Journal of Preventive and Population Health
https://jpphealth.com/

ORIGINAL ARTICLE

Effect of attendance at a hospital-based breastfeeding clinic on exclusive breastfeeding rates at 6 weeks postpartum

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ABSTRACT

Background: Breastfeeding is important for both the baby and the mothers as it enhances the health of both. Exclusive breastfeeding is recommended till 6 months of age, but there is a decline in breastfeeding rates globally, including in Saudi Arabia. Breastfeeding clinics are clinics that offer quality care to mothers with breastfeeding difficulties. However, little is known about its impact on the rates of exclusive breastfeeding.

Aim: To evaluate the effect of attending the hospital's breastfeeding clinic on exclusive breastfeeding rates at 3 weeks postpartum.

Methods: This was a retrospective observational cohort study that was conducted at the Postpartum wards and Breastfeeding Clinic of Care Medical Malaz. The study was conducted on mothers and categorized them into two groups: the first involved those who attended the breastfeeding clinic, and the other group included controls who did not attend the clinic. Data were collected retrospectively from medical records, breastfeeding clinic logs, and structured telephone interviews conducted at 3 weeks postpartum.

Results: A total of 100 mothers were included and equally categorized into two groups. There were significant differences between mothers in both groups, which included a significantly higher rate of exclusive breastfeeding at 3 weeks and a higher satisfaction score compared to those who did not attend the clinic ($p < 0.001$). In addition, breastfeeding was considerably varied regarding skin-to-skin contact ($p < 0.001$), breastfeeding at the first hour following birth ($p = 0.04$), and satisfaction score ($p < 0.001$).

Conclusion: Women who attended the breastfeeding clinic reported greater rates of exclusive breastfeeding, which suggests a positive association between breastfeeding clinic attendance and improved exclusive breastfeeding rates.

Keywords: Breastfeeding clinic, impact, practice, breastfeeding postpartum.

Introduction

Breastfeeding has a potential role in enhancing the health of both the baby and mother [1]. The maternal milk provides all nutrients needed for the infant's neurological development and general growth [2]. Additionally, breast milk contains immunoglobulins that protect the infants while their immune system is still developing, which reduces the risk of illness later in life [2].

Breastfeeding should be initiated during the first hour following delivery; exclusive breastfeeding is recommended till 6 months and continued along with

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Received: 14 April 2026 | **Revised:** 15 May 2026|
Accepted: 16 May 2026

complementary food for 2 years based on the World Health Organization recommendation [3]. Exclusive breastfeeding provides greater benefits to the infants compared to regular breastfeeding [4]. Breastfeeding initiation at 2–23 hours following birth was found to be associated with a 33% elevation in risk of neonatal mortality [5].

However, the rate of breastfeeding has declined in different regions, including urban and rural regions [6]. In developing nations, less than 40% of infants under 6 months of age received exclusive breastfeeding [7]. In addition, in Saudi Arabia, it has been stated that the rates of exclusive breastfeeding in different regions in Saudi Arabia are still low [6]. The rates of exclusive breastfeeding in Saudi Arabia at 6 months of age ranged between 1.7% [8] and 37% [8].

This low rate of exclusive breastfeeding may be related to the knowledge regarding breastfeeding and other factors such as culture, education, and occupation [6,9]. A previous analysis revealed that the knowledge of Saudi women regarding breastfeeding benefits was good among 82.3%, but 43% were not aware of the recommendation pertinent to exclusive breastfeeding during the first 6 months [10]. Another Saudi study displayed that enhancing maternal knowledge may increase the initiation of breastfeeding, and offering prenatal counseling may help increase the rate of exclusive breastfeeding [4].

It was reported that not attending any training sessions is one of the factors contributing to the discontinuation of breastfeeding, which indicates the need for education and training of mothers to improve exclusive breastfeeding [6]. Therefore, the mothers need guidance and support to initiate breastfeeding within the first hour [11]. In Saudi Arabia, there are many achievements in breastfeeding promotion programs across the regions in the country; nonetheless, the practice of breastfeeding, assessed by several methodologies and using different definitions, suggests suboptimal practice [10].

