

# Challenges for influencing exclusive breastfeeding practice among lactating mothers with infants aged 0–6 months in Borama District, Somaliland: A cross-sectional study

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## Abstract

**Background and Aims:** Exclusive breastfeeding (EBF) has been demonstrated to have positive effects on a child's survival, growth, and development, as well as a mother's health and well-being. The authors aim to examine the barriers to EBF among lactating mothers in Borama town, Somaliland, with infants aged <6 months.

**Methods:** The authors collected primary data on a sample of 153 lactating mothers in Borama town, Somaliland, for this study. This study used descriptive statistics with frequencies and percentages. Moreover, the multivariable logistic regression model is applied to analyze the data.

**Results:** Findings revealed that about 28.1% of mothers pointed out that breastfeeding should be the baby's first meal. Surprisingly, 69.3% of the women were unaware that 6 months of EBF may keep a baby healthy. Results depict that EBF was influenced by lack of education (AOR: 0.013; 95% CI: 0.001, 0.124), marital status (AOR: 0.40; 95% CI: 0.004, 0.427), employed mothers (AOR: 0.070; 95% CI: 0.043, 0.94), mothers perception of milk quantity (AOR: 0.033; 95% CI: 0.001, 0.124), and perceived rejection to breastfeeding by the baby (AOR: 0.043; 95% CI: 0.021, 0.134). Mothers who had no formal education or a primary level of education have less chance of practicing EBF than higher-educated mothers.

**Conclusions:** It is observed that the educational level of mothers, marital status (widow), employed mother, perceived insufficient milk, and the perceived rejection of breastfeeding by the baby are the major challenges for enhancing the EBF practice. The authors suggested that the Ministry of Health examine how effectively breastfeeding counseling is implemented in medical facilities. Moreover, the authors suggest that the government, nongovernmental organizations (NGOs), and community associations collaboratively plan and carry out suitable programs focusing on vulnerable groups.

## KEYWORDS

breastfeeding, development of child, infants, lactating mothers, maternal health

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## 1 | INTRODUCTION

A baby who is exclusively breastfed is one who only consumes breastmilk from his or her mother, a wet nurse, or expressed breastmilk; they do not consume any other liquids or solids, including water, with the exception of oral drops, rehydration solution, or syrups containing vitamins, minerals, or medications.<sup>1,2</sup> The “World Health Organization (WHO),” “American Academy of Pediatrics (AAP),” “American Academy of Family Physicians (AAFP),” and “United Nations International Children’s Emergency Fund (UNICEF)” recommend starting breastfeeding within an hour after birth and continuing to do so exclusively over the following 6 months.<sup>3–9</sup> The WHO suggested that exclusive breastfeeding (EBF) is crucial for a young infant’s healthy growth and development.<sup>1</sup> Globally, one million or more newborn lives could be saved by practicing EBF.<sup>10</sup> EBF rates at 6 months have increased in recent years, with a global prevalence of 37%.<sup>11,12</sup> However, the percentage of infants below 6 months who received EBF is less than 50% in all regions.<sup>12</sup> By 2025, 50% of newborns are anticipated to be exclusively breastfed, up from the current global average of roughly 40%. Although EBF rates have increased over the past two decades, there is still a long way to go before reaching the UNICEF-recommended 100% global target coverage.<sup>13</sup> In developing countries, less than 40% of <6 months infants experienced the advantages of EBF. Less than one-third of newborns aged <6 months are exclusively breastfed in Africa, where the rate is especially low.<sup>11</sup>

EBF may save 1.45 million children annually in developing nations by lowering diarrheal and respiratory tract infection mortality.<sup>14</sup> Unfortunately, early stopping of breastfeeding by substitution of commercial milk, introducing water and other liquids, and poorly weaning practices to solid and soft foods are more common.<sup>15</sup> In Africa, 95% of infants are breastfed, but they are not exclusively breastfed.<sup>11</sup> In Somaliland, mothers do not exclusively breastfeed their children; instead, they give them breastmilk along with camel’s milk, water, or tea.<sup>16</sup> Researchers found that mothers who exclusively breastfed their children of aged 6–24 months in Burao district, Somaliland, were less likely to have received breastfeeding advice during prenatal care, had a female child, had less formal education, had lower household income, had less support from their husbands, and had a female child.<sup>13</sup> Moreover, several previous studies tried to identify the influential factors of EBF worldwide. Researchers highlighted that the interpregnancy interval, prelacteal feeding, family planning, and bottle use, maternal smoking, cultural aspect are linked to breastfeeding practice.<sup>17–23</sup> Current breastfeeding was inversely correlated with parental smoking habits.<sup>20</sup> Breastfeeding status was also influenced by factors like the length of the gestational period, the public hospital where the birth occurred, the absence of prelacteal feeding, not being pregnant, and the location.<sup>21</sup>

