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Abstract

Exclusive breastfeeding (EBF) for the first six months is essential for optimal infant nutrition and emotional development. Despite this, Rwanda's EBF rates-81% among infants under six months and 68% among those aged four to five months-remain below UNICEF's 100% recommendation. This cross-sectional study examined the prevalence of EBF, maternal knowledge, and associated factors among mothers attending selected health centres in Musanze District, an area with high under-five stunting despite food sufficiency. A total of 260 mothers with infants aged 6–15 months were randomly selected from Muhoza, Kimonyi, and Nyakinama Health Centres between May 19 and June 18, 2023. Data were collected using a structured questionnaire covering socio-demographic characteristics, perinatal factors, and EBF practices. Analysis was performed using STATA 15, employing chi-square tests and logistic regression to identify factors associated with six-month EBF. Most participants were aged 25–34 years (52.7%), lived in urban areas (58.1%), and were stay-at-home mothers (75.4%). The study found that 79% of mothers exclusively breastfed for six months. Knowledge of EBF was generally high, with 94.6% having heard of EBF and 84% demonstrating good knowledge-particularly regarding its benefits (98.5%) and recommended duration (89.2%). Several factors were significantly associated with EBF practice. Mothers without breastfeeding-related health problems were 4.3 times more likely to practice EBF than those with such issues. EBF was also protective against gastrointestinal infections in infants. Additionally, valuing maternal support-especially a mother's opinion-increased the likelihood of practicing EBF by 2.5 times. Knowledge level alone, however, was not a significant predictor. Overall, although knowledge of EBF is high, the practice remains below optimal levels. The study concludes that exclusive breastfeeding is widely practiced in Musanze District, supported by strong maternal awareness of its importance and recommended duration. The study concludes that maternal health, infant well-being, and support from close family members remain central influences that determine whether mothers sustain exclusive breastfeeding for the full six months. The study recommends that health authorities and health facilities should strengthen early breastfeeding counselling, address maternal breastfeeding challenges promptly, and reinforce community education throughout the pre- and post-natal periods. The study recommends that families and community members should offer consistent support to breastfeeding mothers, while future programs should integrate influential family figures such as grandmothers to improve adherence to exclusive breastfeeding.

Keywords: Breastfeeding, Mothers, Infants Aged 6-15 Months, Health Facilities, Musanze District

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1.0 Introduction

For the first six months of a baby's life, the WHO defined exclusive breastfeeding (EBF) as giving them just breast milk, with no other solid or liquid food, other than medications and drops and/or syrups containing vitamins, minerals, or other supplements (Jama et al., 2020). Worldwide, approximately 210 million women become pregnant each year (Kumar Singh et al., 2019) and 140 million infants are born, unfortunately around 40% of newborns were exclusively breastfed (Jama et al., 2020). Even though EBF rates have been rising over the past 20 years, UNICEF still recommends a 100% global target coverage, which took time to accomplish. Due to the current low EBF's prevalence in poorer nations, particularly in central and west Africa, which also happen to have some of the most severe newborn malnutrition rates in the entire globe, is evidence of this (Mensah et al., 2017).

In Europe, there are variations in breastfeeding rates where by at six months, 38% to 71% and 13% to 39% of newborns were reported to be breastfed or exclusively breastfed, respectively. Immediately after birth, between 56% and 98% of infants were reported to have had any human milk in all nations while 56% to 98% of newborns received some human milk soon after delivery (Theurich et al., 2019). According to a Chinese study, 16% of 0 to 6 months old babies were solely breastfed in rural western China. Lower rates of exclusive breastfeeding were linked to fathers living with their partners and it did not increase when the father served as the secondary caretaker. Even after eliminating grandma's assistance, the association remained unfavorable. Both practically and emotionally, maternal perceptions of the support of the breastfeeding family were not improved by paternal co-residence, and it also diminished the mother's ability to make decisions (Nie et al., 2021).

