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EVALUATING THE KNOWLEDGE, ATTITUDES, AND PRACTICES OF EXCLUSIVE BREASTFEEDING AMONG MOTHERS ATTENDING POSTNATAL AT THE KENEMA GOVERNMENT REFERRAL HOSPITAL

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ABSTRACT: *Introduction: Exclusive breastfeeding offers both mothers and infants vital psychological and health benefits. However, its practice has declined globally, including in Sierra Leone, where inappropriate feeding practices contribute to high infant mortality. Malnutrition causes 60% of 10.9 million infant deaths, which are often linked to poor breastfeeding habits. Addressing cultural barriers and misconceptions is key to promoting exclusive breastfeeding. The findings of this study will guide policymakers in designing strategies to improve breastfeeding practices and reduce infant mortality nationwide. Aim: This study aimed to evaluate the knowledge, attitudes, and practices toward exclusive breastfeeding among mothers attending a postnatal clinic at the Kenema Government Referral Hospital. Method: This cross-sectional descriptive study evaluated the knowledge, attitudes, and practices (KAPs) of exclusive breastfeeding among 233 mothers attending the postnatal clinic at Kenema Government Referral Hospital. Data were collected via a structured questionnaire based on the health belief model (HBM). Stratified random sampling was employed, and face-to-face interviews were conducted in local languages. Statistical analysis included chi-square tests and logistic regression to determine associations and predictors of exclusive breastfeeding. Ethical approval was obtained, and participant confidentiality was maintained throughout the study. Result: Among the 233 mothers, 96.1% were aware of exclusive breastfeeding (EBF), with healthcare workers being the primary source (78.5%). Approximately 55.8% knew that EBF should last for six months, but 25.3% discarded colostrum. A positive attitude towards breastfeeding was reported by 59.1% of mothers, with 75.6% practising EBF on demand. Chi-square tests revealed significant associations between knowledge ($p = 0.0004$), attitude ($p = 0.017$), and EBF. Logistic regression revealed that knowledge (OR = 2.12) and attitude (OR = 1.57) were strong predictors of EBF, whereas self-efficacy showed a weaker effect (OR = 1.35). Conclusion: This study revealed that while mothers had high levels of knowledge and positive attitudes toward exclusive breastfeeding, their practices did not meet WHO recommendations. Key gaps include understanding the role of breastfeeding in pregnancy prevention and milk production. Enhanced public awareness, government policy integration, and future research on sociocultural factors are recommended.*

KEYWORDS: Exclusive Breastfeeding (EBF), Knowledge, Attitude and Practice (KAP), Postnatal Mothers, Predictors

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INTRODUCTION

Exclusive breastfeeding means that the infant receives only breast milk. No other liquids or solids are given not even water except oral rehydration solution or drops/syrups of vitamins, minerals, or medicines [1].

The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life and breastfeeding until two years or older. The promotion of exclusive breastfeeding is the single most cost-effective intervention to reduce infant mortality in developing countries [2,4,5,6]. It is estimated that suboptimal breastfeeding, especially nonexclusive breastfeeding in the first six months of life, results in 1.4 million deaths and that 10% of diseases are under-fives. Nonexclusive breastfeeding also has long-term impacts, including poor school performance, reduced productivity, and impaired intellectual and social development. It can also increase the risk of death due to diarrhoea and pneumonia among 0–5-month-old infants by more than twofold [2].

The evidence shows that of the sixty percent of under-five deaths caused by malnutrition (directly or indirectly), more than two-thirds are associated with appropriate breastfeeding practices during infancy. Not more than 35% of infants worldwide are exclusively breastfed during their first four months of life [2,5].

Globally, infant and young child mortality occurs mainly due to inappropriate infant feeding practices and infectious diseases. Directly or indirectly, malnutrition has been responsible for 60% of the 10.9 million infant deaths. More than 66% of these infant deaths were often associated with inappropriate feeding practices during the first year of life. To reduce infant and young child mortality, exclusive breastfeeding for the first 6 months of life has been recognized as one of the major interventions worldwide [7, 8].

A recent analysis by Cai, Wardlaw, and Brown (2010) on the global prevalence of EBF across 140 countries reported an increase in the developing world from 33% in 1995 to 39% in 2010 among infants aged 0–5 months. Increases from West Africa and Central Africa were more than twofold, i.e., from 12% in 1995 to 28% in 2010. There were also considerable improvements from 35% in 1995 to 47% in 2010 among countries in Eastern and Southern Africa, whereas those in South Asia experienced a modest surge from 40% in 1995 to 45% in 2010. Although it is still lower than that in the other regions, the rapid increase in West and Central Africa is probably not surprising since it hitherto had and continues to have one of the lowest rates of exclusive breastfeeding in the developing world, for which reason intensive efforts were made to scale up the practice in the last two decades. Although the rates of exclusive breastfeeding for the past two decades have been increasing, it is clear that the road to a world where 90% coverage of exclusive breastfeeding will be reached remains a demanding task [9].

Sierra Leone has one of Africa's highest rates of child mortality: in 2013, the country's infant mortality rate was 92 deaths per 1000 live births, and its under-five mortality rate was 156 deaths per 1000 live births [10]. Exclusive breastfeeding rates have increased in the country in recent years: SLDHS 2019 showed an increase from 32% in 2013 to 54% in 2019 [10, 11].