A challenge is something new and difficult that requires great effort and determination.<sup>24</sup> It can also consider administering a substance to determine its ability to cause a response.<sup>25</sup> A challenge is a circumstance that made lactating mothers practice of EBF harder

to accomplish. Among these include social and cultural pressures to introduce artificial and water-based foods, as well as mothers’ perceptions that breastmilk alone cannot satisfy their infants’ nutritional demands.<sup>26</sup> Other difficulties include the perception of insufficient breastmilk, painful nipples, returning to school or work, and inadequate latching.<sup>27,28</sup> The difficulties of EBF include women expressing a mentality of worry that the child would develop an addiction to breastmilk, babies refusing breastmilk, and babies not getting enough weight.<sup>29,30</sup> This study conceptualized the challenges as sociodemographic, maternal characteristics, contextual factors, and physical challenges. Demographic factors include the characteristics of a person or population,<sup>31</sup> sociodemographic characteristics include age, education, occupation, and income,<sup>32</sup> maternal factors include knowledge, attitude, and perception,<sup>33</sup> contextual factors such as type of delivery, the place of delivery, and counseling,<sup>24</sup> and physical challenges include the perceived rejection of breastmilk, milk supplies, and latching and painful nipples<sup>34</sup> are included in this study. In particular, in the studied area, there is a scarcity of in-depth research that looks at the influencing variables and difficulties of EBF in Somaliland. The authors, therefore, aimed to investigate the effects of sociodemographic, maternal, contextual, and physical difficulties on EBF among lactating women with children aged 0–6 months in the Borama district of Somaliland.

## 2 | METHODOLOGY

### 2.1 | Research design

In this study, lactating mothers with children aged 0–6 months in Borama District, Somaliland, were the target population. A cross-sectional survey was conducted to determine the difficulties with EBF. The data were collected from lactating mothers attending Mother and Child Health Centers (MCHs) through a face-to-face interview. The inclusion criteria of the sample was lactating mothers with infants aged <6 months and who attend MCHs.

### 2.2 | Sample size

The required sample size was determined utilizing the formula below:

$$n = \frac{Z^2 pq}{d^2},$$

where  $n$  is the desired sample size,  $Z$  is the standard normal variate with a 95% confidence interval (1.96),  $p$  represents proportion of the prevalence of EBF,  $q = (1-p)$  and  $d$  is absolute precision 0.08.

In Somaliland, the prevalence of EBF was 31% in 2020,<sup>35</sup> and the required sample size is

$$n = \frac{(1.96)^2 \times 0.31 \times 0.69}{(0.08)^2} = 128.39 \approx 130.$$

To allow for nonresponses, 20% of the sample size 130 ( $20\% \times 130 = 26$ ) included, added to 130 and gave a total sample size of 156 participants. However, the authors ignore three participants because of incompleteness. Thus, the final sample of size 153 is used in the final analysis.

### 2.3 | Sampling techniques

This study used cluster random sampling methods, considering each MCH as a cluster. From the selected five MCHs, lactating mothers were selected using convenience sampling procedure because some mothers were not interested to participate in this survey. In addition, 49, 21, 31, 23, and 29 lactating mothers were taken from Borama central MCH, Sheed-dheer, Sheikh Ali, Qoor gaab, and Shifo MCH, respectively.

### 2.4 | Data collection instruments and terminology

This study used a semistructured questionnaire designed from a combination of items that restrict respondents on answer format and those that permit respondents to react freely in their own words. It allowed the researcher to collect quantitative data to get more information about the challenges influencing EBF in the Borama district. The questionnaire was self-constructed and had a section on the sociodemographic, maternal, contextual, and physical challenges of EBF in Borama, Somaliland. A pilot survey was conducted before the final survey to check the accuracy of the questionnaire. Mothers sometimes want to stop EBF by claiming that baby rejected breastmilk. The term “perceived insufficient milk” refers to the situation in which a mother believes she has insufficient breast milk to meet the demands of her child.<sup>36</sup>

### 2.5 | Data analysis

This study used descriptive statistics with frequencies and percentages. It also used multivariable logistic regression model. The logistic model is used to predict the probability that a specific class or event will occur, such as practicing or not practicing EBF. In binary logistic regression, the outcome variable is coded as “0” if it is not practicing EBF and “1” for otherwise. Adjusted odds ratio (AOR) and 95% confidence intervals (CI) is used for interpreting the results. Here, to test the significance of the results of logistic regression 5% level of significance is used. The “statistical package for social science (SPSS)” version-25, and Microsoft Excel were used to analyze the data.