In Africa, there is a wide range of statistic on the use of exclusive breastfeeding. Nationally in 2017, Ethiopia at 58.2%, Tanzania at 52.6%, DRC at 45.9%, Kenya at 37.6%, and Namibia at 40.9% was at or approaching the 2025 prevalence target, EBF prevalence increased across the country of South Africa from 10.2% in 2000 to 23.8% in 2017. The comparatively low national average in South Africa was influenced by regions with steadily declining levels, like the City of Johannesburg 4.9% in 2000 with 17.4% in 2017 and the entire Gauteng province 5.7% in 2000 up to 19.4% in 2017 (Bhattacharjee et al., 2019). Between 2000 and 2018, EBF prevalence grew by 1%, where under-five mortality (U5M) dramatically decreased by 3.4 per 1000 children per year. If EBF prevalence increased by 10%, a under-five mortality diminution of 5.6 per thousand children may be anticipated. Sub-Saharan Africa experienced a gross domestic product loss unrelated to health of more than \$29 billion in 2018. It is anticipated that U5M will cost \$42 billion by 2030 (Pretorius et al., 2021).

According to the study conducted in East Africa, 16 papers were reviewed and reported that 84.4% of moms were aware of EBF, 49.2% recognized that it only lasted for the first six months and Moms have heard about EBF in 96.2% of cases. Additionally, 24.0% of moms strongly disagreed and 42.1% disagreed with the statement that it is crucial to give breast milk to a newborn as soon as possible, and 47.9% disputed that it is crucial to throw away the colostrum. However, 42.0% of women opted to give their babies solely consume breast milk for the 1st six months after birthday. On the other hand, 55.9% of them had been breastfeeds exclusively their babies for at least six months (Dukuzumuremyi et al., 2020).

In Rwanda, below 6 months of age, 81% of infants are breastfed exclusively. With age, the proportion of newborns who are exclusively breastfed falls from 87% and 89% at ages 0-1 month and 2-3 months, respectively, to 68% at ages 4-5 months (NISR, 2021).

Many maternal and child-related factors, including location, births' number, infant's age, infant's gender, spacing between two children, mother occupation, mother's age and level of educational, mothers' domestic workload, mass media access as well as how mother access to healthcare services are blamed for the low rate of EBF in the majority of developing nations (Jama et al., 2020). In Musanze District of Rwanda, there has never been research exclusive breastfeeding and associated factors among mothers with infants. Therefore, the goal of this research is to pinpoint the factors associated with exclusive breastfeeding among mothers with infants at selected health facility. This will help Musanze District in reviewing its maternal and child health policies, particularly EBF practice.

1.1 Objectives of the Study

The study was guided by the following objectives;

1. To estimate the prevalence of exclusive breastfeeding among mothers with infants aged 6-15 months at selected health facilities in the Musanze District.
2. To access the knowledge on exclusive breastfeeding among mothers with infants aged 6-15 months at selected health facilities in the Musanze District.
3. To identify factors associated with exclusive breastfeeding among mothers with infants of 6-15 months at selected health facilities in the Musanze district.

2.0 Research Methodology

An analytical cross-sectional design with a quantitative approach was used to evaluate exclusive breastfeeding and its associated factors among mothers with infants attending selected health facilities in Musanze District. The study was conducted in three health centers-Muhoza, Nyakinama and Kimonyi-which serve both rural and urban populations. These sites were purposively selected due to the high number of mothers who regularly attend monthly immunization services, compared to the remaining fifteen health centers in the district that receive fewer mothers for vaccination. Selecting these facilities helped increase the number of potential participants. The target population consisted of mothers with infants aged 6–15 months who sought vaccination services at the three selected health centers. According to prior data from the Musanze District Health Management Information System (HMIS, 2022), approximately 741 mothers with infants in this age range visited these facilities monthly. Mothers who met the age criteria for their infants and were willing to participate were included in the study, while those unwilling to participate or those whose infants were unwell were excluded. To determine the required sample size, the Yamane formula (Adam, 2020) was applied, using a population of 741 mothers and a margin of error set at 0.05. The resulting sample size was 260 mothers of infants aged 6-15 months. These mothers were interviewed across the selected health facilities. According to Musanze District HMIS (2022), the estimated number of deliveries per month at each health facility informed the distribution of participants during the sampling process.

