Prevalence of Optimal Breastfeeding and Maternal and Child Health Care Service-Related Factors Associated with Optimal Breastfeeding in Dollow District, Somalia

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Summary

BACKGROUND

Breast milk is the ideal food for physical and mental growth and development of all infants. It contains all essential nutrients including carbohydrates, essential fats, proteins, minerals, and immunological factors. Exclusive breastfeeding (EBF) means providing only breast milk to the infants; no other liquids or solids including water, except oral rehydration solution or drops/syrups of vitamins, minerals, or medicines within the first six months of birth. The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life with continued breastfeeding for 2 years or beyond and timely introduction of safe, appropriate, and nutritionally adequate complementary foods. Optimal breastfeeding includes exclusive breastfeeding for the first six months and continued breastfeeding for up to two years and beyond. Somalia has some of the worst maternal health indicators in the world. This study sought to establish the prevalence of optimal breastfeeding and maternal and child health service-related factors associated with optimal breastfeeding in Dollow District, Somalia.

MATERIALS AND METHODS

This study adopted a descriptive cross-sectional study. This study was conducted in Dollow district in Gedo region of Jubaland state. The sample size was calculated using the formula advanced by Mugenda (2003). A sample of 426 participants were involved in the study. This study targeted women with children aged between 0 to 36 months in Dollow district, Somalia. Purposive and systematic sampling methods were employed. Data was collected using research assistant administered questionnaire. Ethical approval was sought from the University of Eastern African Baraton.

RESULTS

The prevalence of exclusive breastfeeding in Dollow district was found to be 27.6%, while the prevalence of optimal breastfeeding was low at 19.1%. Maternal and child health related factors that were significantly associated with the practice of optimal breast-feeding included delivery under skilled birth care (OR=4.058, 95%CI of OR=1.688-9.760, P<0.05), taking child to growth monitoring clinics (OR=15.680,

95%CI of OR=4.875-50.437, P<0.05), and seeking postpartum care (OR=1.939, 95%CI of OR=1.237-3.037, P<0.05).

CONCLUSION AND RECOMMENDATIONS

Both Exclusive and Optimal Breastfeeding practices were extremely low. To improve optimal breastfeeding practices, the government of Somalia and development partners need to promote interventions that create income generating activities among women of reproductive age and promote access to nutrition education. The government of Somalia and its development partners need to improve uptake of maternal and child health services which include ANC, post-partum care and child growth monitoring. Evidence in this study has shown that uptake of these MCH services is positively associated with practice of optimal breastfeeding.

Keywords*: Breastfeeding, Optimal Breastfeeding, MCH, Somalia*

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Introduction

Breast milk is the ideal food for physical and mental growth and development of all infants. It contains all essential nutrients including carbohydrates, essential fats, proteins, minerals, and immunological factors. Exclusive breastfeeding (EBF) means providing only breast milk to the infants; no other liquids or solids including water, except oral rehydration solution or drops/syrups of vitamins, minerals, or medicines within the first six months of birth (1). Early initiation of breast milk after delivery is highly recommended especially within the first hour after birth as it reduces neonatal mortality and morbidity.

Colostrum, the "pre-milk" is a chock-full of antibodies to protect the newborn. It is higher in protein and low in sugar to meet the needs of the newborn but after a few days (usually three to four days) the breast milk content increases in sugar and in volume than Colostrum because more calories and frequent feeding are needed to accelerate growth (2).

The World Health Organization (WHO) recommends exclusive breastfeeding for the first 6 months of life with continued breastfeeding for 2 years or beyond and timely introduction of safe, appropriate, and nutritionally adequate complementary foods. Optimal breastfeeding includes Exclusive breastfeeding for the first six months and continued breastfeeding for up to to two years and beyond(3).