Currently, several misconceptions about breastfeeding exist in Sierra Leone. These myths or misconceptions, in particular, have stifled efforts to promote exclusive breastfeeding and

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have largely contributed to alarmingly high levels of malnutrition among children under five years of age. There are many myths in the area of sex life and exclusive breastfeeding. Many women in Sierra Leone feel that it is bad to breastfeed while simultaneously having regular sex with their spouse. This has been one of the contributing factors to the early weaning of babies. This is linked to the belief that having sex while breastfeeding causes contamination of breast milk; therefore, many women believe that it is responsible for their babies falling ill. Most women worry that their men will not sleep with them because they fear impregnating them soon after their last lactating child.

Despite a few local studies conducted in different parts of the country, no adequate study has attempted to identify the knowledge, attitudes, and practices of exclusive breastfeeding in the study area. Hence, this study helps determine and show the level of knowledge, attitudes, and practices of exclusive breastfeeding among the study population in the study area. The findings of this study can provide policymakers and nongovernmental organizations, both local and international, with relevant information for further planning and interventions involving appropriate strategies to promote and maintain exclusive breastfeeding practices.

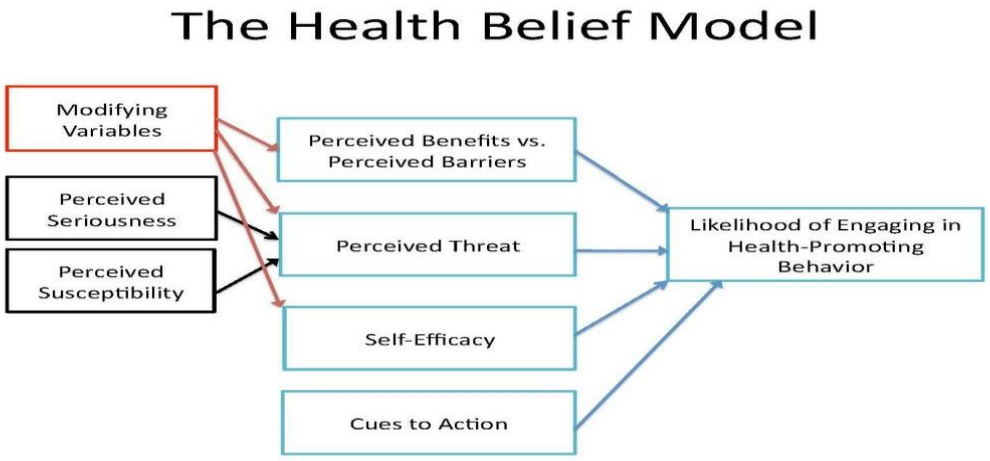
Evaluating the knowledge, attitudes, and practices of exclusive breastfeeding among mothers will inform and help state institutions promote and provide an appropriate foundation for breastfeeding interventions, specifically in Kenema and Sierra Leone at large.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study evaluated knowledge, attitudes, and practices (KAPs) toward exclusive breastfeeding among mothers at the Kenema Government Referral Hospital. The health belief model (HBM) offers valuable insight into how these factors influence breastfeeding practices.

The health belief model (HBM) is a widely recognized theoretical framework that is particularly useful for understanding health-related behaviours, such as exclusive breastfeeding. Developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels to explain why individuals fail to engage in health-promoting behaviours, the HBM focuses on individuals' beliefs and how these shape their health decisions [33].

Figure 1. Below is a theoretical framework for the health belief model.



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The key constructs of the health belief model for this study include the following:

Perceived Susceptibility: This refers to mothers' belief in the likelihood of their infant suffering from health complications if exclusive breastfeeding is not practised [34]. Mothers who perceive a greater susceptibility to infections, malnutrition, or developmental problems may be more inclined to adopt exclusive breastfeeding.

Perceived Severity: This construct involves the mothers' assessment of how severe the consequences of not exclusively breastfeeding could be. If mothers believe that failing to exclusively breastfeed leads to significant health issues such as diarrhoea, respiratory infections, or long-term developmental problems, they may be more motivated to initiate and continue exclusive breastfeeding [31].

Perceived Benefits: According to the HBM, individuals will engage in health behaviour if they believe it will provide significant benefits. In this context, mothers' beliefs about the advantages of exclusive breastfeeding—such as enhanced immunity for the infant, better bonding, and cost savings—are central to their decision-making [35]. Understanding these perceived benefits helps the mother identify what drives her toward positive breastfeeding practices.

Perceived Barriers: This is perhaps the most important construct in understanding why some mothers may not engage in exclusive breastfeeding. Perceived barriers can include physical discomfort, concerns about milk supply, cultural beliefs, and a lack of social or family support. These barriers, if significant enough, can outweigh the perceived benefits and prevent the practice of exclusive breastfeeding [33].

Cues to Action: External triggers such as health education from nurses, advice from family members, and media campaigns play crucial roles in motivating mothers to practice exclusive breastfeeding [31]. These cues act as reminders or signals to initiate or maintain breastfeeding.

Self-Efficacy: Introduced later in the HBM, self-efficacy refers to mothers' confidence in their ability to successfully breastfeed exclusively. A mother who feels capable of overcoming challenges such as fatigue, discomfort, or societal pressures is more likely to practice exclusive breastfeeding [30].

