ORIGINAL ARTICLE

Improving Early Initiation and Exclusive Breastfeeding through Maternal Counselling and Healthcare Worker Training at Alkhidmat Raazi Hospital, Rawalpindi

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ABSTRACT

Objective: To evaluate the impact of enhanced healthcare provider counseling and practical demonstrations of correct breastfeeding techniques on improving exclusive breastfeeding practices.

Study Design: Prospective follow-up study.

Place and Duration: This study was conducted at Alkhidmat-Raazi Hospital, Rawalpindi, Pakistan, from 17th September 2022 to 7th April 2023.

Materials and Methods: A total of 309 mothers were enrolled in the study based on specific inclusion and exclusion criteria. A structured counseling intervention was implemented for postnatal care, incorporating bedside guidance during hospital stays and follow-up sessions conducted monthly over six months. Breastfeeding compliance was assessed through in-person and telephonic interviews documented in standardized data sheets. Data were analyzed using SPSS version 24. Descriptive statistics summarized the demographic characteristics and breastfeeding practices of participants. Chi-square tests were applied for categorical variables to assess the impact of the intervention. A p value ≤ 0.05 was considered statistically significant.

Results: The response rate for follow-up visits was 76%. Early breastfeeding initiation (within one hour of birth) was observed in 52.8% of mothers, and exclusive breastfeeding at six months increased to 65.4%.

Conclusion: Systematic postnatal counseling and hands-on guidance significantly improved breastfeeding practices. Continued support over six months facilitated better adherence to the exclusive breastfeeding code, emphasizing the importance of healthcare provider engagement in promoting optimal breastfeeding practices.

Key Words: *Breastfeeding, Early Initiation, Exclusive Breastfeeding, Health Promotion*

Introduction

Breastfeeding is widely recognized as an optimal nutritional strategy for infants, conferring substantial health benefits to newborns and mothers across socioeconomic backgrounds.[1,2] Recent research highlights breastfeeding's role in reducing the risk of infections such as diarrhea, pneumonia, and meningitis, as well as lowering the long-term risk of chronic conditions like obesity and diabetes.[3-9] Furthermore, breastfeeding is associated with improved cognitive outcomes, as measured by higher intelligence quotients.[10] Globally, it is estimated that increasing breastfeeding to universal levels could prevent approximately 823,000 deaths among children under five each year.[10]

For mothers, breastfeeding also provides significant health benefits, including a reduced risk of breast and ovarian cancers, type 2 diabetes, and cardiovascular diseases.[10,11] These advantages underscore breastfeeding as a modifiable health behavior with powerful impacts on public health, prompting the World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) to recommend that all newborns initiate breastfeeding within the first hour of life and remain exclusively breastfed for the first six months. Complementary feeding should begin at six months, with continued breastfeeding encouraged for up to two years or beyond.

Achieving these breastfeeding goals is also pivotal to several sustainable development goals (SDGs), particularly those aimed at reducing child mortality, improving maternal health, and supporting cognitive development.[11-13] In response to these goals, the World Bank's investment framework for nutrition

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Received: November 5, 2024 ; Revised: December 23, 2024
Accepted: December 24, 2024
https://doi.org/10.57234/jiimc.december24.2320

promotes policies and programs to optimize breastfeeding practices as part of an integrated approach to maternal and child health, particularly in low- and middle-income countries (LMICs).[14] Nevertheless, despite strong evidence and advocacy from international and national organizations, breastfeeding rates remain suboptimal globally and have even shown signs of decline, with LMICs facing additional challenges due to societal, cultural, and structural barriers.

In Pakistan, recent surveys report that exclusive breastfeeding rates remain below global targets, with early initiation practices often hampered by limited resources and counseling opportunities. Given the potential for health counseling to enhance compliance with breastfeeding recommendations, there is a clear need to test practical, locally adapted strategies to empower mothers to overcome barriers to optimal breastfeeding.[22]

The aim of this study was to evaluate the impact of enhanced healthcare provider (HCPs) counseling by empowering them through targeted training after sustained exclusive breastfeeding for six months. Furthermore, we aimed to determine if the practical demonstrations of correct breastfeeding techniques could improve exclusive breastfeeding practices by early initiation of breastfeeding.

Materials and Methods

This was a prospective follow-up study conducted at Alkhidmat Raazi Hospital, Rawalpindi, from 17th September 2022 to 7th April 2023. Ethical approval for the study was granted by the Ethical Review Committee (ERC) under approval number A-01-22, and written informed consent was obtained from all participants.

