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Original Research Article

Knowledge, attitude, and practice towards exclusive breastfeeding and associated factors among adolescent mothers in Nyagatare district, Rwanda

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ABSTRACT

Background: Breastmilk provides essential nutrients for infants, supporting growth and protecting against diseases. It also reduces mothers' risk of ovarian and breast cancer. The World Health Organization recommends exclusive breastfeeding for six months to combat malnutrition, reduce child mortality, and improve maternal health.
Methods: This cross-sectional study assessed the knowledge, attitudes, and practices (KAP) of EBF among 194 adolescent mothers in Nyagatare district, eastern province, Rwanda.
Results: The findings showed that 85.6% of adolescent mothers had adequate knowledge of EBF, and 78.9% displayed a positive attitude toward it. However, only 27.3% practiced EBF. Key factors positively influencing EBF included primary education [adjusted odds ratio (AOR) =1.161, 95% confidence interval (CI) =1.721-2.319, p=0.009], secondary education (AOR=3.056, 95% CI=2.006-5.542, p=0.013), and a positive attitude (AOR=5.702, 95% CI=1.633-19.91, p=0.006). Employment (AOR=2.041, 95% CI=0.556-7.497, p=0.282) and urban residence (AOR=1.622, 95% CI=1.038–3.089, p=0.007) also increased the likelihood of EBF. Factors reducing EBF odds included an unintended pregnancy (AOR=0.204, 95% CI=0.051-0.817, p=0.025) and having only one child (AOR=0.418, 95% CI=0.037-0.792, p=0.043).
Conclusions: Although adolescent mothers generally have high knowledge and positive attitudes toward EBF, actual practice remains low. Addressing barriers through targeted educational and practical interventions is essential to improve EBF rates.

Keywords: Adolescent mothers, Exclusive breastfeeding, Rwanda

INTRODUCTION

Exclusive breastfeeding of a newborn from birth to six months provides optimal nutrition and supports the health of both the child and the mother. Infants receive all the essential nutrients required for growth and are protected from illnesses such as pneumonia and diarrhea. Additionally, mothers who practice exclusive breastfeeding are at a lower risk of developing breast and ovarian cancers, as well as hypertension.[1]

The status of exclusive breastfeeding knowledge, attitudes, and practices among mothers presents a multifaceted picture. While significant progress has been made in raising awareness about the benefits of exclusive breastfeeding, challenges persist in translating knowledge into action. According to recent statistics, only a fraction of infants worldwide, approximately 41%, are exclusively breastfed during the first six months of life, as recommended by the World Health Organization.[2] This indicates a substantial gap between awareness and

practice. Furthermore, disparities exist across regions and socioeconomic groups, with higher rates of exclusive breastfeeding observed in low-income countries than in higher-income nations.[3]

The global rate of exclusive breastfeeding for improving the health of newborns remains unclear, as only 38% of newborns are exclusively breastfed in the first six months of life.[4,5] Sub-Saharan Africa is renowned for high rates of infant mortality (41.6 deaths per 1000 live births); however, only 33% of infants are exclusively breastfed (Borra et al, 2012).[6] Rwanda had the highest percentage of children exclusively breastfed for the first 6 months of life (87%) in 2015, which slightly declined to 81% in 2020.

World Health Organization, (2019) estimated approximately 823,000 under-five deaths and 200,000 deaths from breast cancer because of poor breastfeeding practices and approximately 595 379 childhood deaths from diarrhea and pneumonia attributed to poor breastfeeding practices. A total of 98243 deaths from breast and ovarian cancers resulted from poor breastfeeding practices.

The WHO (2019) recommended that for the first six months of life, a newborn baby should be fed only breastmilk without other solids, water, or other liquids, which is called exclusive breastfeeding. Breastmilk is clean, safe, and free for every family regardless of their social and economic status, and every woman can easily learn to breastfeed a baby and can do so anytime and anywhere.[3]

Approximately 21 million (15%) adolescent girls become pregnant each year, of these, approximately 12 million result in childbirth. Approximately 18.8% of global adolescent pregnancies occur in Africa, 19.3% of which are in Sub-Saharan Africa, and 21.5% of which occur in eastern Africa, where Rwanda is located; half of these pregnancies are unwanted, and over 78000 babies were born to first-time adolescent mothers in Rwanda in four years (2016-2019).[4,5]

Exclusive breastfeeding has a healthy effect on the cognitive development of a child, well-breastfed babies tend to perform better at school, breastmilk is a rich source of fatty acids essential for the development of the infant's brain, optimal breastfeeding reduces stunting among children, and the longer a child is breastfed, the more health benefits are received.[1,6,7] Exclusive breastfeeding investment contributes to poverty reduction as the first goal of sustainable development, and USD $35 was estimated to return for a dollar invested by a country in sensitizing breastfeeding policy. Annually, USD $302 billion, equivalent to 0.5% of gross national income, is lost due to inadequate breastfeeding rates globally.