### 2.6 | Ethics and consent to participate

The authors would like to thank all the participants who voluntarily participated in this study. The study was carried out with the strictest

commitment to ethical standards. All participants read and approved a consent form after fully understanding it and preserved by the author(s). The Helsinki Declaration of the human participant research association was fully followed by the authors.

## 3 | RESULTS

### 3.1 | Sociodemographic of the participants

The study involved 150 mothers who had infants <6 months. The majority of the mothers, 117 (76.4%) participated in the study were between the ages 20–29 and 30–39 years. Sixty mothers (39.9%) had nonformal educational levels, and about 21% and 24% of mothers have primary and secondary levels of education, respectively. More than half of the women, 91 (59.5%) were unemployed. Forty-seven of the mothers (30.7%) earned between \$100 and \$150 monthly (Table 1).

### 3.2 | Maternal factors and EBF

Among the women, only 43 (28.1%) believed breastfeeding should be the infant's first feeding, while only 42 (27.5%) of them stated that

**TABLE 1** Selected sociodemographic characteristics of mothers.

Sociodemographic variables	Number of mothers	Percent
Mother's age (years)		
14–19	27	17.6
20–29	68	44.4
30–39	49	32.0
40–49	9	5.9
Level of education		
No formal education	61	39.9
Primary	33	21.6
Secondary	37	24.2
College/university	22	14.4
Maternal occupation		
Unemployed	91	59.5
Causal laborer	22	14.4
Employed	33	21.6
Private business	7	4.6
Maternal income		
Less than \$50	35	22.9
\$50–\$100	37	24.2
\$100–\$150	47	30.7
More than \$150	34	22.2

**TABLE 2** Maternal factors, contextual factors, and physical challenges of mothers.

Variable	Categories	Frequency	Percentage
<i>Aspects of knowledge</i>			
Breastmilk should be the baby's first feed	Yes	43	28.1
	No	110	71.9
Colostrums should be fed to the baby	Yes	42	27.5
	No	111	72.5
Baby should be put to the breast after 1 h of birth	Yes	110	71.9
	No	43	28.1
Breastmilk alone can sustain a baby for 6 months	Yes	47	30.7
	No	108	69.3
Breastfeeding protects the baby from illness	Yes	56	36.6
	No	97	63.4
Breastfeeding protects the mother from getting pregnant	Yes	46	30.1
	No	107	69.9
Semisolid/solid food is to be introduced at 6 months	Yes	39	25.5
	No	114	74.5
To feed breastmilk when the mother is away	Yes	9	5.9
	No	144	94.1
<i>Contextual factors</i>			
Place of delivery	Home	11	7.2
	MCH	93	60.8
	Hospital	49	32.0
Mode of delivery	Cesarean	43	28.1
	Assisted delivery	22	14.4
	Normal	88	57.5
Number of delivery	Primiparous	64	42
	Multiparous	89	58
Received counseling	Yes	75	49
	No	78	51
<i>Physical challenges responses</i>			
Breastfeeding problems	Yes	104	68
	No	49	32
<i>Types of breastfeeding problems</i>			
Mastitis	Yes	1	1.3
	No	152	98.7

**TABLE 2** (Continued)

Variable	Categories	Frequency	Percentage
Sore/cracked nipples	Yes	21	20
	No	132	80
Engorged breast	Yes	23	22
	No	130	88
Latching problems	Yes	94	56.2
	No	59	43.8
Breastmilk was insufficient	Yes	111	72.5
	No	42	27.5
Baby rejected breastmilk	Yes	99	62
	No	54	38
Going back to work	Yes	21	19.8
	No	132	80.2

colostrums has to be fed to the baby. One hundred and ten (71.9%) mothers thought the infant was placed to the breast after an hour to give the mother a break. Only 39 (25.5%) mothers of the 108 infants chose semisolid or solid food provided to them at 6 months, while 56 (36.6%) recognized that nursing protects the baby from disease. More than half of the mothers, 108 (69.3%), did not realize that EBF could keep a baby in a healthy condition for 6 months. However, only 5.9% of the moms were aware that expressed breastmilk may be given to the child while the mother was away without harming the child (Table 2).