Conceptual Framework: Knowledge, Attitude, and Practice (KAP)

The KAP model provides a structured approach to evaluating health behaviours by exploring three domains:

Knowledge: This refers to the level of awareness and understanding that mothers possess about exclusive breastfeeding. In this context, knowledge relates to the health benefits for both the mother and the infant, the recommended duration of breastfeeding, and the potential risks of mixed feeding [32]. Knowledge is a precursor to behaviour change, and it influences both attitudes and practices.

Attitude: Attitudes towards exclusive breastfeeding encompass mothers' beliefs, feelings, and predispositions. This domain assesses how positively or negatively mothers view exclusive

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breastfeeding, shaped by cultural, social, and personal factors. Mothers with positive attitudes toward breastfeeding are more likely to engage in this behaviour [36].

Practice: This domain evaluates the actual behaviour of exclusive breastfeeding, including duration and consistency. Practice reflects how well knowledge and attitudes translate into action. The frequency of breastfeeding, avoidance of formula, and continuation of exclusive breastfeeding for six months are indicators of practice [37]

Integrating the HBM and KAP into the conceptual framework

The conceptual framework for this study—the HBM and KAP models—are intertwined to explain mothers' behaviour toward exclusive breastfeeding. This integrated framework enables the research to assess not only the levels of knowledge, attitudes, and practices among mothers but also the factors influencing their behaviour, as described by the HBM constructs.

The following relationships are expected:

Knowledge of the benefits and risks related to breastfeeding directly influences the perceived susceptibility, severity, and benefits outlined in the HBM.

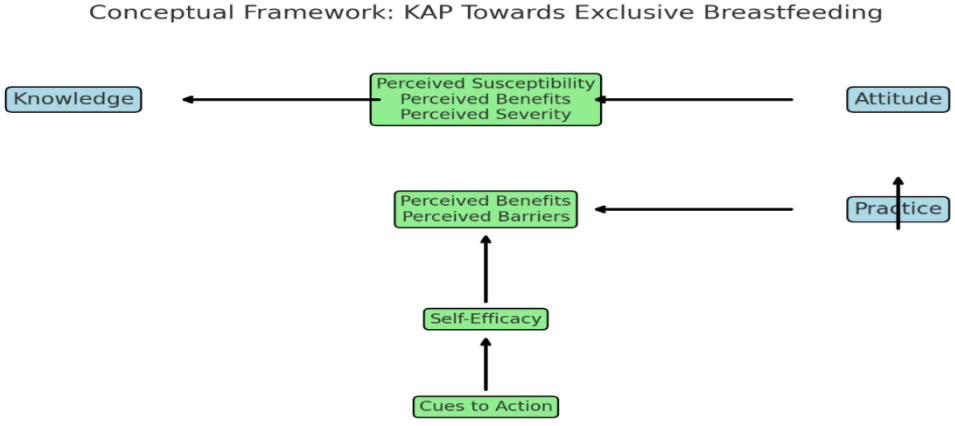
Attitude is shaped by mothers' evaluation of the perceived benefits and barriers to breastfeeding, as well as by external cues to action, such as healthcare provider advice.

Practice depends on the extent to which mothers perceive their self-efficacy, which is supported by both internal knowledge and external influences.

Visual Representation of the Conceptual Framework

- Knowledge → Impacts perceived susceptibility, perceived benefits, and perceived severity.
- Attitude → Influenced by perceived benefits and barriers.
- Practice → Determined by self-efficacy, with cues to action acting as reinforcement.

Figure 1. Below is a conceptual framework that integrates the HBM and KAP of EBF.



Note: *The above image helps clarify the interconnected relationships between these elements in predicting breastfeeding behaviours.*

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Research Hypothesis

Mothers with greater knowledge of the benefits of exclusive breastfeeding, positive attitudes towards breastfeeding, and stronger self-efficacy are more likely to exclusively breastfeed their infants for the recommended six months than mothers with lower knowledge, negative attitudes, and low self-efficacy.

Null Hypothesis (H_0): The level of knowledge, attitudes, and self-efficacy of mothers is not significantly associated with the practice of exclusive breastfeeding for six months among mothers attending the Kenema Government referral hospital.

Alternative Hypothesis (H_1): The level of knowledge, attitudes, and self-efficacy of mothers is significantly associated with the practice of exclusive breastfeeding for six months among mothers attending the Kenema Government Referral Hospital.

Where $\alpha = .05$ at the 95% CI, with the dependent variable being exclusive breastfeeding practices for six months, and the independent variables (predictors) being knowledge, attitudes, and self-efficacy. This hypothesis aligns with the HBM, where knowledge, attitudes, perceived benefits, barriers, and self-efficacy all combine to shape behaviour, particularly health-promoting actions such as exclusive breastfeeding.

METHODS

Research Design

This study employed an institutional cross-sectional descriptive design to evaluate knowledge, attitudes, and practices (KAPs) toward exclusive breastfeeding among mothers attending the postnatal clinic at Kenema Government Referral Hospital for a period of six (6) months, from January 2023 to June 2023. A quantitative approach was used to collect data at a single point in time, allowing for the measurement of associations between the level of knowledge, attitude, self-efficacy, and the practice of exclusive breastfeeding.

Study site

The study was conducted at the Kenema Government Referral Hospital, specifically targeting mothers attending the postnatal clinic. The hospital is a major healthcare facility in the eastern region of Sierra Leone, serving as a referral centre for patients from surrounding areas. The postnatal clinic provides services to mothers and newborns, making it an ideal setting in which to explore breastfeeding practices.

