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Frequency of primiparous mother initiated breastfeeding earlier after birth and factors associated with it in Sindh, Pakistan: a secondary analysis

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ABSTRACT

Background: Initiation of breastfeeding within one hour after delivery plays a vital role in a newborns life by not only increasing their survival rate but also reducing many life-threatening diseases in the newborn. The aim of the study was to determine frequency of early initiation of breastfeeding among primiparous mothers in a rural district of Thatta, Pakistan.

Methods: This study was conducted using survey data extracted from a cross-sectional study conducted in 2019 on prevalence of exclusive breastfeeding and factors associated with it among women in Thatta. The outcome was early initiation of breastfeeding. To determine factors associated with it, multi variable logistic regression was carried out.

Results: The study showed that 30.3% of primiparous mothers in Thatta initiated breastfeeding within one hour of birth and knowledge of mothers (OR=9.76, 95% CI: 1.99-17.59), place of birth (OR=3.51, 95% CI: 1.32-9.31) and support of health care professional at health facility (OR=2.93, 95% CI: 1.09-7.86) are the factors significantly associated with early initiation of breastfeeding among primiparous mothers.

Conclusions: In order to enhance the early initiation of breastfeeding, it is important for health care professionals to emphasize on the effect of pre-lacteal feeding during and support breastfeeding immediately after delivery, especially among women who had given birth for the first time.

Keywords: Breastfeeding, Primiparous, Early initiation, Factors

INTRODUCTION

Breast milk is more than just food for babies. Breast milk has widespread benefits for both the mother and the baby. From the development of a healthy brain in babies and protecting them from infectious diseases, boosting their immune system, lowering the risk of acquired and autoimmune diseases to protecting mothers against ovarian

and breast cancers, breast milk has multiple advantages.² It has been reported that when the mother holds their babies' skin-to-skin immediately after their birth, this act provides warmth to the baby, regulating their heartbeat, respiratory, oxygen saturation rate. Hence, infants should be breastfed within one hour of their birth, breastfed exclusively for six months, and continue to be breastfed for up to 2 years.³ Globally, less than half of newborns are breastfed soon

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after their delivery. Out of the 140 million live births in 2015, only 45% of newborns were put to the breast within one-hour of life, while 7 million newborns had to wait to be breastfed.⁴ In 2018, the prevalence of exclusive breastfeeding had improved to only 7 percent from 35% to 42%; while this progress is good, there is a need to boost the prevalence of exclusive breastfeeding worldwide.⁵ In Pakistan, the number of newborns benefiting from breastfeeding is increasing, with every one out of two children being sufficiently breastfed.⁶ The number of newborns who breastfeed within one hour after delivery increased from 40% to 45.8% in 2018. The WHO and UNICEF also laid down the 2018 global breastfeeding scorecard, showing the progression of breastfeeding programs and encouraging countries to increase the ratio of breastfeeding within an hour of childbirth.⁷

Initiation of breastfeeding within one hour after delivery plays a vital role in a newborns life by not only increasing their survival rate but also reducing many life-threatening diseases in the newborn.8 According to a global UNICEF report, infants who do not receive breast milk before six months were 2.8 times more likely to die than the ones who were breastfeed solely due to their weak immune system.⁹ The first breast milk is known as 'colostrum' and it is a sticky yellow discharge that is produced by the mother's breast soon after she gives birth. It contains specific antibodies, which protect newborns from various infectious diseases like sepsis, pneumonia, and diarrhea that can lead to death of newborns. Increasing the prevalence of breastfeeding within one hour of birth is one of the essential steps towards achieving the sustainable development goal of reducing mortality rate in infants.¹⁰

It has been observed that mothers of two or more children are more likely to initiate early breastfeeding when compared to primiparous mothers. Mothers with prior knowledge and experience of breastfeeding are more likely to incorporate what they know into current practice, which is why women who have had two or more children relay on their previous breastfeeding experience. Primi mothers lack this advantage and are thus less likely to have knowledge about breastfeeding they can implement. Close bonding with the mother after birth is also an influencing factor of early breastfeeding.

Delivery complications can cause separation of mother and baby leading to delayed initiation of breastfeeding, unfortunately, pregnancy complications are more likely to occur in first pregnancies leading to delayed initiation of breastfeeding in primiparous mothers. ¹² Experience of motherhood is not the sole factor influencing the early initiation of breastfeeding. Breastfeeding practices vary across countries and cultures, even within the same culture it is normal to observe differences based on the economic standing of families. Those with limited access to healthcare services attach less value to breastfeeding as compared to mothers who have been counselled by medical professionals about the importance of early initiation of breastfeeding. ¹³ In order to improve

prevalence of early breastfeeding among primiparous mothers, it is vital to first understand the hesitance towards it. Understanding these circumstances will help in the creation of effective and targeted interventions.