The debate on the benefits of optimal breastfeeding to mother and child closed decades ago with a plethora of scientific evidence suggesting that the practice has significant benefits to mother and child. Among children breast milk is an ideal food which contains all the nutrients an infant needs for the first six months. Breastfeeding protects against diarrhea and common childhood illnesses such as pneumonia. It also has long term health benefits for the mother and child, such as reducing the risk of obesity in childhood and adolescence. Moreover, breastfeeding has a relationship with a higher intelligence quotient (IQ) in children.

Various studies have shown that breast milk is important for physical, neurological, and cognitive development of a child and can reduce risks of allergies, infection, and non-communicable diseases during later stages of their development. Therefore, breast feeding is

considered as a cost-effective infant-feeding method for families and society can reduce the risk of communicable and non-communicable childhood diseases.

There are significant benefits of EBF not only for infants but also for the mother and society. A previous study showed that breast feeding practices in a mother can protect her against breast and ovarian cancer (1)(4); (2); (5) &(6).

The global exclusive breast-feeding rate to infants, younger than 6 months age, is less than 40%. Thus, one of the strategies of the Sustainable Development Goals is to increase exclusive breast-feeding rate in under-five aged children to 50% (1). Worldwide, undernutrition is associated with nearly 45% of child mortality. Undernutrition during the first 2 years of life is a determinant of childhood stunting and non-communicable diseases in adulthood. Inadequate nutrition during the first 1000 days hinders physical and cognitive development and increases the risk of child mortality (3).

Somalia has some of the worst maternal health indicators in the world as malnutrition is chronic, early marriage is rampant, and most births are delivered at home without the presence of skilled birth attendants. Though data on Exclusive breastfeeding in some parts of Somalia is available, data on optimal breastfeeding is scarce and limited. A recent study established that the prevalence of exclusive breastfeeding in Galkayo-Somalia was low at 5.2% (2). Another study conducted in Burai District of Somaliland reports EBF prevalence of 20% which is also very low (7). This study sought to establish the prevalence of optimal breastfeeding and maternal and child health service-related factors associated with optimal breastfeeding in Dollow District, Somalia.

Materials and Methods

This study adopted a descriptive cross-sectional study. This study was conducted in Dollow district in Gedo region of Jubaland state. Dollow borders Ethiopia and Kenya, the city locates on Juba and Dawa rivers. The district's residents are agro-pastoral community and also, host internally displaced populations (IDPs) from nearby regions and within Gedo region. Dollow has a population of about 41,000 inhabitants, both host community and IDPs.

The sample size was calculated using the formula advanced by Mugenda (2003). A sample of 426 participants were involved in the study. This study targeted women with children aged between 0 to 36 months in Dollow district, Somalia.

This study employed both purposive and systematic sampling. Purposive sampling was used to identify mothers with a child aged 0-36 years. Based on the population of 41000 participants, women with children aged 0-36 years were approximated to be over 10, 000 (Somali does not have demographic data to show exact number of women of reproductive age. Using a sample size of 426, a K^{th} number (interval number of 23 was established by dividing 10,000 with the calculated sample size of 426. The first woman with a child aged 0-36 years was randomly identified and then an interval of 23 women with children aged 0-36 months was used to identify the second participant. This was repeated until the whole sample of 426 participants was reached.

Data collection was done using research assistant administered questionnaires. Study quality was ensured by subjecting the data collection tool to expert opinion for validation, and carrying out a pilot study to pretest data collection tool for reliability (Cronbach alpha was 0.82, within the recommended range of 0.7-

0.9). Data was analyzed using descriptive statistics and regression analysis. In regard to ethical considerations, the study protocol was approved by the University of Eastern Africa Baraton ethical review board. Study participants also provided consent before data collection and other principles of research ethics such as confidentiality and anonymity of participants were upheld in the entire research process.

Results

Socio- Demographic Characteristics of Participants

A total of 424 respondents were interviewed in this study. The distribution of the respondents by age, education levels, income, marital status, occupation and age of their children is shown in table 1. A high proportion (46.5%) of the respondents was aged between 26-30 years. Almost two-thirds (65.8%) of the mothers had no formal education. The majority (96.7%) of the respondents were married with more than half (63%) earning $30-45. More than one-third (38.4%) of the respondents were domestic workers. Majority (86.1%) of the women had children aged between 0-36months.

