

Examining Breastfeeding Practice among Newly Delivered Mothers in Tamale Central District

Article by Sukerazu Alhassan Ahmad
Community Health Nurses Training College, Tamale, Ghana
E-mail: Sukera2000@yahoo.com

Abstract

*Breastfeeding has many health benefits for both the mother and infant. Breast milk contains all the nutrients an infant need in the first six months of life. Breastfeeding protects against diarrhea and common childhood illnesses such as pneumonia and may also have longer-term health benefits for the mother and child. **Purpose:** Despite several interventions implemented for the improvement of infant breastfeeding in the study area, early initiation of breastfeeding of infant remained relatively low. The purpose of this study is therefore to monitor adherence to early initiation of breastfeeding such that mothers who come to the hospital to deliver are assisted to initiate breastfeeding within 30 minutes of birth. **Method:** Cross sectional studies is the chosen study design, since the aim was to find out the attitude towards compliance to early initiation of breast feeding 30 minutes of birth. **Results:** Those without formal education were about 3.8 times likely to initiate breastfeeding within the first 30 minutes of delivery (AOR=3.762, 95% C.I., $p=0.001$). Delivery through caesarian section (C/S) was found to have protection against late initiation of breastfeeding. C/S delivery was found to have about 77% protection against late initiation of breastfeeding (AOR=0.23, 95% C.I., $p=0.031$). **Conclusion:** Educational status of women and mode of delivery were found to be the most important factors that influenced early initiation of breastfeeding. In a multivariate analysis, only educational status of women and mode of delivery were found to be the most important factors that influenced early initiation of breastfeeding.*

Keywords: Delivery Practices, Breastfeeding Initiation, Breastfeeding Practice, Early breastfeeding, Birth.

Introduction

Breastfeeding has many health benefits for both the mother and infant, and offers crucial protection against infectious morbidity and mortality in children (Victora et al., 2016, Alexy B. and Martin A.C., 1994). According to Lawn JE, et. al. (2009), Newacheck P.W. (1994), the benefits of breastfeeding for infant nutrition is infant development, reduced morbidity and mortality, and prevention of long-term chronic diseases is now widely recognized. Breastfeeding protects against diarrhea and common childhood illnesses such as pneumonia (Margolis PA. et al 1992), and may also have longer-term health benefits for the mother and child, such as reducing the risk of overweight and obesity in childhood and adolescence (Hill, P.D., 2000). Scaling up breastfeeding to near universal levels could prevent up to an estimated

13.8% of deaths in children younger than 24 months globally each year (Black et al., 2013; Victora et al., 2016). Breast milk contains all the nutrients an infant need in the first six months of life.

Many low- and middle-income countries (LMICs) have strong breastfeeding traditions; adherence to World Health Organization (WHO) Infant and Young Child Feeding recommendations is poor, particularly in terms of timely initiation and breastfeeding exclusivity. Only one half of infants born in LMICs are put to the breast within an hour of birth as recommended by WHO (Victora et al., 2016). Delayed breastfeeding initiation increases the risk of neonatal mortality (Debes, Kohli, Walker, Edmond, & Mullany, 2013; Neovita Study Group, 2016), and is associated with a higher probability of prelacteal feeding. Both

prelacteal feeding and the withholding of colostrum are known to have an adverse effect on later breastfeeding practices (Patil et al., 2015; Sundaram et al., 2013). Oakley L et. al; 2018 revealed that, 39% of children were breastfed within 1 hour of birth, 49% received no prelacteal feeding, and 28% benefited from optimal early breastfeeding.