Kenema District is in the Eastern Province of Sierra Leone. The regional headquarter of the Eastern province is Kenema City, which is also the third largest city in Sierra Leone. The city is located on the railway line in a valley of the Kambui Hills. The district is ethnically diverse, and the Mende people make up the largest ethnic group. Kenema City is the centre of the Alluvial Diamond Mining Scheme Area and the site of the Government Diamond Office.

Kenema is an important agricultural market town and the centre of the timber industry in Sierra Leone. The area's production of cocoa, coffee, palm oil and kernels, furniture, and wood carvings is transported mainly by road to Freetown for sale and export. Politically,

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Kenema is a stronghold of the Sierra Leone People's Party (SLPP), the main opposition party in Sierra Leone. The amount of rainfall is 2,001 to 3,000 mm per year.

Healthcare is provided by government, private, and nongovernmental organizations (NGOs). The Ministry of Health (MoH) is responsible for health care. Following the civil war in 2002, the Ministry moved to a decentralized structure of health provision to increase coverage. In Kenema, the medical facilities include 21 community health centres (CHCs), 17 community health posts (CHPs), 44 maternal child health posts (MCHPs), 1 government hospital, 1 government clinic, 2 mission clinics, 1 mission hospital, 1 NGO clinic, and 3 private clinics. Traditional medicine forms part of the primary health care system in Sierra Leone. The endemic diseases are yellow fever and malaria in Sierra Leone. Below is the estimated catchment population of the underfunded clinic of the Kenema Government referral hospital where this research was conducted [15].

Sampling and Sample Size Estimation

A stratified random sampling technique was utilized to select participants. The sample included mothers who were admitted to the postnatal clinic and met the inclusion criteria of having infants aged 24 months or younger, full term, and without any major birth defects, including genetic defects such as Down syndrome and other conditions; mouth/facial defects such as cleft lips and/or other palates; heart defects; and musculoskeletal system defects, including arm and leg, stomach/intestinal, and eye defects.

The sample size was calculated via Cochran's formula for sample size estimation:

$$n = \frac{Z^2 P (1-P)}{d^2}$$

Where:

Z = value for the desired confidence level (1.96 for 95% confidence).

P = estimated proportion of mothers practising exclusive breastfeeding (assumed to be 50% owing to lack of prior data).

d = desired margin of error (set at 5%).

The estimated population of children between 0–24 months of age attending the postnatal clinic at the Kenema Government Referral Hospital per month was 572 (unpublished data), and figures from the Sierra Leone Demographic Health Survey reported exclusive breastfeeding rates of 54% [16], an acceptable margin of error of 5%, and a design effect of 1.0 at a confidence level of 95%; therefore, the estimated sample size was 233. Hence, a total of 233 nursing mothers with children less than or equal to 24 months were selected as subjects for the study.

Research Tools

A structured questionnaire was used as the primary data collection tool and was developed based on the health belief model (HBM), which included the following sections:

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Knowledge about exclusive breastfeeding (benefits, recommendations, etc.).

Attitudes toward breastfeeding (perceived benefits, barriers, and beliefs).

Practice of exclusive breastfeeding (duration, frequency, and adherence).

Self-efficacy (confidence in breastfeeding despite challenges).

The tool was pretested and adapted to previous research performed in similar settings and contexts to ensure its clarity, relevance, and appropriateness.

Data collection methods

Data were collected through face-to-face interviews via a structured questionnaire. Trained data collectors were used to administer the questionnaire to ensure accuracy and consistency. Verbal consent was obtained from the participants before the interviews. Data collection took place at convenient locations in the clinic over 3 months, and interviews were conducted in the local language (Krio and Mende) for participants who did not speak English.

Data internal consistency and reliability measures

The reliability of the questionnaire was assessed via Cronbach's alpha to measure the internal consistency of the knowledge, attitudes, and practice scales. The result of the test yielded a Cronbach's alpha value of 0.70, which is considered acceptable for the study's internal consistency [38]. The questionnaire was pretested on a subset of 20 mothers from a similar population to assess reliability and refine the instrument on the basis of the results.

Statistical analysis

The complete data were entered into SPSS Version 18 for analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the demographic characteristics of the participants and their KAP toward exclusive breastfeeding.

The chi-square test was used to examine the associations between independent variables (knowledge, attitudes, and self-efficacy) and the dependent variable (exclusive breastfeeding practices for six months). Additionally, logistic regression analysis was performed to determine the predictors of exclusive breastfeeding. The independent variables (knowledge, attitudes, and self-efficacy) were included in the model to identify significant factors influencing breastfeeding behaviour. A p-value < 0.05 was considered statistically significant for all analyses.

Ethical Consideration

Ethical approval for the study will be obtained from the Ethics and Research Committee of the Kenema Government Referral Hospital. Informed consent will be obtained from all participants, and they will be assured of their right to withdraw from the study at any time without consequence. The confidentiality of the participants will be maintained by assigning unique identification numbers to the data, and no personal identifiers will be included in the analysis or reporting.