### 3.3 | Contextual factors and EBF

More than half (51%) of the mothers did not receive counseling about EBF practice. Eighty-eight (57.5%) of the mothers had a normal delivery, 43 (28.1) with cesarean delivery, and only 22 (14.4%) experienced assisted mode of delivery (Table 2).

### 3.4 | Physical challenges and EBF

The result showed the majority of the mothers, 104 (68%) complained of breastfeeding problems. About 56.2% of mothers claimed latching problems, while 22% of mothers experienced nipples engorged after birth. Fifty-five percent of the mothers underlined they stopped EBF with a low quantity of milk from their breasts, whereas 21 (19.8%) of the mothers said were going back to work. Ninety-nine (62%) of mothers blamed their babies for refusing breastmilk after birth or during the first 6 months of their life (Table 2).

### 3.5 | Challenges influenced EBF practice

Results of multivariable logistic regression suggest that the educational level of mothers, family monthly income, marital status, maternal employment, insufficient milk, latching problems, and baby's rejection of breastfeeding are the major challenges for influencing EBF. Mothers who did not attend formal education (2.9%) and mothers with primary (21.4%) and secondary (31.1%) educational levels had lower EBF practices than those who attended university (56.5%). Family monthly income is another factor influencing EBF. Mothers of very low income with less than \$50 per month have higher practice (63.8%) than mothers of low income (\$50–\$100) (21.3%) and those of medium income with \$100–\$150 (8.5%) whereas mothers of higher income more than \$150 have the lowest practice (6.4%) of EBF (Tables 1 and 2).

The results of the logistic regression model are presented in Table 3. The results of the Hosmer and Lemeshow test and the Omnibus Tests of Model Coefficients show that the fitted model is good. Findings depict that the mother's education is significantly influenced by the EBF practice. A mother who had primary education is less likely (AOR: 0.09, 95% CI: 0.022, 0.372) to practice EBF than a mother who passed the university level. In this study, employed mothers are less likely to exclusively breastfeed their kids than those casual labor mothers. Insufficient breast milk is also an important determinant of practicing the EBF. A mother who has perceived insufficient breast milk had more chance of not ensuring the EBF practice. The status of rejecting breastmilk by the baby is also impacted the practice of EBF (Table 3).

**TABLE 3** Challenges influencing exclusive breastfeeding of mothers.

Variables	Odds ratio (95% CI)			
	Crude odds ratio	p Value	Adjusted odds ratio	p Value
<i>Marital status</i>				
Married (Ref.)	1	-	1	-
Widow	0.168 (0.021, 0.341)	0.001	0.4 (0.004, 0.427)*	0.03
Divorced	0.154 (0.019, 1.221)	0.958	0.644 (0.24, 17.19)	0.509
<i>Level of education</i>				
No-formal education	0.023 (0.003, 0.185)	0.01	0.013 (0.001, 0.124)*	0.01
Primary	0.21 (0.072, 0.614)	0.02	0.09 (0.022, 0.372)*	0.01
Secondary	0.347 (0.147, 0.820)	0.051	0.603 (0.157, 0.930)	0.68
University (Ref.)	1	-	1	-
<i>Maternal employment</i>				
Employed	0.062 (0.033, 0.87)	0.001	0.07 (0.043, 0.94)*	0.01
Private business	1.722 (0.281, 2.886)	0.978	0.15 (0.011, 2.141)	0.319
Unemployed	(0.003, 0.717)	0.865	0.068 (0.006, 0.771)	0.659
Casual labor (Ref.)	1	-	1	-
<i>Insufficient breastmilk</i>				
Yes	0.025 (0.004, 0.195)	0.19	0.033 (0.001, 0.124)*	0.025
No (Ref.)	1	-	1	-
<i>Baby rejected breastmilk</i>				
Yes	0.03 (0.003, 0.245)	0.12	0.043 (0.021, 0.134)*	0.032
No (Ref.)	1	-	1	-
<i>Model fitting information</i>				
Hosmer and Lemeshow			19.837	0.011
Omnibus tests of model coefficients			58.921	0.001
Cox & Snell R Square			0.320	

Abbreviation: Ref., reference category.

\*p Value < 0.05.

