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Infant and Young Child Feeding Practices and Determinants of Exclusive Breastfeeding: A Study at the Bono Regional Hospital, Sunyani, Ghana

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Abstract: Optimal nutrition plays a key role in the survival and overall health outcome of young children. This study sought to assess infant and young child feeding (IYCF) practices and maternal socio-demographic factors and health-seeking behaviours affecting exclusive breastfeeding (EBF) practices. A descriptive cross-sectional study was conducted at the Child Welfare Clinic of the Bono Regional Hospital, Sunyani, Ghana. Two hundred and forty-five (245) mothers with 6-23 months old infants pairs were recruited for the study through convenience sampling. Data were collected using semi-structured, interviewer-administered questionnaires. Statistical Package for Social Sciences (SPSS) version 25 was used to analyze the data. All infants (245) in the study had been breastfed at some point in time. Approximately, 5 in 10 infants (54.3%) were introduced to breast milk within the first hour of birth. EBF rate was 49.4%. More than 7 in 10 children (75.5%) were predominantly breastfed in their first 6 months of life. Eight in 10 infants (80.8%) were being fed complementary foods. In a multiple logistic regression analysis, maternal age and health education/counselling on EBF significantly predicted EBF practices. Mothers aged 35-49 years were more likely to practise EBF compared to those aged 15-24 years (AOR 0.47; 95% CI 0.24, 0.92). Also, mothers who received education/counselling on EBF during antenatal care were more likely to practise EBF than those who did not (AOR 2.68; 95% CI 1.29, 5.53). The rate of EBF is below the World Health Assembly approved target for 2025 (≥ 50%), suggesting a need for intervention.

Keywords: Infant, young child, feeding, exclusive breastfeeding, Sunyani.

1. INTRODUCTION

Breastfeeding is recognized globally as an essential component of infant and young child feeding (IYCF) practices (Dorri *et al*., 2022; Titaley *et al*., 2022). The World Health Organization (WHO) and the United Nations International Children Fund (UNICEF), having recognized the sundry benefits of breastfeeding, developed the Global Strategy for IYCF, which aims to promote safe and appropriate IYCF practices (WHO, 2021). Components of the IYCF strategy include early initiation of breastfeeding (breastfeeding within 1 hour of birth), exclusive breastfeeding (EBF) for the first 6 months, introduction of nutritionally adequate and safe complementary foods at 6 months, and continued breastfeeding for 24 months and beyond (WHO, 2021).

Specifically to EBF, the WHO recommends feeding babies with only breast milk for the first 6 months of life, without adding any other foods or water, except for medication, including syrups, vitamins, and supplements (Yazdanpanah *et al*., 2022). EBF provides immediate and long-term benefits to both the mother and the baby. It improves the mother-baby bond, helps infants build strong immunity, and prevents unnecessary spending on breast-milk substitutes (e.g. infant formula, milk powder) (Soumah *et al*., 2021). EBF confers protection on children against infections, non-communicable diseases such as obesity and cancers, early infant death, and neurodevelopmental problems (Watson *et al*., 2021). It is estimated that every year, 823,000 under-five mortalities could be prevented through appropriate IYCF practices (Asare *et al*., 2018). EBF also helps mothers to lose weight after birth, space pregnancy and childbirth (by providing a natural method of family planning) and reduces their risk of cancers (e.g. breast and ovarian cancers) (Asemahagn, 2016; Bernard *et al*., 2021; Dorri *et al*., 2022; Rahimi *et al*., 2020; Saputra, 2022; Titaley *et al*., 2022).

Despite these benefits, globally, only about 40% of children below 6 months of age are exclusively breastfed (Alshammari & Haridi, 2021). In many African countries including Ghana, there is a huge unmet need for EBF (Tampah-naah & Kumi-kyereme, 2013). Significant variations are observed within and between countries in the sub-Saharan African (SSA) region with regard to EBF prevalence. As of 2012, the prevalence of EBF was still low in Chad (2.0%), Cote d'Ivoire (4.0%), Gabon (6.0%), and Sierra Leone (8.0%), but relatively high in Benin (70.0%) and Rwanda (85.0%) (Bhattacharjee *et al*., 2019).