The sample size was calculated using a 95% confidence interval and a 5% margin of error, resulting in a total of 309 mothers. A purposive sampling technique was used. Lactating mothers who provided consent to participate for six months were included, while those with newborns requiring neonatal intensive care unit admission, congenital anomalies, or health issues affecting breastfeeding were excluded.

Data were collected by trained medical officers using a self-designed standardized form that documented participants' demographic details, obstetric history, mode of delivery, and breastfeeding practices. During hospital stays, mothers received structured postnatal counseling sessions, including bedside guidance on correct latching and positioning techniques. Follow-up assessments were conducted over six months through in-person visits and telephonic interviews. If a participant missed a scheduled visit, she was contacted within 24 hours to assess breastfeeding practices and address any concerns. All data was anonymized, and confidentiality was strictly maintained.

The intervention included targeted training for obstetric and newborn care staff, following the WHO Baby-Friendly Hospital Initiative (BFHI). Healthcare providers, including obstetricians, pediatricians, nurses, and midwives, were trained on the "Ten Steps to Successful Breastfeeding" and the benefits of breastfeeding. Educational flyers in Urdu highlighting breastfeeding advantages, common myths, and dietary guidance were distributed to mothers and their families. Additionally, the hospital implemented policies discouraging formula milk use and communicated effectively to staff.

Data analysis was conducted using SPSS version 24. Descriptive statistics, including means, standard deviations, and percentages, summarized participant demographics and breastfeeding practices. Chi-square tests were applied to compare categorical variables, and exact p values along with 95% confidence intervals were reported for all statistical tests. A p value ≤ 0.05 was considered statistically significant. Results were presented in tables to highlight participant demographics, intervention impact, and breastfeeding outcomes.

Results

A total of 309 mothers participated in the study, with a mean age of 27.6 years (SD ± 4.9). Most participants (69.3%, 214/309) were between 21 and 30 years of age. The majority (70.6%, 218/309) were multigravida (MG), while 29.4% (91/309) were primigravida (PG). The mean gestational age at delivery was 37.7 weeks (SD ± 1.4), and the mean newborn birth weight was 2.9 kg (SD ± 0.4). Regarding mode of delivery, cesarean sections accounted for 74.4% (230/309) of births, while spontaneous vaginal deliveries (SVD) accounted for 25.6% (79/309). The male-to-female newborn ratio was approximately 1:1. (Table I)

At six months, exclusive breastfeeding was practiced

https://doi.org/10.57234/jiimc.december24.2320

by 65.4% (155/237) of responders. Partial breastfeeding was reported by 18.8% (43/237), while 16.4% (39/237) had ceased breastfeeding altogether. (Table II) Among mothers who initiated breastfeeding within the first hour of delivery, exclusive breastfeeding rates at six months were slightly higher (82/162, 50.6%) than those who did not initiate breastfeeding early (72/141, 49.1%). However, the difference was not statistically significant (p=0.77).

There was no statistically significant difference in exclusive breastfeeding rates at six months based on the mode of delivery. Mothers delivering via cesarean section had an exclusive breastfeeding rate of 49.1% compared to 50.6% for those delivering vaginally (p = 0.68). (Table III) Similarly, exclusive breastfeeding rates did not differ significantly between MG (67.5%, 110/218) and PG mothers (63.5%, 47/91; p=0.53). (Table IV) Baseline characteristics of the study population by gravida status are presented in Table V.

Table I: Demographics of Study Participants

Parameter	n (%)
Maternal Age Category (yrs.)	
<20	18 (5.8%)
21–30	214 (69.3%)
31–40	74 (23.9%)
>40	3 (1%)
Gravidity	
Primigravida	91 (29.4%)
Multigravida	218 (70.6%)
Gestational Age (weeks)	
33 to <35	17 (5.5%)
35–40	288 (93.2%)
>40	4 (1.3%)
Mode of Delivery	
SVD	79 (25.6%)
C-section	230 (74.4%)
Sex of Newborn	
Male	158 (51.1%)
Female	151 (48.9%)
Weight of Newborn (kg)	2.92 ± 0.4
Residence	
Rawalpindi/Islamabad	287 (92.9%)
Others	22 (7.1%)

Table II: Breastfeeding Practices at Six Months

Category		
Responders (n=237)	Exclusive Breastfeeding	155 (65.4%)
	Partial Breastfeeding	43 (18.8%)
	Not Breastfeeding	39 (16.4%)
Non-Responders (n=72)		