## 4 | DISCUSSION

The aim of this study was to investigate the obstacles lactating mothers in Borama town with infants younger than 6 months face in maintaining their infants' EBF practices. The study discovered that the educational level of mothers, marital status, maternal employment, insufficient milk, latching problems, and the baby's rejection of breastfeeding are the major challenges influencing EBF. The findings of this study agreed with a study done in Kenya that investigated the relationship between maternal occupations and EBF.<sup>37</sup> The results depict that insufficient breast milk is a contributing factor of EBF. The reason of insufficient production of breastmilk may be the nutritional and health condition of a mother. Researchers found that perceived insufficient milk has been the most typical issue and the most prevalent reason for discontinuance for several months.<sup>38–40</sup> It also supported the findings of another study, which reported that working full time may effect breastfeeding negatively, with 26.1% of mothers breastfeeding their infants for up to 6 months after delivery, while unemployed mothers were more than twice as likely to extend breastfeeding for up to 6 months.<sup>41</sup> Moreover, it is observed that university-educated mothers were more likely to exclusively breastfeed their children than mothers with no formal education or mothers who attended elementary or secondary schools, which is consistent with another study.<sup>13</sup> In sub-Saharan Africa, maternal education at the secondary level and higher was linked to a higher likelihood of EBF, which is consistent with the study findings.<sup>22</sup> The association identified by our study may result from the significance that education plays in raising public knowledge of the use of EBFs. In developing nations, inadequate breastfeeding is responsible for over half (45%) of neonatal infectious fatalities, 30% of diarrheal deaths, 18% of acute respiratory deaths, and 10% of disease burden in infants under 5.<sup>42</sup> A previous study pointed out that insufficient EBF practice up until the age of 6 months may increase the risk of diarrhea and acute respiratory infection.<sup>8</sup>

It is observed that employed mothers are less likely to practice the EBF than casual labor. The underlying reason could be a lack of mother-friendly workplace policies, or paid maternity leave, which leads mothers to stop practicing EBF before the recommended 6-month period.<sup>43</sup> This is consistent with another study in which mothers said that it was challenging to breastfeed while working shifts without access to creche, demonstrating the requirement for a childcare facility.<sup>44</sup> It is crucial for women to receive lactation counseling support, postnatal breastfeeding support, as well as social support to cultivate healthy attitudes and behaviors about breastfeeding and family interaction.<sup>23,45</sup> The results of this study supported by a previous study, which found that the baby's difficulty sucking and latching on (54%), the mother's sore, cracked, and bleeding nipples (37%), the discomfort of the breasts (29%), and the baby's overfull or engorged breasts (24%) were the biggest self-reported barriers to stopping EBF in the first month. Mothers' opinion that they did not have enough milk was another

self-reported contributing factor.<sup>46</sup> Moreover, insufficient availability of mothers' breastmilk also plays a key role in lessening the EBF practices in Borama town, Somaliland. The possible reason for this may be the nutritional deficiencies of mothers. Rejection the breastmilk by the baby is also impacted the practice of exclusively breastfeeding.

### 4.1 | Strengths and limitations of the study

The strength of this study is its novelty; however, it has some limitations. First, the findings is based on a survey in a district and the small sample size may not represent the overall country's situation. Large sample may improve the findings of the study. Second, causal inference is not possible because data were collected by cross-sectional study. To acquire a more in-depth view of how the EBF is practiced, future research may take into account a broad sample that includes the whole country and other relevant factors.

## 5 | CONCLUSION

Maternal factors had an insignificant influence on EBF, and contextual factors had an insignificant influence on EBF. However, the study found that the educational level of mothers; marital status, maternal employment, insufficient milk, latching problems, and baby's rejection to breastfeeding are the major challenges that influenced EBF among lactating mothers in Borama, Somaliland. The authors suggested that the Ministry of Health examine how effectively breastfeeding counseling is implemented in medical facilities as WHO and UNICEF have recently published guidance and guidelines on breastfeeding counseling. Moreover, the authors suggest that the government, nongovernmental organizations (NGOs), and community associations collaboratively plan and carry out suitable programs focusing on vulnerable groups.

### AUTHOR CONTRIBUTIONS

**Mohamed Said Hassan:** Conceptualization; data curation; formal analysis; methodology; writing—original draft. **Md. Moyazzem Hossain:** Methodology; supervision; validation; writing—original draft; writing—review and editing.

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### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The authors confirm that the data supporting the findings of this study are available within the article and raw data will be available upon reasonable request to the first author.

## TRANSPARENCY STATEMENT

The lead author, Md. Moyazzem Hossain affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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