Studies conducted on exclusive breastfeeding among adolescent mothers revealed positive attitudes and practices related to the early initiation of exclusive breastfeeding (>70%); however, approximately half of these attitudes and practices may stop within the first month, and only 20% continue to exclusively breastfeed for up to the recommended 6 months.[8]

Poor families, lack of social support, lack of knowledge about breastfeeding and feeling embarrassed about feeding in public were mentioned as barriers to breastfeeding. Adolescent mothers were observed to face most of the barriers to breastfeeding and were disproportionally less likely to breastfeed their children.[9]

The 6th demographic and health survey conducted in Rwanda showed that during five years (2015-2020), the exclusive breastfeeding rate declined from 87% to 81% among women of all reproductive ages (15-49), and little is known about the trend of exclusive breastfeeding among adolescent mothers in Rwanda.[10] A study in Bangkok indicated that approximately 97.4% of adolescent mothers adhered to early initiation of EBF in the first life of a child; however, only 20% continued to exclusively breastfeed their babies within the first six months, as recommended by the WHO and UNICEF.[11] This gradual decrease in EBF practices among adolescent mothers was linked to poor physical and social support from families, undesired pregnancy, and a lack of knowledge on maternal role. The studies that have been conducted on breastfeeding and associated factors have focused on women in general, and little is known about adolescent populations who may have different perceptions; moreover, these studies have reported disproportionate low breastfeeding rates among adolescent mothers. This gap that our study intends to address is to explore in depth the knowledge, attitudes, and practices of adolescent mothers toward exclusive breastfeeding. Therefore, this study aimed to assess the knowledge of adolescent mothers regarding exclusive breastfeeding and their attitudes and practices in the Nyagatare district. The findings will contribute to improving EBF practices among adolescent mothers to sustain the healthy growth of a child and health benefits for the mother.

METHODS

Study design, setting and participants.

This was a cross-sectional study conducted in Nyagatare district, eastern province, Rwanda, in June 2023. The study aimed to assess the knowledge, attitudes, and practices related to exclusive breastfeeding among adolescent mothers. Participants were adolescent mothers residing in the district who met the inclusion criteria and were available during the data collection period.

Data collection instrument and procedures

The data were collected using interviewer-administered questionnaires. This data collection tool was developed

based on the objectives of the study and by consulting the related literature.[12] The variables included were in line with the research objective. The questionnaire consists of closed questions that suggest options of answers for a respondent to choose from. To ensure that the variables reflect the true meaning and objective of the research, the English questionnaire was translated to Kinyarwanda with the support of Kinyarwanda lecturer and students in the department of linguistics from the University of Rwanda.

Data analysis

The collected data were entered and analyzed using SPSS-21. After ensuring the cleanliness of the data, descriptive analysis was used to evaluate the knowledge, attitudes, and practices related to exclusive breastfeeding among adolescent mothers, and bivariate analysis was used to analyze the associations between independent variables such as sociodemographic variables, knowledge, attitudes and practices factors associated with exclusive breastfeeding. The significant variables were regressed using binary logistic regression to predict exclusive breastfeeding practices. To assess the attitudes of adolescent mothers toward breastfeeding. A Likert scale was used. In this study, the Likert scale consisted of 5 scales, which included 1= strongly agree, 2= agree, 3= unsure, 4= disagree and 5= strongly disagree. Starting breastfeeding within the first hour was assigned a score of 4. Breastmilk as the first feed was assigned a score of 4. Breastfeeding on demand was assigned a score of 4. The cumulative score for each participant was calculated by summing the scores of their responses. This cumulative score represented the overall practice level of breastfeeding, with higher scores indicating better adherence to recommended practices. For the knowledge assessment, the score for good answers was 1, while the scores for both wrong answers and noncorrect answers were 0. The maximum attainable total score was 10, and the minimum was 0. A percentage score was generated and classified as inadequate knowledge (<50%), moderate knowledge (50-69%), or adequate knowledge (≥70%). The results are presented in tables and appropriate graphs.[13]