3.0 Results

The results were presented in sections.

3.1 Demographic Characteristics of Respondents

Following the completion of the data collection phase, the researcher classified the respondents based on their gender, age, marital status, religion, residence area, employment and Ubudehe category.

Table 1: Demographic Characteristics of The Study Participants

Variable	Frequency (n)	Percent (%)
Age of the mother in years		
17 to 24	69	26.5
25 to 34	137	52.7
34 to 44	54	20.8
Total	260	100
Marital status		
Married	108	41.5
Cohabiting	132	50.8
Others(single/divorced/widowed)	20	7.7
Total	260	100
Religion		
Christian	254	97.7
Muslim	6	2.3
Total	260	100
Residence area		
Urban	151	58.1
Rural	109	41.9
Total	260	100
Employment		
Stay home mother	196	75.4
Self-employed	37	14.2
Full time	27	10.4
Total	260	100
Ubudehe category*		
I	12	4.6
II	181	69.6
III	67	25.8
Total	260	100

*Ubudehe category means wealth quintile or category

Source of data: Primary data (2023)

The table 1 shows that of the 260 breastfeeding mothers, more than a half (52.7%) aged between 25 and 34 years, 50.7% were cohabiting, 41.5% were married, most of them were Christian (97.7%), more than a half living in urban areas (58.1%), majority (75.4%) were stay home mothers, and about 69.6% were in Ubudehe (wealth) category II. The findings for this study are organized by specific objectives including the prevalence of exclusive breastfeeding, knowledge category on exclusive breastfeeding, and factors associated with exclusive breastfeeding among mothers in selected health facilities in the Musanze District, Northern Rwanda.

3.2 The prevalence of exclusive breastfeeding

The table 2 shows that about 98.1 % of mothers breastfed their babies; 81.2% within one hour of birth, 98.5% on colostrum, and about 79.0% exclusively on breast milk in the first six months.

Mothers who responded “No” on whether their baby receive any other thing other than breast milk in the first 6 months were considered to have exclusively breastfed their babies.

Table 2: Breast feeding information among others

Variable	Frequency (n)	Percent (%)
Has your baby ever been breastfed?		
Yes	255	98.1
No	5	1.9
How long after birth did you first put your baby to the breast?		
within one hour	211	81.2
within 2 to 6 hours	37	14.2
within 7 hours and above	12	4.6
At what age of infant did you start giving other drinks?		
0 to 5 months	54	21.0
6 months and above	206	79.0
Did your baby feed on the first milk (colostrum) just after birth		
Yes	256	98.5
No	4	1.5
Did your baby receive any other thing other than breast milk in first 6 months?		
Yes	54	21.0
No	206	79.0

Based on self-report and memory of the mothers, mothers who reported to have put their babies on breast without mixing with other drinks or foods for 6 months. The figure 1 shows proportion of women who practiced EBF.

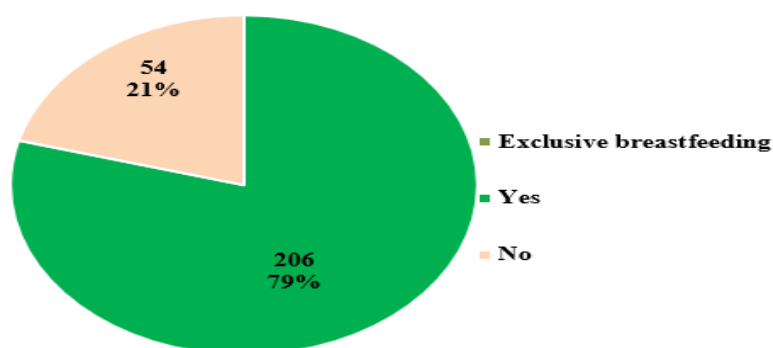


Figure 1: Prevalence of exclusive breast feeding among mothers in selected health facilities in Musanze, Rwanda, May to June 2023

The figure 1 shows that the prevalence of exclusive breastfeeding among the mothers was 79%.