Data from 2002-2005, show that 46 low- and middle-income countries (LMIC) had included early initiation of breastfeeding in Demographic Health Surveys. Of these, 54% recorded that less than half of all newborns were put to the breast within an hour of birth. Furthermore, no country had more than 80% of babies breastfeeding within an hour of birth. Global estimates are that less than half (42%) of all newborns are put to the breast within the first hour of birth (WHO, 2015). Black RE, et al maintained that initiation of breastfeeding within the first hour can help prevent neonatal deaths caused by sepsis, pneumonia, and diarrhea and may also prevent hypothermia-related deaths, especially in preterm and low birth weight infants. The lower risk of mortality is primarily due to reductions in deaths caused by infectious diseases and is most evident in infants who receive only breast milk (exclusive breastfeeding) during the first 6 months (Black RE, et al. 2008, WHO, 2000, Perez-Escamilla R, & Dewey, 1992). In low-resource, high mortality settings where infection causes a large proportion of newborn deaths, early initiation of exclusive breastfeeding can substantially reduce child mortality (Sullivan J. & Jones LC, 1986). Breastfeeding has also been associated with higher intelligence quotient (IQ) in children.

Early initiation of exclusive breastfeeding serves as the starting point for a continuum of care for mother and newborn that can have long-lasting effects on health and development. Provision of mother's breast milk to infants within one hour of birth is referred to as "early initiation of breastfeeding". The World Health Organization (WHO) and UNICEF recommend early initiation of breastfeeding within the first hour after birth and exclusive breastfeeding for the first 6 months followed by continued breastfeeding to age 2 years or beyond along with appropriate complementary feeding while Ghana recommends that newborns should be breastfed within half an hour after birth (WHO/UNICEF, 2013). Although it is one of

the core indicators for assessing infant and young child feeding practices (WHO/UNICEF/IFPRI/UCDavis/USAID/FANTA, 2008).

Early initiation of breastfeeding is important for both the mother and the child (Bentley ME et al., 1999, Labbock M & Krasovec K, 1990, Ryan AS. 1997,). Early suckling stimulates the release of prolactin, which helps in the production of milk, and oxytocin, which is responsible for the ejection of milk. It also stimulates contraction of the uterus after childbirth and reduces postpartum blood loss (GSS & GHS, 2014, Kum-Nji P. et al., 1999). The first milk known as colostrum, produced in the first few days after delivery, is highly nutritious and contains antibodies that provide natural immunity to the infant. It is recommended that children be fed colostrum immediately after birth and that they continue to be exclusively breastfed even if the regular breast milk has not yet started to flow.

Early initiation of breast feeding also enhances "Maternal-infant Bonding". Maternal Infant bonding" means the development of the core relationship between mother and child. The bonding process occurs in both infant and mother and has tremendous implications for the child's future development. "Maternal-infant bonding is a vital process which begins in early infancy and continues over the next few years. WHO and other organizations recommend delaying for at least the first hour routine newborn care procedures that separate mother and baby such as bathing and weighing (WHO, 1997, Chaparro CM, 2007) - This will allow mother and newborn uninterrupted skin-to-skin contact until the first breastfeed. Despite these recommendations, only 39 percent of newborns in the developing world are put to the breast within one hour of birth, and only 37 percent of infants less than six months of age are exclusively breastfed. (UNICEF, 2009). Current evidence indicates that, when breastfeeding is started within the first hour after delivery, neonatal mortality and early infant mortality is reduced, (Edmond KM, et. al. 2006, Mullany LC, et al. 2008), thus advancing SDG 3 of ensure healthy lives and promote well-being for all at all ages. Studies in Nepal and Ghana suggest that initiation of breastfeeding within the first hour of birth could prevent about 20 percent of neonatal deaths (Edmond KM, 2006 &

Mullany LC, 2008). The lower risk of mortality is primarily due to reductions in deaths caused by infectious diseases and is most evident in infants who receive only breast milk (exclusive breastfeeding) during the first 6 months. (Black, RE. et al., 2008). Early initiation of breastfeeding is also positively linked to duration of exclusive breastfeeding. Early initiation of breastfeeding is the fourth step of the ten (10) steps to successful breastfeeding of which the Baby Friendly Hospital Initiative (BFHI) operates. The initiative aims to create a breastfeeding supportive environment in order to ensure newborns get the best start to life. Place of child birth has also been linked to quality of care indicators among which is optimal breastfeeding (Fink, Ross, & Hill, 2015). A small number of studies have investigated childbirth location as a potential determinant of breastfeeding practices, commonly using a simple dichotomous categorization of home or facility birth. There is some evidence from recent studies that early initiation of breastfeeding is more common among births in health facilities (Kimani-Murage et al., 2011; Ogunlesi, 2010; Senarath et al., 2012), although this finding is not consistent across all studies. In South/Southeast Asia and Sub-Saharan Africa, early breastfeeding outcomes were more favorable for facility births compared to home births; trends were less consistent in Latin America and Middle East/Europe. Among home deliveries, there was a higher prevalence of positive breastfeeding practices for births with a skilled birth attendant across all regions other than Latin America. For facility births, breastfeeding practices were more favorable among those taking place in the public sector (Oakley L et. al; 2018).