Time trend analysis of EBF prevalence in Ghana reveals a fluctuating pattern; from 53.0% in 2003, to 54.9% in 2006, to 62.1% 2008, to 45.7% in 2011, to 52.1% in 2014, to 42.9% in 2017 (UNICEF, 2021). The median duration of EBF in the Brong Ahafo region in the three years preceding the 2014 Ghana Demographic and Health Survey (GDHS) was 2.5 months (Ghana Statistical Service [GSS], Ghana Health Service [GHS], & Inter City Fund [ICF] Macro, 2015), a figure which was far below the WHO recommended 6 months. In a study in Tamale Metropolis, only 27.7% of infants were exclusively breastfed for the first 6 months of life (Nukpezah *et al*., 2018), reflecting the unstable trend of EBF practices in Ghana.

Factors determining EBF are diverse and complex. Substantial among them are caregiver beliefs and socio-cultural norms supporting prelacteal and mixed feeding, health facility policies and practices that do not support breastfeeding, lack of effective legislations on manufacturing, promotion, and selling of breast-milk substitutes (e.g. infant formula, milk powder), and inadequate maternity leave and policies that support breastfeeding at workplaces (Rollins *et al*., 2016; WHO & UNICEF, 2014). With the trend of EBF in Ghana,

the country risks achieving the Global Nutrition Target 5 (thus increasing the rate of EBF in the first 6 months up to 50% or more) (WHO & UNICEF, 2014). This study examined breastfeeding practices and determinants of EBF among mothers with 6-23 months old infants pairs attending the child welfare clinic (CWC) of the Bono Regional Hospital, Sunyani. Findings from the study could help health managers in Sunyani plan intervention programmes to improve IYCF practices in the Sunyani municipality and the Bono region at large.

2. MATERIALS AND METHODS

Study Design and Study Area

A hospital-based descriptive cross-sectional study was conducted at the CWC of the Bono Regional Hospital. The hospital is located in Sunyani, the administrative capital of the Bono Region of Ghana. Reports from the recent national population and housing census (PHC) show that Sunyani municipal has a population of 193,595 (the highest in the Bono Region). Females constitute 50.2% (97,237) of the total population. Most of the residents of the municipality live in urban areas (80.8%) (GSS, 2021). For the purposes of healthcare delivery, the Sunyani municipal is divided into six (6) sub-municipals – Sunyani central, Penkwase, New Dormaa, New Town/Baakoniaba, Abesim and Antwikrom (Asare *et al*., 2019).

The Bono Regional Hospital is the largest secondary-level hospital (by patient attendance and specialist care) in Sunyani and the Bono Region. Serving as a major referral centre, the hospital receives cases from health facilities in the Ahafo, Bono, and Bono East regions of Ghana (Nketia *et al*., 2022). The hospital's CWC is one of the largest in the region. Services provided at the clinic include infant growth monitoring, vaccination against childhood diseases, identification and referral of cases to appropriate units in the hospital, health education on childhood diseases, environmental and personal hygiene, and counselling on IYCF practices. Aside from the Bono Regional Hospital, there are 64 health facilities in the Sunyani municipality – 1 municipal hospital, 4 health centres, 19 clinics, 4 quasi facilities, 3 private maternity homes, 3 faith-based institutions, and 34 community health planning and services (CHPS). Almost all private facilities in the municipality are located in the urban areas (Ministry of Finance - Ghana, 2022). The selection of the Bono Regional Hospital for the study was determined by the hospital's status (being the largest hospital in the Bono region) and the services provided. The researchers believe that policies and programmes implemented to improve IYCF practices at the Bono Regional Hospital, using findings and recommendations from the study, would go a long way to benefit populations in the three regions (Ahafo, Bono, and Bono East) who access care at the Bono Regional Hospital.

Study Population

The study population comprised mothers with 6-23 months old infants pairs who were residents in the Sunyani municipality and accessed healthcare at the CWC of the Bono Regional Hospital.

Sampling

The formula $\mathbf{n = Z^2s^2/e^2}$ was used to estimate the sample size for the study, where **n** is the sample size, **Z** is the test statistic for the 95% confidence interval (which was 0.05), **s** is the estimated standard deviation in EBF practices (assumed to be 0.36) and **e** is the desired level of precision (0.05) (Mundagowa *et al*., 2019). Value for **s** was obtained from a similar study in Iran (Haghighi, & Varzandem, 2016), which assumed a 0.36 standard deviation in EBF practices. Based on the information above, the sample size for the study was estimated to be 200. With a 22.5% attrition rate, the final sample size was adjusted to 245.