Prevalence of Exclusive Breastfeeding (EBF)

Most (72.4%) mothers did not breastfeed their children exclusively. On the other hand, less than one-third (27.6%) of the women reported to have exclusively breastfed their children for the first 6 months

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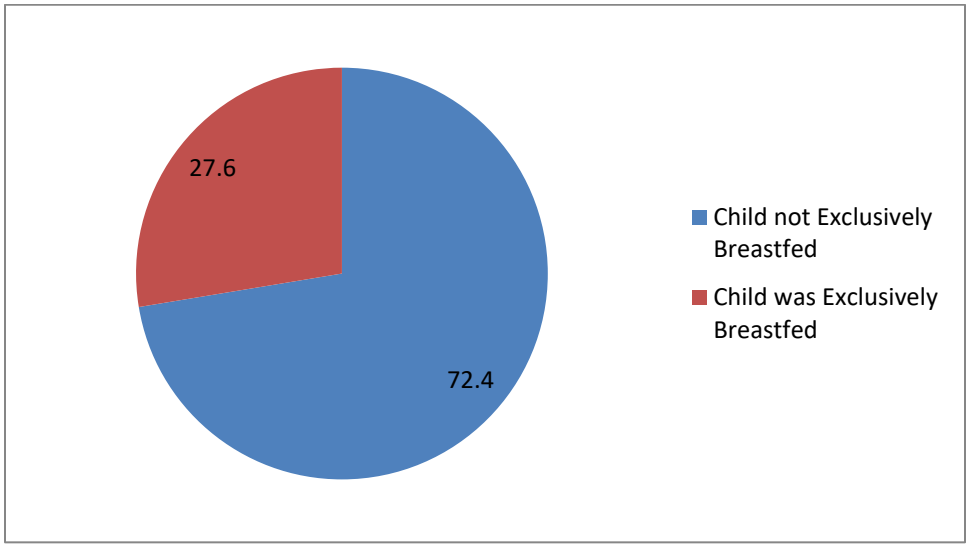

Figure 1: Prevalence of Exclusive Breastfeeding

Prevalence of Optimal Breastfeeding

Only 19.1 % of the respondents reported to have practiced optimal breastfeeding (i.e.- those who practiced both EBF and continued breastfeeding their children up to 24 months and beyond). Conversely, a majority (80.9%) of the mothers reported not to have practiced optimal breastfeeding.

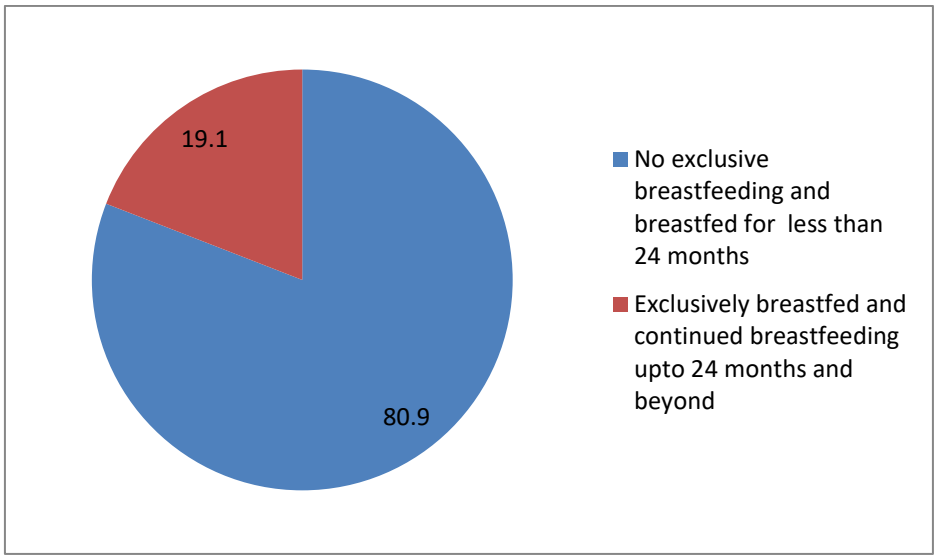

Figure 2: Prevalence of optimal breastfeeding among children aged 0-36 months in Dollow district