The aim of the study was to determine frequency of early initiation of breastfeeding among primiparous mothers in a rural district of Thatta, Pakistan. The researchers also wanted to determine if certain factors like demographics, utilization of health and reproductive services, and breastfeeding patters influence early initiation of breastfeeding.

METHODS

Study setting

This study was conducted using survey data extracted from a cross-sectional study conducted in 2019 on prevalence of exclusive breastfeeding and factors associated with it among women in Thatta. This survey collected information about various aspects of maternal demographics and reproductive details including exclusive breastfeeding, infant's age at introduction of complementary food, the food category, the intent of starting a meal, and other related information.

A prospective population-based study was implemented in Thatta under the Maternal and Neonatal Health Registry (MNHR). It was aimed at low and middle-income countries (LMICs) under the 'Global Network for Women and Children Health Research, USA' to assess outcomes associated with pregnancy. The urban and rural areas of these two sub-districts were distributed into eight clusters, the study was conducted in all eight clusters. Mothers with children aged between 6 to 11 months, who were registered in the MNH Registry, were included in this study through a systematic sampling technique. A total of 405 mothers were interviewed in this survey. For the purpose of this current study and its data analysis, the only data used was of 99 primiparous mothers.

Study outcome

The study outcome was defined as early breastfeeding initiation status. It was a binary variable, indicating '0' if the mother did not initiate breastfeeding within an hour of delivery and '1' if the mother started breastfeeding her child within an hour of the birth. Determinants associated with the study outcomes were obtained from the data.

Independent variables

Covariates studied in the analysis were parental educational status, maternal age, family monthly earning, maternal occupation, baby's gestational age, baby's gender, birthplace, residential area, presence of a professional birth attendant, delivery approach, health care professional support, and maternal knowledge about breastfeeding.

Maternal knowledge was assessed using a seven-item questionnaire. A point was allocated in case of a correct answer, which was calculated towards the final score. Mothers scoring 70% or greater were categorized as having adequate knowledge, while mothers with a score below 70% were considered to have inadequate knowledge.¹⁴

Data analysis

All analysis was carried out using Stata software version 16.0. Frequencies were stated for breastfeeding initiation within an hour of delivery in Thatta, Sindh. Demographic details were presented in frequencies with percentages. Variables were regressed with the main outcome that is early breastfeeding initiation status using univariate chi square test of independence and multi variable logistic regression to compute Odds ratio and their 95% confidence interval to determine factors associated with early breastfeeding initiation among primiparous mothers. For univariate and multivariable analysis, a cut-off of P value was kept at 0.25 and 0.05 respectively.

RESULTS

The average age of participants was 23.43±3.46. Sixty-six percent (66%) of participants were illiterate while thirty-three percent (33%) of the females were literate. 26.3% of mothers were employed. Most of the infants were male (51.5%) and most infants delivered in the health care facilities under the supervision of a doctor (47%). Out of 99 primiparous mothers, only 30.3% of females gave breastfeed to their infants within one hour of birth while 69.7% of females-initiated breastfeeding after one hour.

Knowledge of primiparous mothers related to breastfeeding

Table 2 shows the questions that were used to assess the knowledge of mothers related to breastfeeding. More than

half of mothers (51.5%) had adequate knowledge about breastfeeding.

Factors associated with early initiation of breastfeeding among primiparous women

To determine the factors associated with early initiation of breastfeeding among primiparous women, a multivariable logistic regression was used. Before running multivariable logistic regression, univariate analysis was done using Chi square test of independence. Factors that were significant in univariate analysis included knowledge of mothers related to breastfeeding, gestational age of baby, place of birth, mode of delivery and support of health care professional after birth as shown in Table 3. All variables significant in univariate analysis were used to form a final model for multivariable analysis.

Table 4 shows the variables that were significantly associated with early initiation of breastfeeding among primiparous mothers in multivariable analysis. The multivariable logistic regression shows that knowledge of mothers, place of birth and support of health care professional at health facility are the factors significantly associated with early initiation of breastfeeding among primiparous mothers.

The odds of early breastfeeding initiation in primiparous mothers with adequate knowledge about breastfeeding is 9.76 (95% CI= 1.99-17.59) times more than primiparous mothers with inadequate knowledge about EBF.