3.3 Knowledge on Exclusive Breastfeeding

Mothers were asked questions on EBF including whether they heard about it and its role, among others. Table 3 shows detailed mothers’ responses on the questions.

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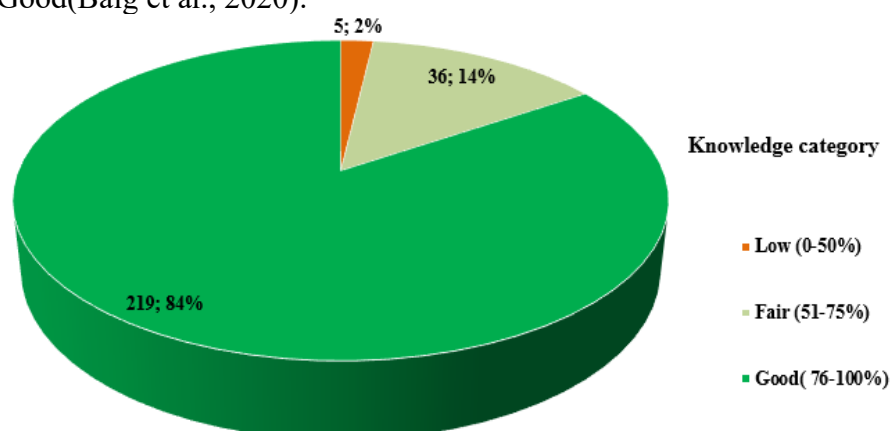
Table 3: Mothers' knowledge on exclusive breastfeeding

Variable	Frequency (n)	Percent (%)
Ever heard about EBF		
No/Incorrect	14	5.4
Yes/Correct	246	94.6
How long should a baby breastfeed exclusively?		
6 months/ Correct	28	10.8
Below/above 6months /Incorrect	232	89.2
If the baby suckles more, the breast makes more milk?		
No/Incorrect	28	10.8
Yes/Correct	232	89.2
Large and tiny breasts both produce an adequate amount of milk?		
No/Incorrect	121	46.5
Yes/Correct	139	53.5
Providing a baby with nothing but breast milk in 1 st 6 months has advantage?		
No/Incorrect	4	1.5
Yes/Correct	256	98.5
Breast milk prevents disease to children.		
No/Incorrect	3	1.2
Yes/Correct	257	98.8
The best way of feeding in the first 6 months a baby is breastfeeding?		
No/Incorrect	10	3.8
Yes/Correct	250	96.2
The best way of feeding a baby in the 1 st 6 months is mixing breast milk and formula feeding		
Yes/Incorrect	62	23.8
No/Correct	198	76.2
The best way of feeding a baby during the 1 st 6 months is formula feeding only?		
Yes/Incorrect	46	17.7
No/Correct	214	82.3
Breastfeeding and formula feeding are equally good ways to feed a baby?		
Yes/Incorrect	38	14.6
No/Correct	222	85.4
BF Reduce uterine contraception and bleeding?		
No/Incorrect	38	14.6
Yes/Correct	222	85.4
Frequent and prolonged BF is PF method?		
No/Incorrect	38	14.6
Yes/Correct	222	85.4
BF mother should eat balanced meals to have high quality milk?		
No/Incorrect	9	3.5
Yes/Correct	251	96.5
Total	260	100

Source of data: Primary data (2023)

Table 3 illustrates of 260 mothers, 94.6% had heard about exclusive breastfeeding (BF) and about 89.2% were able to recognize recommended EBF period of 6 months. Moreover, majority of the mothers knew that the more a baby suckles a breast the it makes more milk (89.2%), providing a baby with nothing but breast milk has advantage (98.5%), the best way of feeding a baby is breastfeeding (96.2%), BF Reduce uterine contraception and bleeding (85.4%), frequent and prolonged BF can be used as family planning method (85.4%), and that BF mothers should eat balanced meals to have a high-quality breast milk.