With the presumption that the target population was homogeneous (Etikan, Musa, & Alkassim, 2016), respondents for the study were recruited through convenience sampling technique, i.e. respondents were selected based

on their easy accessibility and willingness to be included in a study (Feldmann, 2014). Having obtained permission from the management of the Bono Regional Hospital, the researchers visited the CWC on days scheduled for routine services at the clinic. These special days were chosen for the data collection because the respondents were only accessible on days scheduled for routine services at the unit. Mothers and their infants pairs who met the inclusion criteria (resident of Sunyani municipality, infant aged 6-23 months, attended CWC of the Bono Regional Hospital, and was easily accessible and willing to participate in the study voluntarily) were recruited for a face-to-face interview.

Data Collection

We adapted and modified the Centres for Disease Control and Prevention (CDC; 2014) Infant Feeding Practices Study II questionnaire and GSS (2017) IYCF practices indicators for the study. The instrument was structured into two parts; socio-demographic characteristics of mothers and infants, and IYCF practices. The primary data for the study were collected in July 2020, on days selected for routine services at the CWC of the Bono Regional Hospital. Data were collected via face-to-face interviews. This activity was entirely carried out by the researchers. After recruiting respondents and obtaining informed consent, questions on mothers' socio-demographic characteristics and infant and young child (IYC) demography and feeding practices were read out to respondents and translated into the local dialect (Asanti Twi) for them. To ensure that responses given and data recorded were accurate, every question was read twice and interpreted in the local dialect before responses were recorded. Each interview was conducted within 5-10 minutes. To ensure that the data collection process did not interfere with the CWC activities, the interviews were conducted away from the health officers' station where routine CWC services activities were performed. The researchers followed strict COVID-19 safety protocols, including social distancing, wearing of face mask, and frequent use of alcohol-based hand sanitiser.

Data Analysis

Following the data collection, the primary data were checked for completeness, coded and entered into Statistical Package for Social Sciences version 25 (IBM Corp, Armonk, New York, United States, 2017). Descriptive analysis was performed on mothers' and infants' socio-demographic data. Five indicators of IYCF practices were assessed. Descriptive analysis was performed on these indicators which were defined as follows:

- **Ever breastfed**: Proportion of children who had ever received breast milk, including breastfeeding by a wet nurse and feeding expressed breast milk (GSS, 2015).
- **Early initiation of breastfeeding**: Proportion of children who were put to the breast in the first hour of birth (WHO, 2009).
- **Exclusive breastfeeding**: Proportion of infants who were fed with only breast milk for the first 6 months of life (Yazdanpanah *et al.*, 2022). This indicator included breastfeeding by a wet nurse and feeding expressed breast milk.
- **Predominant breastfeeding**: Proportion of infants whose major source of nourishment in the first 6 months of life was breast milk. This included infants who were exclusively breastfed and those who receive breast milk and other fluids (e.g. water-based drinks, fruit juice and ritual fluids) (GSS, 2015).
- **Complementary feeding**: proportion of infants who received solid, semi-solid or soft foods in the 24-hours preceding the survey (GSS, 2017).

Initial univariate logistic regression models were used to assess the association for a broad range of socio-demographic factors and health-seeking behaviours that could plausibly impact mothers' EBF practices. A final multivariate model was selected using 'Enter' method. *P*-

values, odds ratio, and confidence intervals were reported. *P*-value < .05 was considered statistically significant. The selection of EBF (over other IYCF practices) as the outcome variable was influenced by the significant role of EBF in the survival and overall health outcome of young children (Tampah-naah & Kumi-kyereme, 2013). Results of the analyses were presented in tables 1-3 and figure 1.

Ethical Consideration

Approval for the study was obtained from the Research and Ethics Review Committee of the College of Health, Yamfo, Ghana. Following this, the researchers obtained an introductory letter from the college which was submitted to the management of the Bono Regional Hospital prior to the data collection. Before the data collection, the researchers met the respondents to discuss the objectives and significance of the study. All questions and concerns raised by the respondents were clarified, thereafter, verbal informed consents were obtained. Questionnaires for the study were anonymized to ensure that confidentiality was maintained.