Ethical consideration

Before the research was conducted, a review and approval from the Mount Kenya University Research ethics committee were granted, and an introduction letter from the postgraduate school helped the researcher obtain the recommendation letter from the Nyagatare district for conducting the study. Participants were first informed of the study objectives, the privacy of their information and the freedom to withdraw at any time they wanted. The participants read and signed the consent form prior to answering the questions. The questionnaire was developed in a way that is harmless and involves no discrimination, harassment, or emotional trauma to respondents. The participants were informed that the data would be confidentially stored in SPSS software, and only the researcher and the school of public health from Mount Kenya University would be given access to the collected data, and the data would be stored for 5 years.

RESULTS

This study examined the knowledge, attitudes, and practices of exclusive breastfeeding among adolescent mothers in Nyagatare district and identified key factors influencing these practices. The findings highlight significant associations between exclusive breastfeeding and various sociodemographic and attitudinal factors.

Demographic characteristics of the respondents

The Table 1 presents the demographic characteristics of the participants in the study. A total of 194 adolescent mothers from the Nyagatare district were included, with the majority falling within the age range of 18 to 19 years (69.1%), while 30.9% were aged 15 to 17 years. Regarding education levels, the participants exhibited varying degrees of educational attainment. The highest proportion had primary education (37.6%), followed by those with no formal education (19.6%) and those with secondary education (16%). A smaller percentage had pursued higher education, with 2.1% attending college/university and 24.7% enrolled in technical and vocational education and training (TVET/VTC) programs.

Table 1: The demographic and maternal characteristics of adolescent mothers.

Characteristics	Frequency	Percent
Age in years		
15-17	60	30.9
18-19	134	69.1
Level of education		
No formal education	38	19.6
Primary education	73	37.6
Secondary education	31	16
College/university	4	2.1
TVET/VTC	48	24.7

Continued.

Characteristics	Frequency	Percent
Occupation		
Farmer	32	16.5
Casual	54	27.8
Private employee	12	6.2
Self-employed	28	14.4
Student	18	9.3
Not employed	50	25.8
UBUDEHE category		
I	4	2.1
II	50	25.8
III	140	72.2
Estimated income per month		
Below 50,000Frw	182	93.8
50,000Frw-100,000Frw	12	6.2
Marital status		
Single	151	77.8
Married	1	0.5
Living together	42	21.6
Religion		
No religion	25	12.9
Catholic	64	33
Protestant	38	19.6
Muslim	24	12.4
Other, specify	43	22.2
Region		
Urban	81	41.8
Rural	113	58.2
Source of information		
Radio	16	8.2
Health facility	111	57.2
Community health worker	25	12.9
Other	42	21.6
Previous pregnancy desire		
Yes	33	17
No	161	83
Number of children		
1	175	90.2
2	19	9.8
Delivery type		
Caesarean section	18	9.3
Normal delivery	176	90.7
ANC visits		
1	36	18.6
2	42	21.6
3	60	30.9
4	49	25.3
5	7	3.6

Source: Primary data, 2023

Table 2: The level of knowledge on exclusive breastfeeding among study respondents in the Nyagatare district.

Statement about knowledge regarding exclusive breastfeeding	Yes		No		Mean	SD
	Frequency	Percent	Frequency	Percent		
Know the importance of breastfeeding	189	97.4	5	2.5	1.04	0.266
Think bottle feeding dangerous for the baby	148	23.7	16	76.2		0.851

Continued.