The odds of early breastfeeding initiation in primiparous mothers who delivered a baby at home is 3.51 times (95% CI=1.32-9.31) than primiparous mothers who delivered a baby at a health care facility. The odds of early breastfeeding initiation in primiparous mothers who got the support of health care professional at health facility is 2.93 times more (95% CI=1.09-7.86) than primiparous mothers who did not any support from the end of health care professional after delivery.

Table 1: Characteristics of mothers and infants.

Variables	N (%)
Gender of an infant	
Male	51 (51.5)
Female	48 (48.5)
Maternal age (years)	
<24	53 (53.5)
24-27	35 (35.4)
≥28	11 (11.1)
Maternal occupation	
Employed	28 (28.3)
Housewife	71 (71.7)
Gestational age	
Pre-term	36 (36.4)
Term	63 (63.6)

Continued.

Variables	N (%)
Mode of delivery	
Assisted delivery	35 (35.3)
Normal vaginal delivery	64 (64.7)
Time of onset of breastfeeding (h)	
Immediately/within one hour	30 (30.3)
After one hour	69 (69.7)
Support by HCP in hospital	
Yes	24 (31.6)
No	52 (68.4)
Maternal education	
Illiterate	66 (66.7)
Literate	33 (33.3)
Educational status of husband	
Illiterate	53 (53.5)
Literate	46 (46.5)
Family monthly income	
Less than 7500	85 (85.9)
More than or equal to 7500	14 (14.1)
Birthplace	
Health facility	76 (76.7)
Home	23 (23.3)
Attendant of the delivery	
Doctor	47 (47.5)
Nurses/midwives	28 (28.3)
Traditional birth attendant (TBH)	17 (17.2)
Lady health visitor (LHV)	7 (7.1)
Knowledge related to BF	
Inadequate	48 (48.5)
Adequate	51 (51.5)

Table 2: Items used to assess knowledge of mothers about breastfeeding.

Knowledge items	Correct N (%)	Incorrect N (%)
How soon mother should initiate breastfeeding?	77 (77.78)	22 (22.22)
What mother should do with first milk or colostrum?	73 (73.74)	26 (26.26)
What is the recommended duration of EBF?	77 (77.78)	22 (22.22)
Foods or fluid recommended to infant for first six months	74 (74.75)	25 (25.25)
Is breastfeed alone is enough for an infant?	93 (93.9)	6 (6.1)
Does breastfeeding prevent child from respiratory and diarrheal disease?	98 (99)	1 (1)
Through good nutrition mother can sustain exclusive breastfeeding	63 (63.64)	36 (36.36)

Table 3: Factors significantly associated with initiation of breastfeeding within one hour of birth in univariate analysis.

Variables	Initiation of breastfeeding within one hour		Duolus
variables	Yes (%)	No (%)	P value
Knowledge related to BF			
Adequate knowledge	25 (83.3)	43 (62.3)	0.001
Inadequate knowledge	5 (16.7)	26 (37.7)	•
Gestational age of baby			
Pre-term	14 (46.7)	22 (31.9)	0.160
Term	16 (53.3)	47 (68.1)	
Birthplace			
Health facility	18 (60)	58 (84.1)	0.009
Home	12 (40)	11 (15.9)	

Continued.

Variables	Initiation of breastfeeding within one hour		Dyolyo
variables	Yes (%)	No (%)	P value
Mode of delivery			
Assisted delivery	8 (26.7)	27 (39.1)	0.233
Normal vaginal delivery	22 (73.3)	42 (60.9)	
Support by HCP in hospital			
Yes	15 (62.5)	21 (40.1)	0.029
No	9 (37.5)	31 (59.9)	

Table 4: Significant factors associated with initiation of breastfeeding within one hour (multivariable logistic regression).

Variables	Adjusted Odds ratio (95% CI)	P value
Knowledge related to BF		
Adequate knowledge	9.76 (1.99-17.59)	0.001
Inadequate knowledge	Reference	
Birthplace		
Health facility	Reference	0.011
Home	3.51 (1.32-9.31)	
Support by HCP in hospital		
Yes	2.93 (1.09-7.86)	0.023
No	Reference	

DISCUSSION

The current study examines the frequency of primiparous mothers in Thatta, Pakistan who started breastfeeding within the first hour of birth and factors associated with it. In the current study, only 30.3% of primiparous mothersinitiated breastfeeding within one hour of birth. The rates of breastfeeding have been categorized into four groups by the WHO, based on the frequency of the practice. When the frequency of breastfeeding is between 90 to 100% it is 'very good', between 50 to 89% is 'good', between 30 to 49% is 'fair' and 0 to 29% is 'poor'. 15 The frequency of initiating breastfeeding within first hour of birth among primiparous mothers in Thatta, Pakistan is categorized as 'fair' according to this WHO classification. In Pakistan, there is still a pressing need to encourage primiparous mothers to start breastfeeding soon after giving birth. Hospitals must play a key role in stressing the importance of initiating breastfeeding within an hour after birth.