The objective of the survey seeks to assess early initiation of breastfeeding among newly delivered mothers at the Tamale Central District. The survey specifically assessed initiation of breastfeeding within 30 minutes among newly delivered mothers and delivery practices among newly delivered mothers.

Method

Study design

Cross sectional studies were the most appropriate for this survey since the aim was to quantify the distribution of compliance to early

initiation of breast feeding 30 minutes of birth, or take a snap-shot of adherence to the practice of early breast feeding within 30 minutes of birth.

Sample

The sampled population comprised of newly delivered mothers. A total of seventy (70) newly delivered mothers at the Tamale Central District were selected for the study. The study employed simple random sampling in selecting the study participants.

Data collection and analysis

The main tools that was used for the data collection was a structured questionnaire. Both primary and secondary data was used for this study. Data collected was entered using Epi-info and analyzed using SPSS. Some key variables were cross tabulated to establish the effects or relationship between them. The analyzed data was presented using frequency tables.

Ethical issues

Permission was sought from the Research and development department of the hospital before the commencement of the study. Permission was also sought from participants before the interview. The purpose of the study as well was explained to participants to understand what the study was about. Thankfully all the mothers showed so willingness to the participation in the study after I took my time to explain to them, the significance of my study.

Survey limitations

Although this research was carefully prepared, I am still aware of its limitations and shortcomings. First of all, because of time limit the research was conducted only on a small size of population during the data collection period. One month is not enough to observe all of the mothers that delivered in the facility.

Results

Demographic and general information

Of the 70 respondents studied, the mean age was 30.23 ± 7.3 years with the minimum and maximum ages of 14 and 43 years respectively. Most (28.6%) of the study participants were within the ages of 25 and 29 years with majority belonging to the Dagomba ethnic tribe.

More than two-thirds (78.6%) of the study participants were Muslims with most of them (40%) never been to school. Trading was the main (28.6%) occupation of the study participants (Table 1).

Table 1. Demographic and general information

Variable	Frequency	Percent
15-19	4	5.7
20-24	14	20.0
25-29	20	28.6
30-34	7	10.0
35-39	14	20.0
40-44	11	15.7
Total	70	100
Ethnicity		
Dagomba	47	67.1
Gonja	3	4.3
Asente	3	4.3
Other	17	24.3
Total	70	100
Religion		
Islam	55	78.6
Christianity	15	21.4
ATR	0	0.0
Total	70	100
Education status		
None	28	40.0
Primary	3	4.3
JHS/Vocational	9	12.9
SHS	13	18.6
Tertiary	17	24.3
Total	70	100
Occupation		
Trader	20	28.6
Farmer	10	14.3
Housewife	8	11.4
Public service	15	21.4
Other	17	24.3
Total	70	100

Delivery practices

Majority (57.1%) of the women studied had spontaneous vaginal deliveries (SVDs) and all were conducted by midwives while the remaining by caesarian section (C/S) and by a doctor. Most (42.9%) of the study participants-initiated breastfeeding after 30 minutes of birth. However, most (66.7%) of those who had C/S deliveries-initiated breastfeeding within the first 30 minutes after regain of consciousness. The mean time spent after regain of consciousness

from C/S before baby was put to breast to breastfeed was 31.1 ± 32.9 minutes with a minimum and maximum time of 3 and 90 minutes respectively.