3. RESULTS

Socio-Demographic Characteristics of Mothers and Infants

Baseline socio-demographic factors of mothers and infants who participated in the study are summarized in Table 1. There was 100% response rate. The largest proportion of mothers was between 25 and 34 years of age (37.1%). More than half of them were residents of urban communities (61.6%). Sixty-three (25.7%) mothers had attended or finished college or university. With regards to occupation, approximately one-fourth of the mothers (24.5%) indicated had a white-collar job. More than half of the infants (69.4%) were between 6 and 11 months old. There were 136 (55.5%) female infants.

Table 1 Socio-demographic characteristics of mothers and their infants pairs (n = 245)

Variable	Frequency (n)	Percent (%)
Age (Mother)		
15-24 years	64	26.1
25-34 years	91	37.1
35-49 years	90	36.7
Residence/community		
Rural	94	38.4
Urban	151	61.6
Level of education (Mother)		
Primary school and below	50	20.4
JHS	64	26.1
SHS/Vocational school	68	27.8
College/university	63	25.7
Mothers' occupation		
Agriculture-related	46	18.8
Trading	84	34.3
White-collar job	60	24.5
Others	55	22.4
Age (Child)		
6-11 months	170	69.4
12-24 months	75	30.6

Variable	Frequency (n)	Percent (%)
Sex (Child)		
Male	109	44.5
Female	136	55.5

Note. JHS = Junior High School; SHS = Senior High School.

Maternal Health-Seeking Behaviours and Related Characteristics

Table 2 presents maternal health-seeking behaviours and related characteristics. More than half (50.2%) of the mothers indicated considered EBF prior to becoming pregnant. A similar proportion (50.6%) indicated did not receive health education/counselling on EBF during antenatal care. The majority of the respondents (67.3%) had an association with mother-to-mother support groups. Less than half of them had ever practised EBF, before their most recent childbirth (49.4%).

Table 2 Maternal health-seeking behaviours and related characteristics (n = 245)

Variable	Frequency	Percent
Pre-pregnancy EBF consideration		
Yes	123	50.2
No	122	49.8
Health education/counseling on EBF		
Yes	121	49.4
No	124	50.6
Association with M-t-M support group		
Yes	165	67.3
No	82	32.7
Previous EBF practices		
Yes	121	49.4
No	124	50.6

Note. EBF = exclusive breastfeeding; M-t-M = mother-to-mother.

IYCF Practices

Figure 1 illustrates IYCF practices. All infants (245) in the study had been breastfed at some point in time. Approximately, 5 in 10 infants (54.3%) were introduced to breast milk within the first hour of birth. The proportion of infants who were exclusively breastfed was 49.4%. More than 7 in 10 children (75.5%) were predominantly breastfed in their first 6 months of life. Eight in 10 infants (80.8%) were being fed complementary foods.

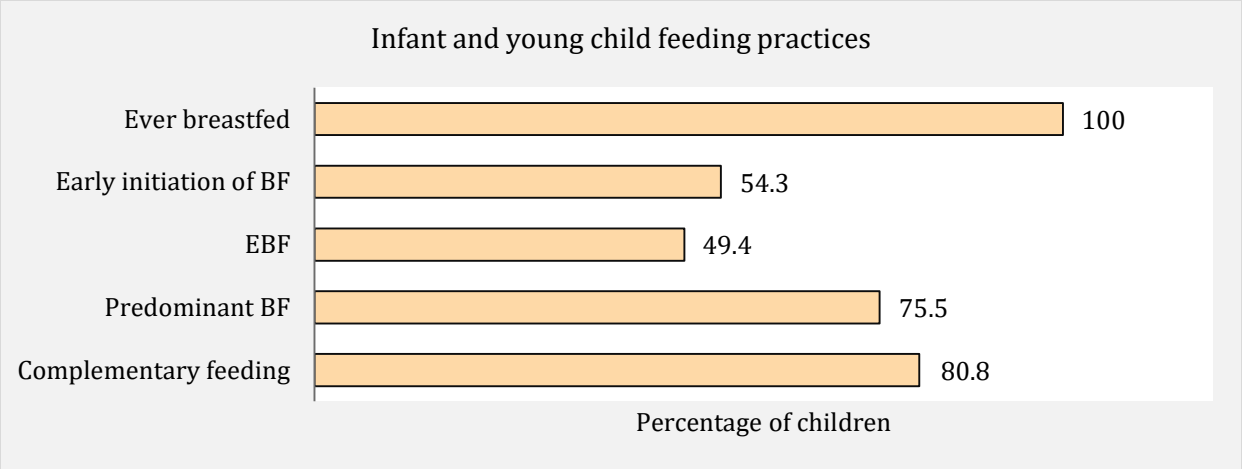

Figure 1 Infant and young child feeding practices. Note. BF = breastfeeding; EBF = exclusive breastfeeding.