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RESULTS

Table 1: Sociodemographic characteristics of breastfeeding mothers attending the postnatal clinic at the Kenema Government Hospital from January 2023–June 2023

CHARACTERISTICS		frequency	Percentage
Age of mothers (Years)	<20	36	15.5
	21-25	95	40.8
	26-30	77	33.0
	31- 50	25	10.7
Level of Education	None	45	19.3
	Informal	10	4.3
	Primary	17	7.3
	Secondary	125	53.6
	Tertiary	36	15.5
Occupation	Civil servant	21	9.0
	Farming	13	5.6
	Trading	67	28.8
	Housewife	86	36.9
	Unemployed	32	13.7
	Others	14	6.0
MARITAL STATUS	Married	168	72.1
	Single	46	19.7
	Separated	18	7.7
	Widowed	1	0.4
	CHRISTIANITY	72	30.9
	ISLAM	160	68.7
	OTHERS	1	.4
CHRISTIANITY	CHRISTIANITY	72	30.9
	ISLAM	160	68.7
	OTHERS	1	.4
Type of Delivery	Normal Virginal	157	67.5
	Cesarean section	76	32.5
Number of Children	One	157	67.2
	Two	25	10.8
	More than two	51	22

Table 1 above shows that of the 233 women whose children were aged 0–24 months, 95 (40.8%) were within the 21–25 years age range. Most of the respondents (80.7%) had one form of education, while 19.3% were illiterate. The majority (68.7%) of the respondents were Muslims, implying that the study was conducted in an Islamic-dominant area. Almost all the participants (72.1%) were married. The number of children was more than three in 22% of them. Normal vaginal delivery was reported by almost two-thirds of them (67.5%), whereas cesarean section was reported by the remaining 32.5% of the participating women.

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Table 2: Maternal knowledge of exclusive breastfeeding

Characteristics		Frequency	Percentage
Knowledge on EBF	Yes	224	96.1
	No	9	3.9
Source of EBF information	Healthcare workers	183	78.5
	Friends	15	6.4
	Mass media	12	5.2
	Relatives	16	6.9
	Others	7	3.0
Initiation of breastfeeding	Immediately after birth	107	45.9
	Within 24 Hours	104	44.6
	After 24 hours	22	9.4
Knowledge on Colostrum	Discard	59	25.3
	Feed immediately	169	72.5
	No Knowledge	5	2,1
Duration of EBF	No Knowledge	4	1.7
	Less than 6 months	99	42.5
	6 months & above	130	55.8
Breast milk Production	Eating enough food	191	82.0
	Frequent suckling	25	19.7
	Drinking much fluids	10	4.3
	No knowledge	7	3.0
Initiation of complementary feeding	3 months	12	5.2
	4 Months	25	19.7
	5 Months	10	3.4
	Above 6 months	206	88.4
Breastfeeding on Demand	Yes	177	76.0
	No	56	24.0
EBF & Pregnancy prevention	Yes	111	47.6
	No	122	52.4
EBF & Disease Prevention	Yes	209	89.7
	No	24	10.3

Table 2 above shows that 96.1% of the respondents claimed to know about exclusive breastfeeding, although 3.9% responded that they had not heard about exclusive breastfeeding. Health education regarding exclusive breastfeeding was received by more than three--three-fourths (78.5%) of healthcare workers during antenatal visits. Approximately 45.9% knew that EBF should be initiated immediately after birth; 76% knew that EBF should be given on demand by the baby; 19.7% knew that frequent suckling is directly related to breast milk production, whereas 47.6% thought that exclusive breastfeeding can prevent pregnancy. A total of 44.2% of the respondents did not give a correct response to the duration of exclusive breastfeeding, and 25.3% discarded colostrum. Interestingly, 10.3% did not know that exclusive breastfeeding can increase immunity and help prevent disease.

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Table 3: Respondents' attitudes towards exclusive breastfeeding

STATEMENTS		Strongly Agree N(%)	Agree N (%)	Disagree N (%)	Strongly Disagree N(%)
Breastfeeding is easier than Artificial feeding		123(52.7)	68(29.3)	8(14)	9(4.0)
Breastfeeding does not affect marital relationship		53(22.7)	81(34.7)	82(35.4)	17(7.3)
Artificial feeding preserves mother's body and prevents obesity		37(16.0)	50(21.3)	106(45.4)	40(17.3)
It is difficult for lactating mothers to take care of the family		16(6.7)	59(25.3)	123(52.7)	35(15.3)
The age of the mother influences the mother's ability to breastfeed exclusively		81(34.8)	85(36.5)	15(22.3)	15(6.4)
A child less than 6 months who is exclusively breastfed is healthier than a child who takes additional food		136(58.4)	53(22.7)	40(17.2)	4(1.7)
Exclusive breastfeeding prevents pregnancy		65(27.9)	57(24.5)	78(33.5)	33(14.2)
Exclusive breastfeeding reduces family expenditure		101(43.3)	89(38.0)	34(14.7)	9(4.0)
Healthcare workers encourage breastfeeding		157(67.3)	56(24.0)	14(6.0)	6(2.7)

From Table 3 above, it is clear that most mothers agreed that healthcare workers encourage breastfeeding (91.3%), that breastfeeding is easier than artificial feeding (82%), and that it reduces family expenses (81.3%). More than half of them (57.1%) agreed that breastfeeding has no effect on marital relationships, and almost half of working mothers (49.1%) agreed that a vacation for 3 months is enough for successful breastfeeding. Overall, the mothers' attitudes toward breastfeeding ranged between 22 and 44, with a mean of 34.1 ± 4.2. Figure 1 shows that a positive attitude towards breastfeeding was reported by 59.1% of the participants, whereas a negative attitude was reported by more than one–third of them (40.9%).