Statement about knowledge regarding exclusive breastfeeding	Yes		No		Mean	SD
	Frequency	Percent	Frequency	Percent		
Ever heard about EBF	166	85.6	28	14.4	1.14	0.352
Know that Breast milk alone is enough for infants <6 months of life	122	62.9	72	37.1	1.7	0.93
Know breast milk alone can sustain baby for 6 months	107	55.2	87	44.8	1.81	0.938
Know EBF prevents diarrheal, respiratory (EBF protects baby from illness)	60	30.9	134	69.1	2.26	0.904
Know EBF protects the mother from pregnancy	36	18.6	158	81.4	2.21	0.733
Know expressed breast milk should be fed to the baby	63	32.5	131	67.5	2.11	0.866
Know a baby should be breastfed on demand	182	93.8	12	6.2	1.09	0.364
EBF is better than formulae feeding	96	49.5	98	50.5	2.01	1
Colostrum is nutritionally beneficial to child	116	59.7938	78	40.2062	1.8	0.983
Breastfeeding your baby without adding anything will provide the nutrients your baby needs	124	63.9	70	36.1	1.71	0.95
Exclusive breastfeeding improves/boosts the baby's immunity	117	60.3	77	39.7	1.78	0.97

Source: Primary data, 2023

Occupational diversity was evident among the adolescent mothers, with casual workers comprising the largest group (27.8%), followed by farmers (16.5%) and those who were not employed (25.8%). Some were self-employed (14.4%), were private employees (6.2%), and were students (9.3%). The UBUDEHE category, a socioeconomic classification system in Rwanda, showed that most of the participants fell under category III (72.2%), while category II accounted for 25.8% and category I accounted for a small proportion (2.1%). The income distribution indicated that a significant majority had a monthly income below 50,000 Frw (93.8%), while a minority reported earning between 50,000 Frw and 100,000 Frw (6.2%). In terms of marital status, the majority of the adolescent mothers were single (77.8%), while a negligible percentage were married (0.5%) or living together (21.6%).

Religiously, the participants showed diversity, with the highest proportion being Catholic (33%), followed by those who were not religious (12.9%), those who were protestants (19.6%), Muslims (12.4%), and others (22.2%). Geographically, the study captured both urban and rural representations, with 41.8% of participants residing in urban areas and 58.2% residing in rural areas.

Concerning the source of information, it is evident that health facilities played a significant role, as 57.2% of the adolescent mothers obtained information about breastfeeding practices from these facilities. Community health workers were also an essential source, with 12.9% of participants seeking information from them. Interestingly, radio broadcasts reached 8.2% of the participants, indicating their potential as a communication channel for breastfeeding education.

The data revealed that 83% of the adolescent mothers did not desire their pregnancies, reflecting a significant proportion of unintended pregnancies among this population. The majority of the adolescent mothers (90.2%) had only one child, while a smaller proportion (9.8%) had two children. The type of delivery experienced by the participants was another factor of interest in the study. It was observed that 90.7% of the adolescent mothers had a normal delivery, while 9.3% underwent a caesarian section. The data indicated that the majority of participants had received regular ANC visits, with 18.6% having one visit, 21.6% having two visits, 30.9% having three visits, and 25.3% having four visits. A smaller proportion (3.6%) had five ANC visits.

The level of knowledge on exclusive breastfeeding among adolescent mothers in the Nyagatare district

The Table 2 presents the participants' knowledge regarding exclusive breastfeeding in the Nyagatare district, along with the mean scores for each statement. The findings reveal areas where adolescent mothers may have gaps in their knowledge regarding exclusive breastfeeding.

A significant majority of the participants (97.4%) demonstrated a good understanding of the importance of breastfeeding, as reflected by the mean score of 1.04, which is close to the optimal score of 1. Furthermore, 76.2% of the participants believed that bottle feeding is dangerous for the baby, resulting in a higher mean score of 2.44. Regarding knowledge of EBF, more than half of the participants (56.2%) demonstrated an understanding of what EBF entails, with a mean score of 1.53, indicating a moderate level of awareness.

The data also revealed that a substantial proportion of the participants (85.6%) had heard about EBF, as indicated by the mean score of 1.14, suggesting a good level of exposure to this specific breastfeeding practice. Additionally, only 62.9% of the participants correctly acknowledged that breast milk alone is sufficient for infants under six months of age, with a mean score of 1.7, indicating a potential area for improvement in understanding the recommended breastfeeding duration. Furthermore, 55.2% of the participants were aware that breast milk alone can sustain a baby's nutritional needs for the first six months of life, as reflected by the mean score of 1.81, which is close to the optimal score of 1.