Determinants of EBF practices

Table 3 presents Logistic regression of the association between EBF practices and mothers' characteristics. In a univariate logistic regression, four independent variables – maternal age, pre-pregnancy EBF considerations, health education/counselling on EBF, and previous EBF practices, were significantly associated with EBF practices (p < .05). A multiple logistic regression analysis was conducted to determine the impact of these variables on the likelihood that mothers would report practicing EBF. The model contained four independent variables that were significant in the univariate logistic regression analysis (maternal age, pre-pregnancy EBF considerations, health education/counselling on EBF, and previous EBF). The full model containing all predictors was statistically significant, χ^2 (5, N = 245) = 16.67, p = .005, indicating that the model was able to distinguish between mothers who reported practising EBF and those who did not. Hosmer-Lemeshow Goodness of Fit Test provided additional evidence that our model was reliable, χ^2 (6, N = 245) = 4.11, p < .662. The model as a whole explained between 6.6% (Cox and Snell R square) and 8.8% (Nagelkerke R squared) of the variance in EBF practices, and correctly classified 58.4% of cases. As shown in Table 3, only two of the independent variables made a statistically significant contribution to the model (maternal age, and health education/counselling on EBF). Mothers aged 35-49 years were more likely to practise EBF compared to those aged 15-24 years (AOR 0.47; 95% CI 0.24, 0.92), controlling for all other factors in the model. Also, mothers who received education/counselling on EBF during antenatal care (ANC) were more likely to practise EBF than those who did not receive education/counselling on EBF (AOR 2.68; 95% CI 1.29, 5.53), controlling for all other factors in the model.

Table 3 Logistic regression of association between EBF practices and mothers' characteristics

Factor	Univariate LR			Multiple LR		
	p	OR	[95% CI]	*p*	OR	[95% CI]
Age (in years)						
15-24 (Ref)		1			1	
25-34	.767	.907	0.47, 1.72	.552	0.81	0.42, 1.59

Factor	Univariate LR			Multiple LR		
	p	OR	[95% CI]	*p*	OR	[95% CI]
35-49	.047*	.519	0.27, 0.99	.027*	0.47	0.24, 0.92
Residence						
Rural (Ref)		1				
Urban	.155	1.46	0.87, 2.45	-	-	-
Educational status						
Primary school and below		1				
JHS	.144	0.57	0.27, 1.21	-	-	-
SHS/Vocational school	.423	0.77	0.36, 1.54	-	-	-
College/University	.702	0.85	0.41, 1.82	-	-	-
Occupation						
Agriculture-related (Ref)		1				
Trading	.090	0.53	0.26, 1.10	-	-	-
White-collar job	.148	0.56	0.26, 1.23	-	-	-
Others	.238	0.62	0.28, 1.37	-	-	-
Association with a mother-to-mother support group						
No(Ref)		1				
Yes	.344	0.77	0.45, 1.32	-	-	-
Pre-pregnancy BF consideration						
No (Ref)		1			1	
Yes	.048*	1.66	1.00, 2.76	.739	0.69	0.08, 6.06
Health education/counselling on EBF						
No (Ref)		1			1	
Yes	.001*	2.33	1.39, 3.89	.008*	2.68	1.29, 5.53
Previous EBF						
No (Ref)		1			1	
Yes	.048*	1.67	1.00, 2.76	.830	1.26	0.15, 10.49

Note. N = 245. JHS = Junior High School; SHS = Senior High School; EBF = exclusive breastfeeding; LR = logistic regression; OR = odds ratio; CI = confidence interval. *$p < .05$.