Table 4: RESPONDENTS PRACTICE OF EXCLUSIVE BREASTFEEDING

Characteristics		Frequency	Percentage
Spousal support of EBF	Yes	217	93.3
	No	16	6.7
Does your ill health stop EBF	Yes	74	31.7
	No	159	68.3
Initiation of breastfeeding after delivery	Within one hour	189	81.1
	Between 1 to 2 Hrs	31	13.3
	After 24 hours	13	5.6
Exclusive breastfeeding on demand	Yes	176	75.6
	No	57	24.4
Duration of each episode of breastfeeding	Until the child is okay	186	79.9
	5 – 20 minutes	20	8.5
	Above 20 minutes	27	11.6

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Did you give colostrum to the baby	Yes	186	79.9
	No	47	20.2
Introduction of supplementary feeds	From birth	7	3.0
	At 3 months	10	4.3
	4 – 6 months	44	18.9
	Above 6 months	172	73.8
Do you give herbs during EBF	Yes	50	21.3
	No	183	78.7

Table 4 above shows that 93.3% of the respondents reported that they had unflinching spousal support when observing EBF; 68.3% continued EBF even when they were ill, and 75.6% practised EBF on demand by their babies. A good number, 73.8%, introduced supplementary feeds after 6 months. A majority, 81.1%, initiate breastfeeding immediately after delivery; 79.9% give colostrum to their newborns. A total of 79.9% of the participants breastfed until the child was satisfied, whereas 31.7% stopped breastfeeding when they fell ill.

Figure 1: Mothers' attitudes towards breastfeeding.

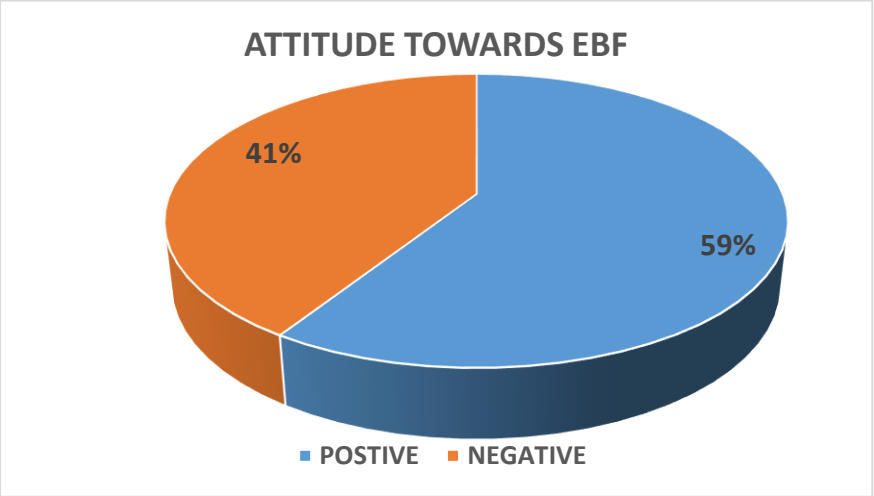

Figure 1: This figure illustrates the distribution of mothers' attitudes towards breastfeeding, highlighting the percentage of participants with positive and negative attitudes based on their responses to various aspects of breastfeeding practices.

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Table 5. Summary of the chi-square test results

Variable	χ^2	df	p-value	Significant Association
Knowledge	12.34	1	0.0004	Yes
Attitude	5.67	1	0.017	Yes
Self-efficacy	3.50	1	0.061	No

Table 5 above shows each independent variable, including the chi-square statistic (χ^2), degrees of freedom (df), and p-value (p).

Table 6. Logistic Regression Analysis Results

Variable	Coefficient (β)	Odds Ratio (OR)	SE	z value	p-value
Knowledge	0.75	2.12	0.25	3.00	0.002
Attitude	0.45	1.57	0.20	2.25	0.024
Self-efficacy	0.30	1.35	0.15	2.00	0.045
Intercept	-1.50				

Table 6 shows the dependent variable, exclusive breastfeeding (yes/no), and the independent variables, knowledge, attitude, and self-efficacy.

Summary of key findings on the inferential statistics:

Knowledge:

Chi-square test: There was a significant association between knowledge of exclusive breastfeeding and the practice of exclusive breastfeeding ($\chi^2 = 12.34$, $p = 0.0004$). Since the p-value is less than 0.05, we reject the null hypothesis for this variable.

Logistic regression: Mothers with knowledge about exclusive breastfeeding are 2.12 times more likely to practice exclusive breastfeeding than those without knowledge (OR = 2.12, p = 0.002). This finding shows that knowledge is a strong predictor of exclusive breastfeeding.

Attitude:

Chi-square test: There was a significant association between a positive attitude toward breastfeeding and the practice of exclusive breastfeeding ($\chi^2 = 5.67$, $p = 0.017$). Since the p-value is less than 0.05, we reject the null hypothesis for this variable.

Logistic regression: Each unit increase in positive attitudes increased the odds of exclusively breastfeeding by 57% (OR = 1.57, p = 0.024). This finding indicates that a more positive attitude towards breastfeeding significantly increases the likelihood of exclusive breastfeeding.