The following figure shows the knowledge category of the respondents. Based on knowledge questions in table 3, three (3) categories of knowledge were produced include Low, moderate/fair, and Good/high knowledge. Each corrected answered question was scored one. A total of 13 questions were used to assess EBF knowledge level among the mothers. Mother's knowledge was classified as follows based score: 2-6 (<50%) low , 7-9 (51-75%) moderate, and 10-13(76-100%) Good(Baig et al., 2020).



Source of data: Primary data (2023)

Figure 2: Breast feeding knowledge categories among respondent mothers in Musanze, Rwanda

Figure 2 shows that of the 260 mothers, about majority (84%) of the mothers had good knowledge on baby breast feeding including exclusive breast feeding while 14% and 2% of them had fair and low knowledge, respectively.

3.4 Factors Associated with Exclusive Breastfeeding Among Mothers

Different characteristics of the mothers including demographic, partner, obstetric, knowledge, and peer influence characteristics were cross-tabulated with whether the mother exclusively breastfed her baby or not and table 4, 5, 6, and 7 shows detailed findings.

Table 4: Demographic characteristics versus exclusive breastfeeding among Musanze mothers

Factors	N	Exclusively breastfeeding		X^2 test	p value
		No	Yes		
Age					
17 to 24	69	15(21.7)	23(78.3)	3.93	0.140
25 to 34	137	23(16.8)	114(83.2)		
34 to 44	54	16(29.6)	38(70.4)		
Marital status)					
Married	108	22(20.4)	86(79.6)	2.74	0.27
Cohabiting	132	25(18.9)	107(81.1)		
Single/divorced/widowed	20	7(35.0)	13(65.0)		
Religion					
Christian	254	51(20.1)	203(79.9)	3.189	0.074
Muslim	6	3(50)	3(50.0)		
Residence area					
Urban	151	32(21.2)	119(78.8)	0.039	0.843
Rural	109	22(20.2)	87(79.8)		
Employment					
Stay home mother	196	41(20.9)	155(79.1)	0.102	0.950
Self-employed	37	8(21.6)	29(78.4)		
Full time	27	5(18.5)	22(81.5)		
Ubudehe category					
I	12	3(25.0)	9(75.0)	1.427	0.490
II	181	34(18.8)	147(81.2)		
III	67	17(25.4)	50(74.6)		
Number of relatives/friends that are currently breastfeeding mother talks to					
1 to 4 relatives	138	33(23.9)	105(76.1)	1.767	0.184
5+ relatives	122	21(17.2)	101(82.8)		
Partner education					
No formal education	32	7(21.9)	25(78.1)	0.071	0.965
Primary	105	21(20.0)	84(80.0)		
Secondary and above	123	26(21.1)	97(78.9)		
Partner's age					
17 to 24	12	4(33.3)	8(66.7)	5.767	0.056
25 to 34	152	24(15.8)	128(84.2)		
34 to 60	96	26(27.1)	70(72.9)		

Source of data: Primary data (2023)

The results in table 4 shows that no social demographic characteristics significantly associated with EBF (p value >0.05). The following table shows correlation between EBF and perinatal factors of the mothers.