4. DISCUSSION

Recognizing the enormous health and socio-economic benefits of breastfeeding, as extensively reported in the literature, the study sought to assess IYCF practices and maternal socio-demographic factors and health-seeking behaviours affecting EBF practices. The result of the study shows that all infants (100%) had been breastfed at some point in time. This finding is consistent with those of single-site studies in Nepal (Dharel *et al*., 2020), Northwest Ethiopia (Seid *et al*., 2013), and Southwest United States (Khasawneh, 2017), where 100%, 99.5%, and 99.2% of infants were reported to have received breast milk at some in the past. Also, the current result corroborates findings of GDHS and MICS conducted in Ghana between 2008 and 2017. The 2017 Ghana MICS found that 98.7% of children aged 0-2 years had received breast milk at some point in time (GSS, 2017), similar to findings from the 2011 MICS (98.9%) (GSS, 2012), 2014 GDHS (98%) (GSS *et al*., 2015),

and 2008 GDHS (98%) (GSS *et al*., 2009). It seems possible that this consistency in point breastfeeding in Ghana is due to the almost universal acceptance of breastfeeding in the country (Asemahagn, 2016). Among residents of Abuakwa and Barekesse in Ghana, Ayawine and Ae-Ngibise (2015) found that breastfeeding was a long-held tradition and culturally-acceptable way of feeding a child. In their study, most nursing mothers indicated were comfortable breastfeeding wherever they find themselves, including in public spaces (Ayawine & Ae-Ngibise, 2015). In a critical review, Oyelana *et al*. (2021) made similar observations. Many African women anticipated breastfeeding their babies, a pride some held dearly with the belief that it would facilitate a strong bond between them and their children (Oyelana *et al*. (2021). The concept of IYCF practice has evolved considerably during the course of history (Green *et al*., 2021), however, the current finding provides some support for the conceptual premise that women in the study still place value on breastfeeding amidst the several challenges related to IYCF practices.

Our study also found that approximately 5 in 10 babies (54.3%) were introduced to breast milk within the first hour of birth. This finding, although higher than the current national average (52.0%), reflects the significant pattern of change in the initiation of breastfeeding in Ghana; from 15.6% in 1993, to 25.3% in 1998, to 45.4% in 2003, to 35.2% in 2006, to 51.9% 2008, to 45.9% in 2011, to 55.6% in 2014, to 52.0% in 2017 (UNICEF, 2021). The current figure seems to be relatively higher than those reported in Nigeria (40.6%) (Olasinde *et al*., 2021), Nepal (41.8%) (Bhandari *et al*., 2019) and India (23.0%) (Kazmi *et al*., 2021), is inconsistent with findings from Southwest of United States (81.9%) (Khasawneh, 2017), Canada (89.0%) (Gionet, 2013), and Northwest Ethiopia (87.0%) (Seid *et al*., 2013). Robust evidence from the literature indicates that delivery at a health facility, spontaneously vaginal delivery (SVD), and skilled birth attendance positively affect breastfeeding initiation (Ogbo *et al*., 2019). In a systematic review, Alzaheb (2017) found that the mode of delivery, mothers' employment status, rooming-in, and prelacteal feeding were commonly associated with early initiation of breastfeeding. These factors could have accounted for the variations in study findings.

The result of our study also shows that 49.4% of the infants were exclusively breastfed in their first 6 months of life. This finding, although higher than the current national average (42.9%), highlights an unstable pattern of EBF prevalence in Ghana; from 53.0% in 2003, to 54.9% in 2006, to 62.1% 2008, to 45.7% in 2011, to 52.1% in 2014, to 42.9% in 2017 (UNICEF, 2021). Although the current rate of EBF seems to be relatively lower than those reported in some recent studies in the southern part of Ghana; Tema East (66.0%) (Asare *et al*., 2018), Dodowa (71.0%) (Manyeh *et al*., 2020), and Techiman (55.8 %) (Boateng, 2018), it is higher compared with those from the northern regions of Ghana; Tamale (27.7%) (Nukpezah *et al*., 2018). Cross-cultural differences in breastfeeding practices (Seid *et al*., 2013), some of which tend to favour prelacteal feeding and mixed feeding (Alzaheb, 2017) could have explained these rather contradictory results. A study in Sagu, Ghana, reported that most nursing mothers were willing to practise EBF, however, family beliefs interfered with this desire (Afaya *et al*., 2017). The current finding implies that the rate of EBF is below the new global target (70.0%) set for 2030 (Dharel *et al*., 2020) and the untimely introduction of solid/liquid foods to infants in the current study could expose them to pathogens and increase their risk of infection (GSS *et al*., 2015). Moreover, this untimely introduction of solid/liquid foods most likely decreased infants' consumption of breast milk and therefore suckling, which in turn reduces breast milk production. Also, in low-resource settings, supplementary food is often nutritionally inferior, a major risk for malnutrition (GSS *et al*., 2015).