Maternal and Child Health Care Service-Related factors

Three maternal and child health related factors were found to influence the practice of optimal breast-feeding practice (table 2). Those are delivery under skilled birth care, taking child to growth monitoring clinics, and seeking postpartum care. Regression analysis showed that women who delivered under skilled birth care were found to be 4 times more likely to have practiced optimal breastfeeding compared to women who didn't deliver under skilled birth care (OR=4.058, 95%CI of OR=1.688-9.760, P<0.05), Women who took their children to growth monitoring regularly (adhering to clinic schedule) were found to be 15 times more likely to have breastfed their children optimally compared to those who did not adhere to growth monitoring schedules (OR=15.680, 95%CI of OR=4.875-50.437, P<0.05). Mothers who sought postpartum services were found to be close to 2 times more likely to breastfeed their children optimally (OR=1.939, 95%CI of OR=1.237-3.037, P<0.05)

Discussion

Prevalence of Exclusive Breast Feeding

The study findings indicated that the prevalence of exclusive breastfeeding among infants was 27.6% in the study area. This prevalence was relatively lower when compared to the national exclusive breastfeeding rate of

Somalia which is 33% (8). A similar trend was observed in another prospective study done in Kenya which found that by one month 75% of infants had received complementary feeds/fluids and by the fourth month 94% had received complementary feeds/fluids (9). Additionally, this prevalence of EBF differs slightly with a study conducted by (2) in Galkoyo in Somalia which reported a prevalence of 5.2% in Galkayo.

This could be explained by the fact that Dollow district is near the capital of Somalia and that women in Dollow could be receiving some form of health education that promotes EBF compared to Women in Galkoyo. The statistic also differs with other studies conducted in areas with political stability and enabling environment for health promotion interventions which include breastfeeding promotion.

A study conducted in Egypt revealed a EBF rate of 65% (10), while another conducted in DR Congo revealed a EBF rate of 49.2% (1), Lesotho, Namibia and South Africa posted 67%, 48% and 56%, respectively (11) . Based on these findings, it is plausible to conclude that promoting political stability in Somalia will most likely improve the practice of EBF among women of reproductive age.

Prevalence of Optimal Breastfeeding

Very low prevalence of optimal breastfeeding was reported (19.1%) in this study. This could be again attributed to lack of health promotion interventions or inadequate nutrition counseling among women of reproductive age in Dollow district. Absence of health promotion interventions targeting women of reproductive age or lack of adequate nutrition counseling among women seeking MCH services in Dollow district could be responsible for massive lack of knowledge of importance of optimal breastfeeding among women of reproductive age hence leading to the low-level practice among women of reproductive age. Studies on optimal breastfeeding are few, and the few published studies indicate that optimal breastfeeding practice is low especially in the developing world.

MCH-Related Factors

Regarding Health care related factors, mothers who sought ANC services prior to delivery, mothers who sought post-partum family planning, and mothers who took their children for growth monitoring were 4.0, 1.9 and 15 times more likely to optimally breastfeed their children respectively. These results concur with another study done in Kenya which found a significant association ($p<0.05$) between ANC attendance and optimal breastfeeding (12). Mothers who sought these services were perhaps more likely to practice optimum breastfeeding because they were in a position to access health education that promotes optimal breastfeeding compared to their counterparts who did not seek these services. For instance, mothers could have accessed health promotion and nutrition counseling during ANC visits which increased their probability of practicing optimal breastfeeding compared to those who did not seek ANC services.