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Self-efficacy:

Chi-square test: There was no significant association between self-efficacy and the practice of exclusive breastfeeding ($\chi^2 = 3.50$, $p = 0.061$). Since the p-value is greater than 0.05, we fail to reject the null hypothesis for this variable.

Logistic regression: While the logistic regression shows that an increase in self-efficacy is associated with a 35% increase in the odds of exclusive breastfeeding (OR = 1.35, $p = 0.045$), this effect is smaller than that of knowledge and attitudes, although it remains statistically significant in the regression model.

Model Summary:

Hosmer–Lemeshow test: The model fits well ($\chi^2 = 8.42$, $p = 0.39$).

Nagelkerke $R^2 = 0.25$: This indicates that the independent variables (knowledge, attitudes, and self-efficacy) explain 25% of the variability in exclusive breastfeeding practices.

Practical Implications:

Knowledge plays the most crucial role in predicting exclusive breastfeeding. Health interventions should focus on enhancing maternal knowledge about the benefits and practices of exclusive breastfeeding.

The attitude towards breastfeeding is also a significant factor. Educational programs that promote positive breastfeeding attitudes may improve breastfeeding rates.

Self-efficacy, while statistically significant in the regression, shows weaker predictive power. This finding suggests that while confidence in the ability to breastfeed is important, its influence is less than that of knowledge and attitudes.

DISCUSSIONS

The study aimed to evaluate the knowledge, attitudes, and practices of exclusive breastfeeding among mothers with children aged 0–24 months attending the postnatal clinic at the Kenema Government referral hospital.

The study revealed that of the 233 women whose children were aged 0–24 months, 95 (40.8%) were within the 21–25 years age range. Most of the respondents (80.7%) had one form of education, while 19.3% were illiterate. The majority (68.7%) of the respondents were Muslims, implying that the study was conducted in an Islamic-dominant area. Almost all the participants (72.1%) were married. The number of children was more than three in 22% of them. Normal vaginal delivery was reported by almost two-thirds of them (67.5%), whereas caesarean section was reported by the remaining 32.5% of the participating women.

In this study, the majority of respondents (96.1%) knew about exclusive breastfeeding, whereas only 3.9 responded that they had not heard about exclusive breastfeeding, which was consistent with the findings of a study in Bedele, Ethiopia, which revealed that the majority of the mothers, 91.8%, were knowledgeable about exclusive breastfeeding. This was in

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contrast to the findings of Bolanle (2013), who reported that 78.4% of the mothers interviewed were not aware of exclusive breastfeeding.

The study further revealed that 78.5% of the respondents obtained information on exclusive breastfeeding from healthcare workers, 5.2% from mass media, 6.4% from friends, 6.9% from relatives, and 3% from other sources. This finding is also in agreement with the findings of Peterside et al. (2013), who reported that 80.6% of mothers heard about exclusive breastfeeding from health workers during antenatal clinic visits, 10.4% heard about exclusive breastfeeding from either television or radio, and 9.0% heard about exclusive breastfeeding from relatives and/or friends [17]. In contrast, Okolo et al. (1999) reported that only 33.3% of respondents received instruction from healthcare workers on breastfeeding [18]. Additionally, Ekambaram et al. (2009) reported that only 17% of mothers who attended antenatal clinics obtained information on exclusive breastfeeding from healthcare workers [18].

Furthermore, 45.9% of the participants said it should start immediately after birth, whereas the other participants said it should start within 24 hours (44.6%), 2–24 hours (6%), and 3.4% responded that it should start after 24 hours. The majority of the respondents knew what to do with their first breast milk. A total of 72.5% of the respondents gave colostrum to their neonates immediately after birth, 25.3% discarded their first breast milk, and 2.1% did not know what to do with their first breast milk, as illustrated in the figure above. This corresponds with the findings of Ally (2012), in which 68% were aware that colostrum is important for the baby, and is similar to the findings of Bolanle (2013), in which 57% gave colostrum to their babies; Ekaambaram et al. (2009), where 56% of the mothers knew that colostrum was important for the baby. In contrast, Asare et al. (2018) reported that colostrum is not fed to children by the majority of mothers, as it is considered heavy, thick, dirty, toxic, and harmful to children's health [21].

The majority of the respondents (87.6%) reported that breast milk alone can sustain the baby for the first six months of life, whereas 12.4% (29) reported that breast milk alone cannot sustain the baby for the first six months of life. Although 96.1% claimed to know and have had about exclusive breastfeeding, only 55.8% said that a child should remain on exclusive breastfeeding for the first 6 months of life and above. This correlates with the Sierra Leone national exclusive breastfeeding rate, where only 54% of the babies are exclusively breastfed for up to six months, whereas only 30% continue to be breastfed until two years. Others reported that the duration of exclusive breastfeeding was less than 6 months (12.4%), approximately 6 months (30%), and some of these respondents (1.7%) did not even know the duration of exclusive breastfeeding.

The study also revealed that the majority of respondents lacked the knowledge that frequent sucking helps in breast milk production. Eighty-two percent of the respondents said that they were eating enough food, 4.3% said that they drank too many fluids, and 3% did not know what helped with breast milk production.