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Table 5: Perinatal factors versus exclusive breastfeeding among Musanze mothers

Factors	N	Exclusively breastfeeding		X ₂ test	p value
		No	Yes		
Birth method					
Vaginal	216	41(19.0)	175(81.0)	2.479	0.115
C/section	44	13(29.5)	31(70.5)		
Kangaroo practice					
Yes	218	42(19.3)	176(80.7)	1.853	0.173
No	42	12(28.6)	30(71.4)		
Birthplace					
Home	3	0(0)	3(100.0)	0.796	0.372
Health facility	257	54(21.0)	203(79.0)		
Baby ever GI infection?					
Yes	208	49(23.6)	159(76.4)	4.914	0.027
No	52	5(9.6)	47(90.4)		
Ever experienced any BF problem					
Yes	53	23(43.4)	30(56.6)	20.71	<0.001
No	207	31(15.0)	176(85.0)		

Source of data: Primary data (2023)

The result in table 5 of bivariate analysis of association between EBF and perinatal factors indicated that the following variables: Baby ever GI infection (p value = 0.027) and Mother experienced breastfeeding issue (p-value= <0.001) showed a statistically significance association to EBF.

Table 6: Social factors versus exclusive breastfeeding among Musanze mothers

Factors	N	Exclusively breastfeeding		X ₂ test	p value
		No	Yes		
Peer influence on EBF					
My husband encourages me for EBF					
Yes	231	41(17.7)	190(82.3)	11.481	0.001
No	29	13(44.8)	16(55.2)		
My family, or friends encourage me for EBF					
Yes	245	47(19.2)	198(80.8)	6.488	0.011
No	15	7(46.7)	8(53.3)		
Relatives encourage me for EBF					
Yes	243	45(18.5)	198(81.5)	11.441	0.001
No	17	9(52.9)	8(47.1)		
Importance of people's opinions					
EBF					
How important is baby's father opinion on EBF?					
Somehow or not	31	10(32.3)	21(67.7)	2.823	0.093
Important	229	44(19.2)	185(80.8)		

How important is your father opinion on EBF?					
Somehow or not	183	37(20.2)	146(79.8)	0.1139	0.736
Important	77	17(22.1)	60(77.9)		
How important is your mother opinion on EBF?					
Somehow or not	50	16(32.0)	34(68.0)	4.745	0.029
Important	210	38(18.1)	172(81.9)		
How important is your healthcare provider opinion on EBF?					
Somehow or not	12	4(33.3)	8(66.7)	1.207	0.272
Important or very important	248	50(20.2)	198(79.8)		

Source of data: Primary data (2023)

The results in Table 6 illustrate association between social factors and exclusive breastfeeding show that mothers encouraged on EBF by husband (p-value =0.001), family, or friends (p-value = 0.011), relatives (p-value =0.001) and mothers believing the importance of their mothers as important or very important (p-value= 0.029) were statistically significance to EBF.

Table 7: Mothers' knowledge category versus Exclusive breastfeeding among Musanze mothers

EBF knowledge category	Whether exclusively breastfed her baby			X^2 test	p value
	N	No	Yes		
Low (0-50%)	5	3(60.0)	2(40.0)	6.309	0.043
Fair (51-75%)	36	10(27.8)	26(72.2)		
Good (76-100%)	219	41(18.7)	178(81.3)		

The Table 7 show that mother with good knowledge on exclusive breastfeeding (p-value =0.043) was statistically associated with exclusive breastfeeding.

To find out the strength of association between demographic, perinatal, social factors, and knowledge level associated with EBF at bivariable analysis level, all variables statistically associated with EBF were put in one logistic regression model. However, only factors which showed a statistical association (p value <0.05) were maintained in the model. The following table shows unique contribution of each in the EBF.