The same case applies to mothers who sought postpartum services. It is, however, noted that women who took their children for growth monitoring were 15 times more likely to practice optimal breastfeeding than those who did not. Growth monitoring involves checking whether the infants are growing normally through the expected growth milestones. It is most likely that mothers were given intensive nutrition counseling during these clinics which focused more on the importance of optimal breastfeeding among other infant feeding practices.

Previous studies have indicated that Maternal and Child health seeking behavior has previously influenced breastfeeding practices. A nested case control study conducted in Ethiopia established that despite a low uptake of MCH services, women who sought ANC services and skilled birth care were more likely to breastfeed their children exclusively compared to those who did not (13). Another study conducted in Ethiopia also revealed that mothers who sought skilled birth care had higher odds of practicing EBF compared to those who did not (14).

A recent study conducted in Turkey established that mothers who received breastfeeding counseling during pregnancy and especially during ANC clinics started breastfeeding much earlier and breastfed their children for longer periods (15). Another study conducted in Ethiopia and published in BMJ in 2018 established that women who sought ANC services were more likely to start breastfeeding within 1 hour as recommended by WHO and breastfed for longer compared to those who did not (16). A further check on studies relating to child growth monitoring and breastfeeding practices revealed that the debate on whether child growth monitoring improved breastfeeding practices or not ended in the 1990s with the conclusion that regular infant and child growth monitoring improved breastfeeding practices among women of reproductive health.

Conclusions

The prevalence of exclusive breastfeeding in Dollow district was found to be 27.6%, while the prevalence of optimal breastfeeding was low at 19.1%. Maternal and child health related factors that were significantly associated with the practice of optimal breast-feeding included delivery under skilled birth care (OR=4.058, 95%CI of OR=1.688-9.760, P<0.05), taking child to growth monitoring clinics (OR=15.680, 95%CI of OR=4.875-50.437, P<0.05), and seeking postpartum care (OR=1.939, 95%CI of OR=1.237-3.037, P<0.05).

Recommendations

To improve optimal breastfeeding practice, the government of Somalia and development partners need to promote interventions that may create income generating activities among women of reproductive age and promote access to nutrition education. The government of Somalia and its development partners need to improve uptake of maternal and child health services which include ANC, post-partum care and child growth monitoring. Evidence from this study has shown that uptake of these MCH services is positively associated with practice of optimal breastfeeding.

References

1. **Dhakal S, Ho Lee T, Woo Nam E.** Exclusive Breastfeeding Practice and Its Association among Mothers of under 5 Children in Kwango District, DR Congo. *International Journal Of Environmentall Research Aand Public Health.* 2017;14(455).

2. **Abdulkadir Mohamed A.** Prevalence and Associated Factors of Exclusive Breastfeeding Practices Among Mothers of Infants Less Than Six Months in Galkayo, Somalia: A Community Based Cross-Sectional Study. *Science Journal Of Public Health.* 2018;6(5):133.

3. **Walters CN, Rakotomanana H, Komakech JJ, Stoecker BJ**. Maternal determinants of optimal breastfeeding and complementary feeding and their association with child undernutrition in Malawi (2015-2016). *Bmc Public Health*. 2019;19(1503).

4. **Tampah-Naah AM, Kumi-Kyereme A**. Determinants of exclusive breastfeeding among mothers in Ghana: a cross-sectional study. *International Breastfeeding Journal*. 2013 Jan;8(1):13.

5. **Kaleem R, Khan Sherwani RA, Adnan M, Rahat T.** Optimal Breastfeeding Practices; Mothers' Knowledge and Practices. *The Professional Medical Journal*. 2017;24(09):1387–91.

6. **Saffari M, Pakpour AH, Chen H.** Factors influencing exclusive *breastfeeding among Iranian mothers: A* longitudinal population-based study. *Tabriz University Of Medical Sciences*. 2016;7(1):34–41.