Almost all (90%) of the pregnancies were up to term (≥ 36 weeks) and almost (97.1%) all the babies born were reported to be well. The mean gestational age before delivery was 36.87 ± 2.6 weeks with a minimum and maximum age of 28 and 41 weeks respectively. Although most (88.6%) of the newly delivered mothers were not assisted after delivery to breastfeed, more than half (62.9%) of them reported as having their breast milk starting to flow ("come in") after some hours of initiation. The mean duration after initiation of breastfeeding before the "coming in" of breast milk was 1.74 ± 0.7 hours with a minimum and maximum hour of 1 and 3 hours respectively. None of the babies delivered was reported to have received any feed prior to the "coming in" of breast milk (Table 2).

Child Indices

Most (52.9%) of the babies delivered were females and majority (70%) were born with normal birth weight. The mean birth weight was 2.64 ± 0.4 kg with a minimum and maximum weight of 2 and 3.6 kg respectively. Very few (12.9%) of the babies born had their first 5 minutes of APGAR assessment score of 6 out of 10, indicative of generally healthy babies delivered (Table 3).

Factor influencing early initiation

In a binary analysis, educational status and mode of delivery were found to be the main factors influencing early initiation of breastfeeding. Majority of the newly delivered mothers who initiated breastfeeding within the first 30 minutes of delivery had no formal education ($p=0.005$). Most of those who initiated breastfeeding within the first 30 minutes of birth were found to be C/S deliveries (60% versus 27.5%, $p=0.006$) (Table 4).

Multivariate analysis

In a multivariate analysis, only educational status of women and mode of delivery were found to be the most important factors that influenced early initiation of breastfeeding. Ironically, those without formal education were more likely to initiate early than those with formal education. Compared to women with

formal education, those without formal education were about 3.8 times likely to initiate breastfeeding within the first 30 minutes of delivery (AOR=3.762, 95% C.I., p=0.001). Delivery through caesarian section (C/S) was

found to have protection against late initiation of breastfeeding. C/S delivery was found to have about 77% protection against late initiation of breastfeeding (AOR=0.23, 95% C.I., p=0.031) (Table 5).

Table 2. Delivery practices

Variable	Frequency	Percent
Mode of Delivery		
Spontaneous vaginal delivery (SVD)	40	57.1
Caesarian section (C/S)	30	42.9
Total	70	100
Time After C/S Breastfeeding was Initiated		
<30 minutes	20	66.7
30-60 minutes	4	13.3
>60 minutes	6	20.0
Total	30	100
Delivery Assistant		
Doctor	30	42.9
Midwife	40	57.1
Total	70	100
Status of Baby's Health		
Well	68	97.1
Sick	2	2.9
Total	70	100
Pregnancy Status before Delivery		
Full term (≥ 36 weeks)	63	90
Preterm (<36 weeks)	7	10
Total	70	100
Initiation of Breastfeeding		
<30 minutes	29	41.4
30-60 minutes	30	42.9
>60 minutes but <24 hours	11	15.7
Total	70	100
Assisted to Breastfeed Baby?		
Yes	8	11.4
No	62	88.6
Total	70	100
Has Breast milk "come in"		
Yes	44	62.9
No	26	37.1
Total	70	100

Table 3. Child Indices

Variable	Frequency	Percent
Sex of baby		
Male	33	47.1
Female	37	52.9
Total	70	100
Birth Weight		
Low birth weight	21	30.0

Normal birth weight	49	70.0
Total	Total	100
First 5 Minutes APGAR score		
6/10	9	12.9
7/10	13	18.6
8/10	46	65.7
10/10	2	2.9
Total	70	100
First 10 Minutes APGAR score		
8/10	15	22.1
9/10	53	77.9
Total	68	100

Table 4. Factors that influence early initiation of breastfeeding (binary analysis)