On the topic of EBF's preventive effects, a minority (30.9%) recognized that exclusive breastfeeding can prevent diarrheal and respiratory illnesses, with a mean score of 2.26, suggesting a considerable knowledge gap in this area. Moreover, only 18.6% of the participants were aware that exclusive breastfeeding can provide some level of protection against pregnancy, as indicated by the mean score of 2.21, suggesting a need for greater awareness in this regard. In terms of feeding expressed breast milk, a moderate proportion (32.5%) correctly acknowledged that it is suitable for feeding the baby, when necessary, as reflected by the mean score of 2.11.

An overwhelming majority of the participants (93.8%) demonstrated awareness that babies should be breastfed on demand, with a mean score of 1.09, indicating a good understanding of the recommended breastfeeding practice. Regarding the comparison between EBF and formula feeding, approximately half of the participants (49.5%) recognized that exclusive breastfeeding was superior to formula feeding, with a mean score of 2.01, suggesting some misconceptions regarding this comparison. Furthermore, a substantial majority of the participants (59.8%) correctly acknowledged the nutritional benefits of colostrum for the child, as indicated by the mean score of 1.8, suggesting a general understanding of its importance.

Similarly, more than half of the participants (63.9%) were aware that breastfeeding without adding anything else is sufficient to provide the necessary nutrients for the baby, with a mean score of 1.71, suggesting a moderate level of knowledge in this aspect. Finally, a notable proportion of the participants (60.3%) recognized that exclusive breastfeeding can enhance the baby's immune system, with a mean score of 1.78, indicating a moderate level of awareness of its immunological benefits.

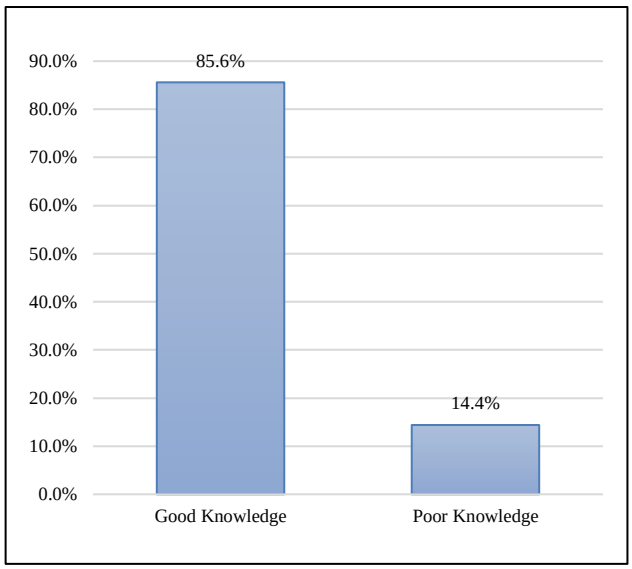

Figure 1: Overall knowledge regarding exclusive breastfeeding.

Overall knowledge level

As illustrated in Figure 1, 85.6% of participants exhibited a strong understanding of exclusive breastfeeding, indicating that the majority of adolescent mothers in the Nyagatare district possessed substantial knowledge on the topic. In contrast, 14.4% of participants showed a limited understanding of exclusive breastfeeding.

Table 3: The attitudes of adolescent mothers toward exclusive breast-feeding in the Nyagatare district.

Statement about attitudes toward contraceptive methods	Strongly agree N (%)	Agree N (%)	Neutral N (%)	Disagree N (%)	Strongly disagree N (%)	Mean	SD
Giving breast milk for a newborn immediately within one hour (early initiation) is important	110 (56.7)	53 (27.3)	31 (16.0)	0 (0.0)	0 (0.0)	1.59	0.751
Discarding the first milk or colostrum is important	0 (0.0)	0 (0.0)	93 (47.9)	67 (34.5)	34 (17.5)	3.7	0.752
Maintaining hygiene is more important for breastfeeding	21 (10.8)	56 (28.9)	36 (18.6)	59 (30.4)	22 (11.3)	3.03	1.219
The breastfeeding increases mother child bonding	190 (97.9)	4 (2.1)	0 (0.0)	0 (0.0)	0 (0.0)	1.02	0.142