Breastfeeding clinics are clinics that provide a comprehensive approach to breastfeeding challenges for the neonate and family. The objective of the breastfeeding clinic is to offer quality care to mothers with breastfeeding difficulties [12]. The few available studies on breastfeeding clinics indicated that the mothers were very satisfied with such clinics and believed that they may help them enhance breastfeeding duration, find solutions to their problems, and learn more about breastfeeding [13,14]. However, there is a lack of research studying and investigating the role of breastfeeding clinics on the rate of exclusive breastfeeding, and there has been no previous Saudi study conducted on this subject. Therefore, this study was established to evaluate the effect of attending the hospital's breastfeeding clinic on exclusive breastfeeding rates at 3 weeks postpartum.

Subjects and Methods

Design and subjects

This was a retrospective observational cohort study conducted at the Postpartum Wards and Breastfeeding Clinic of Care Medical Malaz between June 2025 and July 2025. The study included mothers who delivered at the study setting and intended to breastfeed. The inclusion criteria were mothers aged ≥18 years who delivered a live singleton infant at the study setting, intended to exclusively breastfeed, and were accessible for follow-up at 3 weeks postpartum. Mothers with serious maternal or neonatal illnesses preventing breastfeeding, those with incomplete or missing medical or follow-up records, and those who declined participation in the follow-up telephone interview were excluded from the study. Eligible participants were identified retrospectively through hospital records and breastfeeding clinic logs. Verbal consent was obtained from participants before conducting the follow-up telephone interview. Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Care Medical Hospitals before data collection.

Grouping and data collection

The study categorized the participants into two groups: the intervention group, which included those who attended the clinic, and the control group, which included those who did not attend the clinic.

Data collection was performed using medical record review, breastfeeding clinic attendance logs, and structured telephone interviews assessing breastfeeding practices and maternal satisfaction.

Statistical analysis

The data were processed using the Statistical Package for the Social Sciences software version 26. Qualitative data were represented as numbers and percentages, whereas quantitative data were represented as means and SDs. Correlations were established using the T-test or the Chi-square, based on the type of data. A p-value of <0.05 was deemed significant.

Ethical considerations

Ethical approval was obtained from the IRB of Care Medical Hospitals before study initiation. Verbal consent was obtained from participants before conducting follow-up telephone interviews. Participant confidentiality was maintained through anonymized, coded data collection and secure data storage.

Results

A total of 100 eligible mothers were included in the study and were categorized equally into two groups: the intervention and the controls. The two groups displayed no considerable variance regarding mode of delivery (p = 0.6) or the mean age (p = 0.4), Table 1.

The comparison between both groups regarding breastfeeding and other characteristics is revealed in

Table 1. *Age and admission data comparison between those who attend and those who do not attend the clinic.*

		Group				*p* value
		Who attends the clinic		Who do not attend		
		n	%	*n*	%	
MODE of Delivery	SVD	26	52.0%	19	38.0%	0.169
	LSCS	24	48.0%	29	58.0%	
	ASVD	0	0.0%	2	4.0%	
Admission from	in	50	100%	50	100%	-
Age	Mean ±SD	29.3 ± 5.4		30.1 ± 5.1		0.49
	Range	18-37		19-39		

Table 2. *Comparison between those who attend and those who do not attend the clinic.*

		Group				*p* value
		Who attends the clinic		Who do not attend		
		n	%	*n*	%	
Diagnosis	Normal baby	49	98.0%	45	90.0%	0.21
	Premature	1	2.0%	5	10.0%	
Skin-to-Skin contact is done immediately, within 60 minutes after birth	Yes	46	92.0%	12	24.0%	<0.001
	No	4	8.0%	38	76.0%	
Breastfeeding is done within the first hour after birth	Yes	44	88.0%	46	92.0%	0.51
	No	6	12.0%	4	8.0%	
Contraindicated for breastfeeding related to the baby (such as metabolic disorder) or the mother (HIV, TB, CANCER), please specify	Yes	0	0.0%	1	2.0%	>0.99
	No	50	100.0%	49	98.0%	
Baby transfer to	NICU	4	8.0%	6	12.0%	0.51
	NNU	46	92.0%	44	88.0%	
Type of baby feeding	Exclusive	43	86.0%	5	10.0%	<0.001
	Mixed	7	14.0%	45	90.0%	
No of clinic visits	Median	5		0		<0.001
	Range	3-7		0		

Table 2. There were no significant differences between both categories regarding the diagnosis of the neonates ($p = 0.2$), breastfeeding in the first 1 hour after birth ($p = 0.5$), contraindication for breastfeeding ($p < 0.9$), and transfer of the baby to Neonatal Intensive Care Unit (NICU) and Neonatal Unit (NNU) ($p = 0.5$). On the other hand, mothers who attended the clinic significantly tended to perform skin-to-skin contact within 60 minutes after birth ($p < 0.001$), and practice exclusive breastfeeding ($p < 0.001$).

