation [24]. A review study by Baba Ahmadi et al. indicated a significant relationship between exclusive breastfeeding, education level, and mother's occupation, which does not align with our study's findings [25]. Most mothers in the present study were housewives and had low levels of education. The lack of sufficient data to examine occupation and education may explain the discrepancy in results. Additionally, Ballesta-Castañiguz et al. in Spain found that maternal age and previous breastfeeding experience influenced a mother's willingness to breastfeed, which contradicts our

results [15]. The difference in sample size could be one reason for this variation.
In the present study, there was a significant difference between the two groups with exclusive and non-exclusive breastfeeding regarding type of delivery, infant gender, and the number of breastfeedings per day. Baba Ahmadi and Mir Ahmadizadeh reported a significant relationship between type of delivery and exclusive breastfeeding, which is consistent with the findings of the present study [24,25]. In contrast, the study by Pirzadeh and Naqdi in Yazd found no significant relationship between exclusive breastfeeding and type of delivery, which contradicts our results [26]. The reasons for the differences in results, as well as the limitations of the present study, include the lack of assessment of breastfeeding continuation and the restriction of the research setting to a single hospital. Therefore, considering the influence of culture and traditions on breastfeeding self-efficacy, it is suggested that sampling be conducted from diverse research settings, such as teaching hospitals, private hospitals, or maternity facilities in various areas of the city.

Conclusion

This study compared breastfeeding self-efficacy between mothers practicing exclusive and non-exclusive breastfeeding. The two groups of mothers demonstrated significant differences in terms of breastfeeding self-efficacy, type of delivery, infant gender, and the number of breastfeedings per day. Given the vital role of breastfeeding self-efficacy in promoting exclusive breastfeeding, health policymakers should develop the necessary strategies to enhance breastfeeding self-efficacy.

Ethical Consideration

The present article is derived from a research project that was reviewed and approved by the Ethics Committee of Islamic Azad University (IR.IAU.ZAH.REC.1403.031). Before data collection, the research objectives were explained to the participants, and informed consent was obtained. They were assured that their information would remain confidential and that they could withdraw from the study at any time

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Conflict of interest

the author declared no conflict of interest.

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Authors' contributions

All stages of the project, from idea to report, were carried out by the author herself.

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