Exclusively breastfeeding a baby for 6 months makes the body of the mother naturally stop ovulating, which eventually prevents pregnancy. This knowledge is lacking considering the responses given by the research subjects. Only 47.6% of respondents knew that exclusive breastfeeding prevents pregnancy. This finding resonates with a study conducted by Brown et al. (2019)**,** which revealed that many women are unaware of the efficacy and requirements of the lactational amenorrhea method. This lack of knowledge can lead to unintended

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pregnancies if additional contraceptive methods are not used [20]. The majority of the respondents (52.4%) did not know that exclusive breastfeeding prevents pregnancy. In this study, the majority of the respondents (76%) knew that a child should breastfeed on demand, which is the best practice recommendation of the World Health Organization [21,22].

The study indicated that most mothers agreed that healthcare workers encourage breastfeeding (91.3%). Similar studies carried out by Dykes, F. et al. (2018) indicated that a significant majority of mothers perceived healthcare workers as providing strong encouragement and support for breastfeeding [23]. A significant majority of the respondents agreed that breastfeeding is easier than artificial feeding (82%) and reduces family expenses (81.3%). This finding correlates with studies conducted by Horta, B. L. (2007), who suggested that breastfeeding can be easier than artificial feeding. This can be due to various factors, such as the convenience of not needing to prepare bottles and the natural bonding experience that breastfeeding provides [23]. The study further revealed that more than half of them (57.1%) agreed that breastfeeding does not affect their marital relationships. This is contrary to a study conducted by Borra, C. et al. who reported that breastfeeding can lead to increased marital strain, particularly in cases where breastfeeding is challenging or when there is inadequate partner support.

Overall, the mothers' attitudes toward breastfeeding ranged between 22 and 44, with a mean of 34.1 ± 4.2. A positive attitude towards breastfeeding was reported by 59.1% of the respondents, whereas a negative attitude was reported by more than one–third (40.9%).

Approximately 75% of the participants stated that they initiated breastfeeding within 30 minutes of their baby's birth, following the World Health Organization's (WHO) recommended guidelines. [25] While the index of EBF in the study areas is commendable, it was anticipated that a greater proportion of respondents would adhere to the WHO guidelines given the importance of early breastfeeding for child development and growth.

In the study locations, approximately 75.6% of mothers stated that they had engaged in exclusive breastfeeding. Nevertheless, 73.8% of the participants indicated that they started introducing extra supplementary meals to their children once they reached 6 months of age. In contrast, a study conducted in Bangladesh reported that only 31.0% of children were breastfed exclusively for the first 6 months of their life [26]. The assumed good habit was likely due to the respondents being educated and knowledgeable about the topic.

Healthcare professionals have observed positive changes in behaviour as a result of the health advantages of exclusive breastfeeding. This contrasts with a study in Calabar, Nigeria, where the current exclusive breastfeeding rate was found to be 22.9% among breastfeeding mothers. The majority of areas in developing nations exhibit a low prevalence of exclusive breastfeeding. Illiteracy and insufficient awareness among breastfeeding mothers are common reasons for the low rate of exclusive breastfeeding, which is crucial for babies in their first six months of life.

These factors contributed to certain limitations in the implementation of EBF in the research locations. The customary behaviour of women providing homemade remedies in the study location aligns with a similar study conducted in Igbo Ora, Nigeria. In both cases, individuals were accustomed to administering herbal treatments and offering water to their children when

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they fell ill without seeking advice from healthcare professionals in recognized facilities within their area [27].

Nevertheless, it is important to mention that a significant portion of the participants, 75.6%, practised feeding their children exclusively breast milk on demand, which is a positive and healthy method of infant nutrition. Some women believe that on-demand breastfeeding is outdated and instead opt to introduce complementary foods early and bottle-feed their children. [1].This is, however, closely related to the educational level of these nursing mothers. An educated woman will understand the significance of providing exclusively breastfed babies with breast milk whenever they need it, as it will promote their growth and development while decreasing excessive crying from hunger. Support from partners might have also played a role in the promotion of exclusive breastfeeding practices, as noted in the research location. Research has revealed that more than 90% of respondents reported that they had their spouse's support while observing EBF. The support may simply mean helping the woman perform other domestic chores that could distract her attention from concentrating on breastfeeding the baby. In most African countries, the tight schedule of men often prevents them from staying with their wives while breastfeeding during the first few months of their life [28]. A good percentage of the respondents were literate and most likely had spouses who understood the importance of breastfeeding in the first few months of life. Moral support and encouragement from such husbands would have gone a long way toward increasing exclusive breastfeeding compliance among the nursing mothers in the study areas.

This study faced several limitations, including its cross-sectional design, which prevents the establishment of causal relationships among knowledge, attitudes, and exclusive breastfeeding practices. The reliance on self-reported data introduces potential recall and social desirability bias, whereas the single-site focus on Kenema government referral hospitals limits the generalizability of findings to other regions. Additionally, the study did not explore broader sociocultural or economic barriers, such as employment or income, which may impact exclusive breastfeeding.

CONCLUSION

The study revealed that while mothers at the Kenema Government Referral Hospital had a high level of knowledge and positive attitudes toward exclusive breastfeeding, actual practices fell short of WHO recommendations. Many introduced water or herbs during breastfeeding or stopped before six months. Key knowledge gaps include the role of breastfeeding in preventing pregnancy and the importance of frequent suckling for milk production. To address this, public awareness and counselling should be enhanced through mass media and antenatal clinics. The government should integrate the promotion of breastfeeding into national health policies. Future research should explore the sociocultural and economic factors influencing breastfeeding practices.

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