Hospital procedures should be reformed in a way that allows infants to be placed in the same space as the mother for the duration of their hospital stay. This will help mothers' bond with their babies after birth and encourage early breastfeeding. Knowledge about breastfeeding can play an important role in the early initiation of breastfeeding. The current study has shown that the frequency of early initiation of breastfeeding among primiparous women with adequate knowledge is high as compared to primiparous women with inadequate knowledge. Not knowing the importance of starting breastfeeding early and wrong perceptions about colostrum are some of the major reasons for the poor performance of this outcome. 16 In a study conducted in Ethopia, 35% of mothers discarded the colostrum as they believed it would be hard to digest for the infant and may cause cramps. 17 In our study, 26% of primiparous mothers discarded colostrum. Colostrum is considered an important meal for newborns as it contains vital nutrients that have protective characteristics and give protections to newborns.

Primiparous mothers who gave birth in the hospital were less likely to initiate breastfeeding when compared to mothers who gave birth at their home. A study in Tanzania was in opposition with these results, as mothers who gave birth in a hospital setting were more likely to initiate breastfeeding.¹⁸ These varying results can be attributed to the lack of support provided to mothers from health care professionals and poor baby-friendly practices in hospitals in Thatta. It is crucial for mothers to receive proper counselling and support from the hospital staff regarding the early initiation of breastfeeding, this can in turn motivate mothers to practice exclusive breastfeeding. Studies have found that older mothers from, lower and middle-income countries not only have increased odds of initiating early breastfeeding but are also more likely to start breastfeeding within an hour after birth, the current study supports this result. 19 As established earlier, this may be due to their previous experiences and higher level of knowledge regarding the benefits of early initiation on breastfeeding, which is not found in inexperienced and insecure first-time mothers.²⁰

Various studies have shown that trained and skilled health care workers can motivate mothers to initiate the breastfeeding earlier, explain the benefits of breastfeeding and create awareness on the disadvantages of pre-lacteal feeding during routine postnatal care immediately after delivery. In our study, only 31.6% of 76 primiparous mothers who delivered in a health facility received breastfeeding support after birth from health care professionals. The health-care system expands to ensure that mothers receive breastfeeding assistance as soon as

possible after giving birth. There is a need to look into the obstacles that prevent health professionals from offering breastfeeding assistance to women soon after birth at health facilities.²³

Factors more commonly associated with infant mortality and morbidity in Pakistan include neonatal malnutrition and infections. This is why Pakistan must work to support its healthcare services, which would in turn promote campaigns about improving neonatal and maternal outcomes by encouraging breastfeeding.

The current study has certain limitations. Due to the small sample size, generalization of the study results across Pakistan is not possible. Not only was the survey was conducted in a small rural part of Sindh registered with MNHR, it also included a small number of women as its sample making it difficult to generalize the study results to primiparous mothers across Pakistan. In addition, the study was cross-sectional in nature due to which it was unable to calculate the existence of a causal associations with determinants.

CONCLUSION

The frequency of primiparous mothers who initiated breastfeeding within one hour of birth in Thatta, Pakistan was 30.3%. This estimate is far behind the frequency of breastfeeding recommended by the WHO. Knowledge of mothers, place of delivery and support provided by health care professionals were the main factors associated with early initiation of breastfeeding in this study. In order to enhance the early initiation of breastfeeding, it is important for health care professionals to emphasize on the effect of pre-lacteal feeding during and support breastfeeding immediately after delivery, especially among women who had given birth for the first time. Interventions need to be enhanced to promote early breastfeeding initiationparticularly in Thatta. Besides this, there is a need of qualitive studies to better understand the reasons that cause delay in early breastfeeding initiation, which is a contributing factor towards low prevalence of early breastfeeding initiation in the region.

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REFERENCES

 Alimoradi F, Javadi M, Barikani A, Kalantari N, Ahmadi M. An overview of importance of breastfeeding. J Comprehensive Pediat. 2014;5(2):14028.