7. J**ama A, Gebreyesus H, Wubayehu T, Gebregyorgis T, Teweldemedhin M, Berhe T, et al.** Exclusive breastfeeding for the first six months of life and its associated factors among children age 6-24 months in Burao district, Somaliland. *International Breastfeeding Journal* . 2020;15(5).

8. **Plans ND, Plan US, Goals SD, Assembly WH, Targets GN, Security F, et al**. UNICEF Somalia Nutrition Strategy Note. 2020;

9. **Services H, County NC, Author C.** Factors Associated With Exclusive Breastfeeding Among Infants Aged 0-6 Months In A Peri-Urban Low Income Settlement Of Kangemi , Nairobi. 2014;3(4):180–7.

10. **NafeeElsayed, Hoda Mohamed LAA-D**. Exclusive Breastfeeding, Prevalence and Maternal Concerns: Saudi and Egyptian Mothers. *Journal Of Education And Practice*. 2016;7(3):5–11.

11. **Abukari Ibrahim Issaka, Kingsley Emwinyore Agho, Andre MN Renzaho.** Prevalence of key breastfeeding indicators in 29 sub-Saharan African countries: a meta-analysis of demographic and health surveys (2010– 2015. *BMJ Open*. 2017;7.

12. **Maundu P**. University of Nairobi. 2007;

13. **Biks GA, Tariku A, Tessema GA.** Effects of antenatal care and institutional delivery on exclusive breastfeeding practice in northwest Ethiopia : a nested case – control study. *International Breastfeeding Journal*. 2015;1–6.

14. **Tamir Hunegnaw M, Derseh Gezie L, Shimeka Teferra A**. Exclusive breastfeeding and associated factors among mothers in Gozamin district, northwest Ethiopia: a community based cross-sectional study. I*nterntional Breastfeeding* . 2017;12(30).

15. **Göl İ.** Antenatal Care and Breastfeeding. Turkish Journal of Family Medicine and Primary Care. 2018;(June):102–8.

16. D**ejenie Habtewold T, Tadesse Sharew N, Mulugeta Alemu S**. Evidence on the effect of gender of newborn, antenatal care and postnatal care on breastfeeding practices in Ethiopia: a meta-analysis and meta-regression analysis of observational studies. *BMJ*. 2018 May 4;

Appendix

Table1: Socio-Demographic and Socio- Economic Characteristics of Respondents

Variable (s)	Frequency	Percentage
Mothers Age		
18-25	171	40.3
26-30	197	46.5
31-40	56	13.2
Total	424	100.0
Level of Education		
None	279	65.8
Primary	143	33.7
Secondary	2	.5
Total	424	100.0
Level of Income		
<$30	106	25.0
$30-45	267	63.0
$50 and above	51	12.0
Total	424	100.0
Marital Status		
Single	6	1.4
Married	410	96.7
Widowed	8	1.9
Total	424	100
Employment Status		
Domestic worker	163	38.4
Bagger	6	1.4
Casual worker	157	37.0
Hawker	2	.5
Shop keeper	96	22.6
Total	424	100.0
Age of the Child		
24-36 months	365	86.1
37-48 months	53	12.5
49-60 years	6	1.4
Total	424	100.0

Table 2: Maternal and Child Health Care Service-Related Factors Influencing Optimal Breastfeeding

Variables in the Equation Study Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Mother delivered Under Skilled Birth Care	1.401	.448	9.789	1	.002*	4.058	1.688	9.760
Mother adhered to child immunization schedule	.222	.608	.133	1	.715	1.249	.379	4.111
Mother took Child for Growth Monitoring regularly	2.752	.596	21.320	1	.000*	15.680	4.875	50.437
Mother Attended ANC services	.400	.513	.608	1	.436	1.491	.546	4.075
Mother sought PostPartum Family Planning	.662	.229	8.348	1	.004*	1.939	1.237	3.037
Constant	-5.916	1.269	21.744	1	.000	.003		

a. Variable(s) entered on step 1: Age in years, Marital status, Education, Household income, Employment.