Table 8: Logistic regression of factors associated with EBF among mothers

Factor	COR	95% CI		p value	AOR	95% CI		p value
		Lower	Upper			Lower	Upper	
Baby ever GI infection?								
Yes	Ref							
No	4.4	2.2	8.4	<0.001	4.8	1.5	16	0.009
Mother ever experienced any BF problem								
Yes	Ref							
No	4.3	2.2	8.4	<0.001	4.3	2.1	9.0	<0.001
My family, or friends encourage me for EBF								
No	Ref							
Yes	3.7	1.3	10.7	0.016	2.2	0.5	10.7	0.295
My mother encourages me for EBF								
Yes	Ref							
No	3.1	1.2	8.1	0.022	1.8	0.4	7.2	0.400
Relatives encourage me for EBF								
Yes	5	1.8	13.5	0.002	3.2	0.7	14.5	0.126
No	Ref							
How is important is your mother's opinion on EBF								
Somehow or not important	Ref							
Important or very important	2.1	1.1	4.3	0.032	2.5	1.1	6.0	0.028
EBF knowledge category								
Low (14-50%)	Ref							
Fair (51-75%)	3.9	1.4	26.9	0.167	1.2	0.1	16.7	0.889
Good (76-100%)	6.5	2	40.2	0.044	2.1	0.2	36.4	0.551

*AOR: Adjusted Odd ratio; **GI: Gastro-intestinal, *COD: Crude Odd ratio.

Source of data: Primary data (2023)

Table 8 illustrates that mothers who did not do EBF had higher 4.8 times risks of having a child suffering from GIT infection (AOR = 4.8, 95% CI: [1.5-16], $p = 0.009$) than those who did EBF. Moreover, mothers experienced BF problems were 4.3 times more likely to practice EBF (AOR = 4.3, 95% CI: [2.1-9.0], $p = <0.001$) compared to the mother who don't experience BF issues. However, Mothers who valued their mothers' opinion on EBF as important or very important were 2.5times (AOR = 2.5, 95% CI: [1.1-6.0], $p = 0.028$) more to practice EBF than those who did not. Other variables like EBF knowledge level, encouragement from family, friends, and relatives were not finally significantly associated with EBF ($p < 0.05$).

4.0 Discussions of the Findings

The present study assessed the prevalence of exclusive breastfeeding (EBF) and its associated factors among mothers with infants attending a selected health facility in Musanze District. The discussion focuses on the study's specific objectives, including the prevalence of EBF, the level of maternal knowledge on EBF, and the determinants associated with exclusive breastfeeding

practices. The study found an EBF prevalence of 79%, which is comparable to findings from Southern India (79.2%) (Ogbo et al., 2019). This prevalence is, however, higher than that reported in Indonesia (61%) (Hadi et al., 2021) and in Ethiopia, where rates ranged between 59.3% (Tadele et al., 2016) and 60.4% (Getu Engida, 2021). Such differences may be attributed to variations in maternal education levels, socio-demographic characteristics, and the strength of maternal and child health policies-particularly those promoting EBF. Differences in community health promotion strategies and health system support for breastfeeding may also contribute to these variations.

In the Rwandan context, EBF prevalence varies across districts, regions, and periods of assessment. The 79% prevalence observed in this study is consistent with the national estimate of 81% reported by the National Institute of Statistics of Rwanda (NISR, 2021). However, it remains lower than the 87% reported in Kirehe District following targeted breastfeeding interventions (Gato et al., 2022). These discrepancies are likely influenced by methodological differences across studies and the intensity of local EBF promotion initiatives. Despite the encouraging rate, the EBF prevalence in Musanze District still falls short of the 100% target recommended by WHO and UNICEF, which advise initiating breastfeeding within the first hour of birth and exclusively breastfeeding for the first six months of life (WHO, 2023).

The study also found that 84% of mothers had good knowledge of EBF. Most mothers had heard about EBF (94.6%), were aware of the six-month recommendation (89.2%), and recognized the substantial benefits to infants (98.5%). These findings demonstrate higher levels of comprehensive EBF knowledge compared to studies from Ethiopia, where only 34.7% correctly identified the recommended EBF duration despite high awareness (93.6%) (Tadele et al., 2016), and Uganda, where only 62.6% could define EBF and 53.5% knew its appropriate timing (Adrawa et al., 2016). Although awareness of EBF is consistently high across countries—often above 90%—the depth of knowledge varies widely. This variation may reflect differences in maternal health education strategies, community health worker engagement, and nationwide breastfeeding promotion campaigns.