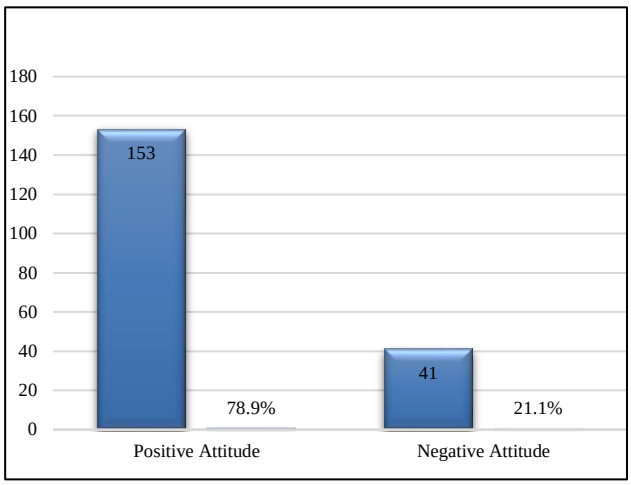

Figure 2: Attitude toward exclusive breastfeeding.

The attitudes of adolescent mothers toward exclusive breast-feeding in the Nyagatare district

The Table 3 shows that a majority (56.7%) strongly agreed, and an additional 27.3% agreed that providing breast milk to a newborn within the first hour after birth is crucial. responses were predominantly in disagreement (34.5%) or strong disagreement (17.5%) with discarding the first milk. Some participants (39.7%) strongly agreed or agreed that hygiene is important, while others (41.7%) held a neutral or disagreed stance. An overwhelmingly positive attitude emerged regarding the impact of breastfeeding on mother-child bonding. Nearly all participants (97.9%) strongly agreed that breastfeeding enhances this bond.

Overall attitude level

The results as indicated in Figure 2 revealed that a substantial proportion (78.9%) of adolescent mothers in the Nyagatare district exhibited positive attitudes toward exclusive breastfeeding practices. This majority demonstrated agreement or strong agreement with statements, indicating a commendable understanding of its significance. A smaller percentage (21.1%) exhibited negative attitudes, suggesting areas for targeted interventions.

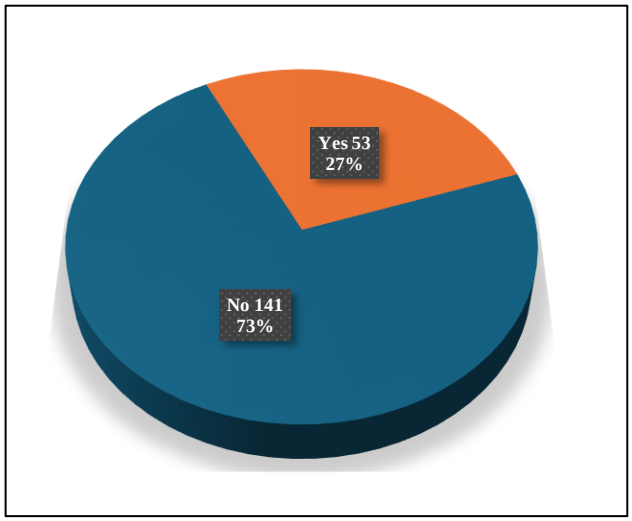

Figure 3: Overall practice level toward exclusive breastfeeding.

The practice of exclusive breastfeeding among adolescent mothers in the Nyagatare district

The practices toward exclusive breastfeeding among adolescent mothers were assessed, and the findings are presented in the following table. The findings, as indicated in Table 4, reveal that a substantial percentage of adolescent mothers (27.3%) practice exclusive breastfeeding. Breastfeeding frequency varied, with a majority adopting a random approach (54.6%), while some breastfed-on demand (24.7%) or at constant intervals (20.6%). Occupation appeared to impact exclusive breastfeeding for a notable portion (37.6%). While approximately 26.8% adhered to the recommended six-month duration of exclusive breastfeeding, diverse practices were observed.

Table 4: The practice of exclusive breastfeeding among respondents.

Variables	Frequency	Percentage
Practice exclusive breastfeeding		
Yes	53	27.3
No	141	72.7
Breastfeeding frequency		
On demand	48	24.7
At constant intervals	40	20.6
Randomly	106	54.6
Occupation ever stopped exclusive breastfeeding		
Yes	73	37.6
No	121	62.4
Duration of breastfeed infant for the first 6 months without giving a baby any other food or drink, not even water		
1	35	18

Continued.