The satisfaction of the mothers is revealed in Table 3. The mothers who attended the clinic significantly tended to practice exclusive breastfeeding ($p < 0.001$), and exclusive breastfeeding at 3 weeks ($p < 0.001$), and reported a higher median satisfaction score ($p < 0.001$).

The factors linked with exclusive breastfeeding were investigated (Table 4). It was found that exclusive breastfeeding at 3 weeks was linked with skin-to-skin contact ($p < 0.001$), practicing breastfeeding in the first hour after birth ($p = 0.04$), transferring the baby to NNU ($p = 0.006$), attending the clinic ($p < 0.001$), and having a higher satisfaction score ($p < 0.001$).

Discussion

Breastfeeding has a considerable role in enhancing the infant's health [1], by providing all needed nutrients

Table 3. *Satisfaction and exclusive breastfeeding between groups.*

Variables		Who attends the clinic		Who do not attend		*p* value
Type of baby feeding	Exclusive	43	86.0%	5	10.0%	<0.001
	Mixed	7	14.0%	45	90.0%	
Exclusive BF at 3 w	Yes	46	92.0%	5	10.0%	<0.001
	No	4	8.0%	45	90.0%	
Satisfaction score	Median (range)	5 (4-5)		4(3-5)		<0.001

Table 4. *Factors associated with exclusive breastfeeding among all study groups.*

Variables		Exclusive BF at 3 w				*p* value
		Yes		No		
		n	%	*n*	%	
Mode of delivery	SVD	26	57.8%	19	42.2%	0.47
	LSCS	24	45.3%	29	54.7%	
	ASVD	1	50.0%	1	50.0%	
Diagnosis	Normal	50	53.2%	44	46.8%	0.11
	Premature	1	16.7%	5	83.3%	
Skin-to-Skin contact is done immediately, within 60 minutes after birth	Yes	49	84.5%	9	15.5%	<0.001*
	No	2	4.8%	40	95.2%	
Breastfeeding is done within the first hour after birth	Yes	49	54.4%	41	45.6%	0.04*
	No	2	20.0%	8	80.0%	
Contraindicated for breastfeeding related to the baby	Yes	0	0.0%	1	100.0%	0.31
	No	51	51.5%	48	48.5%	
Baby transfer to	NICU	1	10.0%	9	90.0%	0.006*
	NNU	50	55.6%	40	44.4%	
Group	Who attends the clinic	46	92.0%	4	8.0%	<0.001*
	Who do not attend	5	10.0%	45	90.0%	
Age of mother	Mean ±SD	29.6 ± 5.4		29.8 ± 5.1		0.89
N of visits	Median (range)	5 (0-7)		0 (0-4)		<0.001
Satisfaction score	Median (range)	5 (3-5)		4 (3-5)		<0.001

significant *p* value.

and protection via the immunoglobulins present in breast milk [2]. Exclusive breastfeeding provides greater benefits to the infants compared to regular breastfeeding [4]. However, the rate of breastfeeding is low in different regions, including Saudi Arabia [6]. A breastfeeding clinic may help mothers enhance breastfeeding duration [13,14]. However, there is no previous Saudi study on this subject, and there is insufficient research on this topic. Therefore, this study was established to evaluate the effect of attending the hospital's breastfeeding clinic on exclusive breastfeeding rates at 3 weeks postpartum.

In a previous Saudi study that included 322 mothers, the practice rate of exclusive breastfeeding for the first 6 months was 28% [6]. This proportion reveals a low rate of exclusive breastfeeding. In our study, exclusive breastfeeding rates were substantially higher among mothers who attended the breastfeeding clinic (86%) compared with those who did not attend the clinic (10%).

One Saudi study stated that enhancing maternal knowledge and offering prenatal counseling may help increase the rate of exclusive breastfeeding [4]. This was noted in our study, where those who attended the clinic significantly tended to breastfeed their children

compared to those who did not, and this indicates that the clinic was useful in educating the mothers and improving their knowledge regarding breastfeeding, which encouraged them to practice breastfeeding.

Similar to our findings, a previous study conducted on only 86 women and surveyed them via telephone and semistructured interviews reported that women who attended the clinic had a greater probability of breastfeeding for at least 6 months, with an odds ratio (OR) of 4.34, compared to the other group. In addition, they had a greater probability of being satisfied with their breastfeeding experience (OR 4.17) [12]. In addition, we found that the satisfaction of those who attended the clinic was considerably higher. However, we did not assess the OR of breastfeeding based on attendance at the clinic.