Regarding determinants of EBF, the study identified several significant factors. Mothers who had not experienced breastfeeding-related health issues were more likely to practice EBF (AOR = 4.3). This aligns with findings from India, where poor maternal health and low milk production were common among non-EBF mothers (Okunade, 2018). Additionally, the current study found that mothers who considered their own mothers' opinions as important had higher odds of practicing EBF (AOR = 2.5). This underscores the influential role of maternal family support, consistent with findings from Indonesia, where family support increased the likelihood of EBF by 2.86 times (Ratnasari et al., 2017). The association between infant gastrointestinal illness and EBF (AOR = 4.8) may suggest that mothers respond to infant health concerns with improved breastfeeding practices, although further research is needed to clarify this relationship.

Contrary to findings in other countries, the present study did not identify maternal age, marital status, education level, employment status, or pregnancy planning as significant predictors of EBF. For instance, studies in Japan reported strong associations between EBF and marital status, maternal education, maternal employment, and paternal education (Inano et al., 2021). Likewise, unplanned pregnancies in Bangladesh were negatively associated with EBF (Khatun et al., 2018).

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The absence of these associations in the present study may be due to differences in sample size, cultural norms, or contextual factors such as the socio-economic disruptions caused by the COVID-19 pandemic, which may have altered maternal employment patterns and childcare dynamics. Overall, the findings demonstrate that while EBF prevalence in Musanze District is relatively high and maternal knowledge on EBF is strong, there remains room for improvement to meet global recommendations. Family support—especially from the maternal grandmother—and maternal health remain critical determinants requiring attention in future EBF promotion strategies. The results reflect ongoing national efforts to promote optimal breastfeeding practices and highlight the importance of strengthening targeted interventions to further increase EBF rates.

5.0 Conclusion

The study concludes that exclusive breastfeeding is widely practiced among mothers in Musanze District, supported by strong awareness of its purpose, recommended duration, and health benefits. The findings indicate that most mothers understand the value of breastfeeding in early childhood nutrition and illness prevention, reflecting effective health education efforts within the district. Nonetheless, the practice still falls short of the national and international aspiration for universal exclusive breastfeeding, showing that knowledge alone is not always enough to sustain consistent breastfeeding behaviours throughout the first six months.

The study further concludes that exclusive breastfeeding is shaped by a combination of maternal health, family influence, and infant well-being. Mothers who experience breastfeeding difficulties are less likely to sustain exclusive breastfeeding, showing the need for timely clinical support and practical guidance. The opinions of close family members, especially the maternal grandmother, also play a strong role in shaping feeding decisions, demonstrating the importance of involving extended family in breastfeeding promotion. Strengthening maternal support systems, improving early breastfeeding counselling, and reinforcing community-based encouragement will help the district advance toward higher exclusive breastfeeding adherence.

6.0 Recommendation

The study recommends that national and district health authorities should strengthen ongoing maternal and child health programs to better support exclusive breastfeeding from pregnancy through the post-natal period. Health facilities should provide consistent counselling, early assessment of breastfeeding challenges, and timely clinical assistance to mothers who encounter physical difficulties that can disrupt breastfeeding. Public health communication should continue to deliver clear and accessible messages on television, radio, and community platforms so that mothers and caregivers remain informed and motivated to practice exclusive breastfeeding. The study further recommends that community members should actively encourage breastfeeding mothers, with husbands, grandmothers, and close relatives offering practical and emotional support throughout the first six months. Musanze District health units and the selected health facilities should introduce structured strategies that strengthen early detection and management of any maternal or infant conditions that may hinder breastfeeding. Researchers should also explore additional cultural and household factors influencing breastfeeding practices to guide more tailored interventions in the district.

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