Variables	Frequency	Percentage
2	30	15.5
3	44	22.7
4	26	13.4
5	3	1.5
6	52	26.8
7	4	2.1

Source: Primary data, 2023

Overall practice level

The Figure 3 indicates the overall practice level toward breastfeeding was determined by the proportion of adolescent mothers who agreed to exclusively breastfeed their recent child. The findings shown in the graph indicate that a notable proportion (27%) of adolescent mothers reported exclusively breastfeeding their infants.

Factors associated with the practice of exclusive breastfeeding among adolescent mothers in the Nyagatare district

The results as indicated in Table 5, compared to adolescent mothers with no formal education, those with primary education were 1.16 times more likely to practice exclusive breastfeeding (AOR=1.161, 95% CI=1.721-2.319, p=0.009), and those with secondary education were 3.05 times more likely (AOR=3.056, 95% CI=2.006-5.542, p=0.013). Urban residence increased the likelihood of exclusive breastfeeding by 1.62 times compared to rural residence (AOR=1.622, 95% CI=1.038-3.089, p=0.007). In contrast, having no desire for a previous pregnancy reduced the odds by 80% (AOR=0.204, 95% CI=0.051-0.817, p=0.025), and having only one child decreased the odds by 58% (AOR=0.418, 95% CI=0.037-0.792, p=0.043). A positive attitude was a significant predictor, making mothers 5.70 times more likely to practice exclusive breastfeeding (AOR=5.702, 95% CI=1.633-19.91, p=0.006), while good knowledge increased the odds by 2.40 times (AOR=2.403, 95% CI=1.032-4.926, p=0.002).

Table 5: Multivariable analysis- factors associated with practices related to exclusive breastfeeding.

Variables	AOR	95% CI (AOR)		P value
		Lower	Upper	
Level of education				
No formal education	1*			
Primary education	1.161	1.721	2.319	0.009
Secondary education	3.056	2.006	5.542	0.013
College/University	1.066	0.001	2.912	0.159
TVET/VTC	0.033	0.003	0.354	0.305
Occupation				
Farmer	1.202	0.236	6.124	0.825
Casual	2.041	0.556	7.497	0.282
Private employee	1.07	0.092	12.488	0.957
Self-employed	0.818	0.152	4.411	0.815
Student	1.962	0.144	26.828	0.613
Not employed	1*			
Region				
Urban	1.622	1.038	3.089	0.007
Rural	1*			
Previous pregnancy desire				
Yes	1*			
No	0.204	0.051	0.817	0.025
Number of children				
1	0.418	0.037	0.792	0.043
2	1*			
Knowledge level				
Good knowledge	2.403	1.032	4.926	0.002
Poor knowledge	1*			

Continued.

Variables	AOR	95% CI (AOR)		P value
		Lower	Upper	
Attitude level				
Positive attitude	5.702	1.633	19.91	0.006
Negative attitude				
Reference	1*			

*significant

DISCUSSION

According to the findings of our study, a notable proportion of adolescent mothers in the Nyagatare district demonstrated a commendable level of knowledge regarding exclusive breastfeeding. Specifically, 85.6% of the participants exhibited good knowledge of various aspects related to exclusive breastfeeding, reflecting a substantial understanding of the recommended infant feeding practices. Our finding is positioned slightly above the knowledge level reported in the systematic review conducted in East Africa.[14] While our study specifically examined adolescent mothers in Nyagatare district, a systematic review covering a broader scope of mothers across East Africa found that 59.3% were unaware of the benefits of exclusive breastfeeding for both infants and mothers. This percentage is considerably higher than the findings from a study conducted in Ethiopia, which revealed that only 34.7% of adolescent mothers had good knowledge of EBF.[15]

The study revealed that 3 in 4 (78.9%) adolescent mothers had positive attitudes toward exclusive breastfeeding. This attitude level is below that obtained from a study in Ethiopia.[15] Comparing these findings suggests potential variations in attitude levels between different populations and geographical locations. While our study focused on adolescent mothers in the Nyagatare district, the Ethiopian study included a broader range of mothers. This difference in participant characteristics and cultural contexts could contribute to the observed variation in attitude levels.