- Demirtas B. Strategies to support breastfeeding: a review. Int Nurs Rev. 2012;59(4):474-81.
- 3. Adhikari M, Khanal V, Karkee R, Gavidia T. Factors associated with early initiation of breastfeeding among Nepalese mothers: further analysis of Nepal Demographic and Health Survey, 2011. Int Breastfeed J. 2014;9(1):21.
- Bisrat Z, Kenzudine A, Bossena T. Factors associated with early initiation and exclusive breastfeeding practices among mothers of infant's age less than 6 months. J Pediatr Neonatal Care. 2017;7(3):00292.
- Gupta A, Suri S, Dadhich JP, Trejos M, Nalubanga B. The World Breastfeeding Trends Initiative: Implementation of the Global Strategy for Infant and Young Child Feeding in 84 countries. J Public Health Policy. 2019;40(1):35-65.
- 6. Zakar R, Zakar MZ, Zaheer L, Fischer F. Exploring parental perceptions and knowledge regarding breastfeeding practices in Rajanpur, Punjab Province, Pakistan. Int Breastfeed J. 2018;13:24.
- 7. Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, et al. Delayed breastfeeding initiation and infant survival: A systematic review and meta-analysis. PLoS One. 2017;12(7):180722.
- 8. Debes AK, Kohli A, Walker N, Edmond K, Mullany LC. Time to initiation of breastfeeding and neonatal mortality and morbidity: a systematic review. BMC Public Health. 2013;13(3):19.
- Amin T, Hablas H, Qader AA. Determinants of initiation and exclusivity of breastfeeding in Al Hassa, Saudi Arabia. Breastfeed Med. 2011;6(2):59-68.
- Roberts TJ, Carnahan E, Gakidou E. Can breastfeeding promote child health equity?. A comprehensive analysis of breastfeeding patterns across the developing world and what we can learn from them. BMC Med. 2013;11:254.
- 11. Sharma IK, Byrne A. Early initiation of breastfeeding: a systematic literature review of factors and barriers in South Asia. Int Breastfeed J. 2016;11:17.
- 12. Ahmed KY, Page A, Arora A, Ogbo FA. Trends and determinants of early initiation of breastfeeding and exclusive breastfeeding in Ethiopia from 2000 to 2016. Int Breastfeed J. 2019;14:40.
- 13. John JR, Mistry SK, Kebede G, Manohar N, Arora A. Determinants of early initiation of breastfeeding in Ethiopia: a population-based study using the 2016 demographic and health survey data. BMC Pregnancy Childbirth. 2019;19(1):69.
- 14. Dukuzumuremyi JPC, Acheampong K, Abesig J, Luo J. Knowledge, attitude, and practice of exclusive breastfeeding among mothers in East Africa: a systematic review. Int Breastfeed J. 2020;15(1):70.
- 15. WHO. Essential nutrition actions: improving maternal, newborn, infant and young child health and nutrition, 2013. Available at: https://apps.who.int/iris/handle/10665. Accessed on 23 April 2021.
- 16. Ogunlesi TA. Maternal socio-demographic factors influencing the initiation and exclusivity of

- breastfeeding in a Nigerian semi-urban setting. Matern Child Health J. 2010;14(3):459-65.
- 17. Setegn T, Gerbaba M, Belachew T. Determinants of timely initiation of breastfeeding among mothers in Goba Woreda, South East Ethiopia: a cross sectional study. BMC Public Health. 2011;11:217.
- 18. Victor R, Baines SK, Agho KE, Dibley MJ. Determinants of breastfeeding indicators among children less than 24 months of age in Tanzania: a secondary analysis of the 2010 Tanzania Demographic and Health Survey. BMJ Open. 2013;3(1):1529.
- Patel A, Pusdekar Y, Badhoniya N, Borkar J, Agho KE, Dibley MJ. Determinants of inappropriate complementary feeding practices in young children in India: secondary analysis of National Family Health Survey 2005-2006. Matern Child Nutr. 2012;8(1):28-44.
- 20. Dennis CL. Breastfeeding initiation and duration: a 1990-2000 literature review. J Obstet Gynecol Neonatal Nurs. 2002;31(1):12-32.
- 21. Tewabe T. Timely initiation of breastfeeding and associated factors among mothers in Motta town,

- East Gojjam zone, Amhara regional state, Ethiopia, 2015: a cross-sectional study. BMC Pregnancy Childbirth. 2016;16(1):314.
- 22. Karim F, Billah SM, Chowdhury MAK, Zaka N, Manu A, Arifeen SE, et al. Initiation of breastfeeding within one hour of birth and its determinants among normal vaginal deliveries at primary and secondary health facilities in Bangladesh: A case-observation study. PLoS One. 2018;13(8):202508.
- 23. Belachew A. Timely initiation of breastfeeding and associated factors among mothers of infants age 0-6 months old in Bahir Dar City, Northwest, Ethiopia, 2017: a community based cross-sectional study. Int Breastfeed J. 2019;14:5.

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