Another important finding from our study was that more than 7 in 10 children (75.5%) were predominantly breastfed in their first 6 months of life. Their finding seems to be consistent with those found in Australia (Chamberlain *et al*. (2017) and the 2014 GDHS (GSS *et al*., 2015) where 80.0% and 74.0% of women reported practising predominant breastfeeding. However, the current rate of predominant breastfeeding is higher than that identified in Ghana's 2017 MICS (63.7%) (GSS, 2017). Contrary to the current finding also, only 28.2% of women in a study in mid-western and eastern regions of Nepal practised predominant breastfeeding (Dharel *et al*., 2020). Several factors have been identified as barriers to appropriate IYCF practices. The lack of legislation on manufacturing, promotion, and selling of breast-milk substitutes (e.g. infant formula, milk powder), coupled with inadequate maternity leave and other policies that support breastfeeding in workplaces and public spaces (Rollins *et al.*, 2016; WHO & UNICEF, 2014) could have explained for the observed disparities in study findings.

Our study found that 8 in 10 infants (80.8%) were being fed complementary foods. It is encouraging to compare this result with those found in the 2014 GDHS (73%) (GSS, 2015), and the 2017 MICS (79.3%) in Ghana (GSS, 2017). The current finding reflects the significant pattern of change in complementary feeding practices in Ghana, most likely attributable to the recent development in the Ghana national IYCF initiatives (GSS, 2015). An important inference drawn from this finding is that most women were aware of complementary feeding and probably its importance. However, at the level of assumption, we cannot make any firm conclusions to that. Also, it is beyond the scope of this study to determine whether these foods were introduced at the 6 months, and are nutritional adequate and safe, as recommended by the WHO (WHO, 2021), which could affect the desired outcome of IYCF practices.

It was also identified in our study that maternal age significantly predicted EBF practices. Mothers aged 35-49 years were more likely to practise EBF compared to those aged 15-24 years. Similar observations were made in studies in Ghana (Asare *et al*., 2018), Zimbabwe (Mundagowa *et al*., 2019), and India (Kumar & Gaonkar, 2020). Increasing maternal age is often associated with increasing parity and previous breastfeeding, a practice which has been found to enhance mothers' care for IYC, hence, increasing the likelihood that middle-aged mothers would practise EBF (Mundagowa *et al*., 2019). Also, the perception that continuous breastfeeding would result in sagging of the breast could have prevented some young mothers from practising EBF (Asare *et al*., 2018).

Findings from our study also indicate that mothers who received education/counselling on EBF during antenatal were more likely to practise EBF than those who did not receive education/counselling on EBF. In an earlier study among women in urban slums in Meerut, India, Gautam *et al*. (2020) found that counselling on EBF during ANC was positively associated with EBF practices. Poor maternal knowledge, myths and misconceptions have been reported as social and structural barriers to optimal breastfeeding (Masaba *et al*., 2021). Health education/counselling during ANC could have helped to dispel these wrong perceptions and myths about EBF, hence, the current observation. Additionally, mothers with adequate knowledge of EBF practices would most likely practise EBF for 6 months, knowing the possible negative outcome of premature cessation of EBF. Our findings suggest that children born to young mothers and those who did not receive education/counselling on EBF could have missed the opportunity to be exclusively breastfed, a situation which could put them at risk of childhood malnutrition and other health-related problems associated with sub-optimal infant feeding. It is important therefore that health workers at the Bono Regional Hospital's CWC and ANC unit understand these factors associated with EBF practices to

develop timely interventions to improve IYCF practices in the Sunyani municipality and the Bono region at large.

5. CONCLUSION

Our study makes important contributions to literature, having identified current IYCF practices in Sunyani in relation to national and international guidelines, and factors associated with EBF practices. The noticeable variations in EBF rates in Ghana highlight the importance of conducting periodic standardized national surveys on IYCF practices to identify progress and gaps in these health indicators and areas needing urgent interventions. Despite these contributions, our study had some limitations. The study design (descriptive cross-sectional) allowed us to determine the association between different explanatory variables and EBF, but not a causal relationship. Also, there could be recall biases, especially regarding the time of initiation of breastfeeding. Despite these limitations, the results of the study provide a better understanding of IYCF practices and factors associated with EBF practices in Sunyani, Ghana. Our findings may help to guide the development of programmes to improve IYCF practices in the Bono Region, Ghana.

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Conflict of Interest

None declared

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Nil

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