Table III: Breastfeeding Practices by Mode of Delivery at Six Months

Mode of Delivery	Exclusive Breastfeeding	Percentage (%)	p-value
Cesarean Section	113	49.1	0.68
Vaginal Delivery (SVD)	42	50.6	

Table IV: Breastfeeding Practices by Gravida Status at Six Months

Breastfeeding Practices	Multigravida (MG) (n=218)	Primigravida (PG) (n=91)	p-value
Exclusive Breastfeeding	110 (67.5%)	47 (63.5%)	0.53
Partial Breastfeeding	42 (25.8%)	21 (28.4%)	
Not Breastfeeding	11 (6.8%)	5 (7.0%)	

Table V: Baseline Characteristics by Gravida Status

Characteristic	Multigravida (MG)	Primigravida (PG)
Mean Age (in years)	29	25
Mode of Delivery		
Cesarean Section	168	62
SVD	50	29
Newborn Gender		
Female	105	46
Male	113	45
Newborn Birth Weight (kg)	3.0	2.8
Time to First Feed		
<1 hour	113	50
>1 hour	105	41
Gestational Age (weeks)	37.48	38.16

Trends in breastfeeding adherence varied over the study period. High adherence was noted in the early months, with a decline mid-study before recovering slightly toward the end. Exclusive breastfeeding followed a similar trend, with fluctuations reflecting response rates across follow-up visits.

The intervention effectively improved exclusive breastfeeding practices, with a cumulative adherence rate of 65.4% in six months. However, continuous support throughout the postnatal period was essential for sustaining these practices.

Discussion

This study demonstrated the effectiveness of structured healthcare worker training and postnatal counseling in promoting early initiation and

exclusive breastfeeding practices. At six months, 65.4% of mothers adhered to exclusive breastfeeding, surpassing the WHO target of 50% and showing significant improvement compared to the national average of 46%. The high adherence rate highlights the impact of targeted interventions in addressing barriers to optimal breastfeeding practices.

Early initiation of breastfeeding within the first hour was observed in 52.7% of participants, a rate comparable to Ethiopia (52%) and Tanzania (49%) and slightly higher than Pakistan's national average (46%) and Saudi Arabia (43.6%). This result reflected the success of the intervention in improving early breastfeeding practices. Similar studies have identified healthcare worker support as a critical factor in overcoming cultural and logistical barriers to early initiation.[15-21]

The exclusive breastfeeding rate of 65.4% at six months is one of the highest reported in recent studies. It exceeds the UNICEF-reported rates for South Asia (40%) and the global average (40%). The adherence to exclusive breastfeeding can be attributed to the sustained counseling efforts and postnatal support provided throughout the study.[22,23]

Our study found no significant difference in exclusive breastfeeding rates between mothers delivering via cesarean section (49.1%) and vaginal delivery (50.6%; p=0.68). This parity could be attributed to the focused breastfeeding support provided to all participants, irrespective of their mode of delivery. These findings underscore the importance of systematic interventions in mitigating the challenges associated with cesarean births.

Conclusion

This study demonstrates that structured and sustained healthcare worker interventions, from maternity wards to postnatal visits, significantly improve exclusive breastfeeding practices during the first six months. The findings emphasize the critical role of targeted counseling and hands-on support in overcoming barriers to breastfeeding and achieving optimal adherence to WHO's early initiation and exclusive breastfeeding guidelines.

Limitations of the Study

The study's prospective follow-up design without randomization limits causal inferences. The shift from in-person to telephonic follow-ups may have affected data consistency. Additionally, the focus on a single geographical area restricts the generalizability of findings. Future studies with randomized designs, extended follow-ups, and broader population coverage are recommended to better understand factors influencing exclusive breastfeeding.

Acknowledgment

We extend our gratitude to the administration and healthcare staff of Alkhidmat Raazi Hospital, Rawalpindi, for their unwavering support in conducting this study. We also acknowledge the mothers who participated, providing valuable insights into breastfeeding practices.

Disclaimer

The views expressed in this study are solely those of the authors and do not necessarily represent the official policies or positions of Alkhidmat Raazi Hospital or any affiliated organization.

Conflict of Interest

The authors declare no conflict of interest regarding this study.

Funding Disclosure:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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CONFLICT OF INTEREST

Authors declared no conflicts of Interest.

GRANT SUPPORT AND FINANCIAL DISCLOSURE

Authors have declared no specific grant for this research from any funding agency in public, commercial or nonprofit sector.

DATA SHARING STATMENT

The data that support the findings of this study are available from the corresponding author upon request.