Our findings indicate that while a majority of adolescent mothers in Nyagatare still demonstrated positive attitudes toward exclusive breastfeeding (78.9%), the proportion is lower than that reported in the Mpigi study (95%).[16] This disparity is attributed to differences in the research setting. The Mpigi study included a broader range of mothers attending health clinics; therefore, the variation in participant characteristics and healthcare settings could have contributed to the observed differences in attitudes.[16]

This study's practice level of exclusive breastfeeding among adolescent mothers (27.3%) is notably lower than that reported in the study in Mpingi health facility, Uganda, where the majority of mothers (62.5%) initiated breastfeeding within the first hour of birth and a significant proportion (85%) introduced complementary feeds to their babies between 4-5 months.[16] The differences in practice levels could stem from various factors, such as socioeconomic disparities, cultural norms, access to healthcare services, and educational interventions. The unique challenges faced by adolescent mothers, including lack of proper guidance and support, could contribute to the observed lower practice level.

The obtained practice level appears to be slightly lower than that reported in a comparative study conducted in Lagos, Nigeria, where 79.8% of rural mothers practiced or were currently practicing EBF, and 29.0% of urban mothers engaged in EBF. Factors contributing to this difference could be variations in cultural practices, support systems, and access to healthcare services between the study locations.[17]

This study revealed that adolescent mothers with primary education (AOR=1.161, 95% CI=1.721-2.319, p=0.009) and secondary education (AOR=3.056, 95% CI=2.006-5.542, p=0.013) exhibited greater odds of practicing exclusive breastfeeding than did those with no formal education. Similarly, a study by Balogun et al revealed that maternal employment (AOR=0.62, 95% CI: 0.44-0.87) and being head of a household (AOR=0.52, 95% CI: 0.32-0.83) were significantly associated with exclusive breastfeeding. These shared findings suggest that education and socioeconomic factors play pivotal roles in influencing exclusive breastfeeding practices across different settings.

This study revealed that urban residence was associated with increased odds of practicing exclusive breastfeeding (AOR=1.622, p=0.007), while a study conducted by, Yimer et al in Ethiopia indicated that urban women had a lower rate of exclusive breastfeeding (29.0%) than did their rural counterparts (79.8%).[18] These contrasting findings suggest a complex interplay of urbanization, work resumption, and other contextual factors influencing exclusive breastfeeding practices in different regions.

In our study, adolescent mothers with good knowledge (AOR=2.403, p=0.002) and positive attitudes (AOR=5.702, p=0.006) were more likely to practice exclusive breastfeeding. Similarly, a study conducted in Southwest Korea indicated that mothers who received breastfeeding information were significantly more likely to exclusively breastfeed (AOR=2.46, p=0.0009).[19] These findings emphasize the crucial role of education and information dissemination in promoting exclusive

breastfeeding behaviors. Both studies underscore the significance of socioeconomic factors in influencing exclusive breastfeeding practices.

The study revealed that positive attitudes (AOR=5.702, p=0.006) and good knowledge (AOR=2.403, p=0.002) were associated with greater odds of exclusive breastfeeding. This finding aligns with findings from a study conducted in Ethiopia indicating that colostrum feeding was associated with increased odds of exclusive breastfeeding (AOR=2.3; 95% CI 1.3-3.9). Both studies emphasize the importance of antenatal care. In our study, antenatal care was associated with exclusive breastfeeding (AOR=2.1; 95% CI=1.1-4.3), while another study also revealed a positive association between antenatal care and exclusive breastfeeding (AOR=2.1; 95% CI=1.2-3.3). This suggests that receiving proper care and information during pregnancy can positively influence breastfeeding practices.[20]

This study is subject to some limitations. Its focus on a single district (Nyagatare) limits generalizability to other regions with different contexts. The cross-sectional design precludes causal inferences. Additionally, the exclusive focus on adolescent mothers excludes older mothers, limiting comparative insights. Finally, contextual factors such as healthcare access and cultural norms were not comprehensively analyzed. Future longitudinal and multi-regional studies are needed to address these gaps.

CONCLUSION

The study indicated high levels of knowledge and generally positive attitudes toward exclusive breastfeeding among adolescent mothers in Nyagatare district, the practice remains suboptimal. Education, urban residence, and having a positive attitude were significant factors positively associated with exclusive breastfeeding. Conversely, a lack of desire for previous pregnancies and having only one child were associated with lower odds of practicing exclusive breastfeeding. These findings underscore the need for targeted interventions focusing on educational support, attitude enhancement, and tailored strategies to promote exclusive breastfeeding practices among adolescent mothers.

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