Variable	N	Initiation of Breastfeeding		Test statistic		
		Early	Late	Chi-square (χ^2)	p-value	
		n (%)	n (%)			
Educational level						
None	28	18(64.3)	10(35.7)	10.676	0.005	
Low	12	2(16.7)	10(83.3)			
High	30	9(30.0)	21(70.0)			
Total	70	29(41.)	41(58.6)			
Age						
<20 years	4	0(0.0)	4(100)	3.001	0.083	
20+ years	66	29(43.9)	37(56.1)			
Total	70	29(41.4)	41(58.6)			
Mode of Delivery						
SVD	40	11(27.)	29(2.5)	7.462	0.006	
C/S	30	18(60.0)	12(40.0)			
Total	70	29(41.4)	41(58.6)			
Health Status of Baby						
Well	68	27(39.7)	41(66.3)	2.911	0.088	
Sick	2	2(100)	0(0.0)			
Total	70	29(41.4)	41(58.6)			
Pregnancy Status Before Delivery						
Full term	63	27(42.9)	36(57.1)	0.530	0.467	
Premature	7	2(28.6)	5(71.4)			
Total	70	29(41.4)	41(58.6)			
Supported to Breastfeed?						
Yes	8	4(50.0)	4(50.0)	0.273	0.601	
No	62	25(40.3)	37(59.7)			
Total	70	29(41.4)	41(58.6)			
Sex of Baby						
Male	33	15(45.5)	18(54.5)	0.417	0.518	
Female	37	14(37.8)	23(62.2)			
Total	70	29(41.4)	41(58.6)			
Birth Weight of Baby						
Low birth weight	21	10(47.6)	11(52.4)	0.474	0.491	
Normal birth weight	49	19(38.8)	30(61.2)			
Total	70	29(41.4)	41(58.6)			

Table 5. Factors that influence early initiation of breastfeeding (multivariate analysis)

Variable	B	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
					Lower	Upper
Age	-20.122	1	0.999	0.000	0.000	.
Education	1.325	1	0.001	3.762	1.72	8.228
Birth weight	1.058	1	0.172	2.88	0.632	13.123
Mode of delivery	-1.469	1	0.031	0.23	0.06	0.877
Health status of baby	-44.485	1	0.999	0.000	0.000	.
Pregnancy status before delivery	22.062	1	0.999	3812565614	0.000	.
Assisted to breastfeed	1.056	1	0.289	2.875	0.408	20.267
Sex of baby	-0.125	1	0.859	0.883	0.223	3.489
Constant	58.747	1	0.999	3.263E+25		

Discussion

Early initiation of breastfeeding promotes exclusive breastfeeding by enhancing bonding, increasing the likelihood of breastfeeding success, and generally extending breastfeeding duration (WHO, 2018, Suparmi S, Saptarini I. 2016). In this study, less than half (42.9%) of the study participants-initiated breastfeeding after 30 minutes of birth.

The finding is consistent with the study by WHO, which have also found that less than half of all newborns were put to the breast within an hour of birth. Furthermore, global estimates are that less than half (42%) of all newborns are put to the breast within the first hour of birth (WHO, 2015). These results are also similar with previous studies, which have also revealed that only one half of infants born in LMICs are put to the breast within an hour of birth as recommended by WHO (Victora et al., 2016). Oakley L et. al; 20 18 also in their study maintained that, 39% of children were breastfed within 1 hour of birth, 49% received no prelacteal feeding, and 28% benefited from optimal early breastfeeding.

However, in the study areas, most (66.7%) of those who had C/S deliveries-initiated breastfeeding within the first 30 minutes after regain of consciousness. The mean time spent after regain of consciousness from C/S before baby was put to breast to breastfeed was 31.1 ± 32.9 minutes with a minimum and maximum time of 3 and 90 minutes respectively.

In a multivariate analysis, only educational status of women and mode of delivery were found to be the most important factors that influenced early initiation of breastfeeding.

Ironically, those without formal education were more likely to initiate early than those with formal education.

Conclusion

Educational status of women and mode of delivery were found to be the most important factors that influenced early initiation of breastfeeding. Those without formal education were more likely to initiate early than those with formal education. As compared to women with formal education, those without formal education were about 3.8 times likely to initiate breastfeeding within the first 30 minutes of delivery.

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