Previous studies reported satisfaction of mothers regarding breastfeeding clinics and the mothers believed that such clinics may help them find solutions to their problems, enhance breastfeeding duration, and educate them more about breastfeeding [13,14]. An earlier study investigating the satisfaction of breastfeeding clinic users revealed that the users were very satisfied with various aspects of the clinic, with overall satisfaction with the clinic experience [15].

Similarly, we found a greater satisfaction score for those who attended the clinic. Additionally, this satisfaction was found to be considerably linked with exclusive breastfeeding. Therefore, a breastfeeding clinic could improve breastfeeding through improving the knowledge of mothers, counseling them, and encouraging them to practice breastfeeding, which led to increasing their satisfaction, which in turn helped in increasing the practice of breastfeeding.

Besides the role of breastfeeding clinics in improving the rates of breastfeeding, there were other factors improved by the attendance of breastfeeding in this study. We found that those who attended the breastfeeding clinic tended to practice skin-to-skin contact immediately after birth; this practice of skin-to-skin contact was also associated with a higher rate of exclusive breastfeeding.

There are factors affecting initiation and continuation of breastfeeding that vary from country to country; the factors affecting continuation of breastfeeding may include mothers planning for breastfeeding, attendance of training sessions, and providing formula milk to infants in the hospital [6]. A previous Saudi study revealed that antenatal breastfeeding intention was a significant determinant for exclusive breastfeeding with an OR of 7.31 [6]. This enhances our findings and indicates the importance of early breastfeeding support and counseling.

In addition, we found that breastfeeding in the first hour following delivery, transferring the baby to NNU, not NICU, and a greater number of visits to the clinic were considerably associated with exclusive breastfeeding. On the other hand, admission to NICU was linked with no exclusive breastfeeding. Similarly, a previous Egyptian study conducted on 200 mothers discovered that a greater proportion of infants who were admitted to the NICU were linked with delayed breastfeeding initiation. On the other hand, receiving prenatal advice and hospital staff assistance were linked with timely breastfeeding initiation [16].

It was reported that exclusive breastfeeding and initiation of breastfeeding are affected by several factors, including mode of delivery [17,18]. However, the mode of delivery in this study had no relation to the provision of exclusive breastfeeding, which highlights variations in factors affecting exclusive breastfeeding across countries and studies.

Conclusion

Attendance at the breastfeeding clinic was associated with higher rates of exclusive breastfeeding at 3 weeks postpartum. Additionally, attendance at such clinics was associated with favorable breastfeeding-related factors that in turn improved breastfeeding, such as improving skin-to-skin contact and satisfaction, which improved exclusive breastfeeding.

Limitations

This study has several limitations. First, the relatively small sample size may limit the generalizability of the findings. Second, the retrospective study design may have limited control over the completeness and accuracy of recorded data obtained from medical records and follow-up documentation. In addition, reliance on telephone interviews for follow-up breastfeeding status and maternal satisfaction may introduce recall bias. Despite these limitations, the study provides valuable local evidence regarding the potential role of hospital-based breastfeeding clinics in supporting exclusive breastfeeding during the early postpartum period.

Strengths

One of the main strengths of this study is that it is among the few studies conducted in Saudi Arabia evaluating the association between attendance at a hospital-based breastfeeding clinic and exclusive breastfeeding during the early postpartum period. In addition, the study utilized multiple data sources, including medical records, breastfeeding clinic logs, and follow-up telephone interviews, which enhanced the completeness of data collection. The study also addressed an important clinical and public health issue related to breastfeeding support and maternal satisfaction.

Recommendations

Further multicenter studies with larger sample sizes and longer follow-up periods are recommended to better

evaluate the long-term effect of breastfeeding clinic attendance on exclusive breastfeeding outcomes. Future prospective studies may also help establish causal relationships and assess additional factors influencing breastfeeding continuation. Expanding breastfeeding support services and strengthening early postpartum counseling programs may contribute to improving exclusive breastfeeding rates and maternal satisfaction.

List of Abbreviations

NICU Neonatal Intensive Care Unit
NNU Neonatal Unit

Conflicts of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

No funding.

Consent for publication

Ethical approval

The study was approved from Care IRB committee on 28/5/2026.

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