An Assessment of Nutritional Knowledge and Feeding Practices of Breastfeeding Mothers on Young Children Feeding in Dadease and Effiduase Municipalities

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Abstract

This study aimed at examining infant and young child feeding practices of mothers and their effect on the nutritional status of their children at Dadease and Effiduase in the Sekyere-Kumawu and Sekyere-East Districts, respectively. A cross-sectional design was used for the study, with a sample size of 122 mothers and their young children within the age range of 0–24 months. Multistage sampling was employed. The relationship between mothers' nutritional knowledge and feeding practices adopted for their infants and young children was examined using Spearman's correlation at a 0.01 significant level. The result showed a weak negative insignificant ($r = -.141$, $p > 0.01$) relationship. Similarly, mothers' educational level and their age did not influence their choice of infant feeding practices ($p > 0.05$). Rather, factors such as work situation, culture, post-natal clinic services, family and friends influenced the mother's choice of infant and young child feeding practices ($p < 0.05$). About 37% of mothers confirmed that they introduced other foods to their infants below 4 months; however, 95% of mothers were noted for introducing supplementary foods to infants below the 6th month. This finding indicated that the feeding practices adopted by most mothers were not in line with WHO recommendations for infant feeding, hence the high prevalence of severe underweight in Effiduase (72%) and Dadease (78%). The study recommended the need for promotion for the best infant and young child feeding practices in the Sekyere-Kumawu and Sekyere-East districts through effective health e ducation and counselling routines as well as a young children's dieting guide to be enforced at Dadease and Effiduase to foster optimal childhood feeding practices among mothers.

Keywords: Mothers, Breastfeeding practices, Nutritional Knowledge, Infant, Under-weight

1. Introduction

Infant and young child feeding is key to promoting healthy growth and development, particularly during the first two years of a child's life. A child who has adequate nutrition performs better in school, grows into a healthy adult, and in turn gives his or her children a better start in life. For a child to have adequate nutrition, it basically depends on the feeding

practices offered by mothers at the early stages of life. Infant and young child feeding practices are suboptimal throughout the world, especially with the late initiation of breastfeeding, pre-lacteal feeding, and the early or late introduction of optimal complementary foods, which are of poor quality, quantity, and hygienic quality. The decision to use a bottle to feed the child is now a common practice in developing countries (Caetano, Ortiz, da Silva, de Souza & Sarni, 2010; Safari, Kimambo & Lwelamira, 2013). However, breast-feeding practices are widely promoted over bottle-feeding for healthy and effective infant growth.

These issues of substandard feeding in young infants across the globe are due to disparities in the initiation and duration of breastfeeding and the timely introduction of complementary foods (Michigan State University, 2012). The growth and development of children in rural areas where mothers are not greatly enlightened about proper feeding and hygiene practices is deeply affected. Similarly, mothers leaving in slum areas of urban communities' face problems such as substandard housing, a lack of reliable sanitation services, a lack of clean water, and food security that consequently affect the growth and development of children within that community. Residents of such areas are poor and less educated. These further compromise sub-optimal infant and young child feeding practices and are most of the time responsible for the high rate of neonate and young child mortality in our societies. Some of these causes of child mortality are, at least to some degree, related to the diets of children and also to water quality and the sterilisation of objects (Demilew, Tafere, & Abitew, 2017). Hitherto, the Millennium Development Goal (MDG) targeted reducing under-nutrition by half. However, 146 million children under 5 in developing countries suffer from under-nutrition, which is one of the main factors that cause malnutrition, which stands out as the main cause of neonatal mortality. In Sub-Saharan Africa, four million children die from preventable diseases annually, of which 60.0% are a result of malnutrition (Awogobenja & Ugwuona, 2010). The Sustainable Development Goal (SDG), on the other hand, sought to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. The SDG 2 movement also sought to ensure healthy lives and promote well-being for all ages. This new agenda builds on the Millennium Development Goals, which aim to be relevant to all countries and focus on improving equity to meet the needs of women, children, and the poorest, most disadvantaged people (WHO, 2018).

Despite the fact that breastfeeding is known to be the best way to feed an infant because it provides psychological and health benefits to both the mother and child, globally there has been a general decline in the practice of breastfeeding both in terms of prevalence and duration in the past few decades (Singh, 2010). The possible reasons for declining breastfeeding as highlighted by Daba, Beyene, Garoma, and Habtamu (2013) included lack of confidence that the child is getting enough, increased urban women's work load demands that make them separated from their babies for longer hours, a decline in social support, discomfort breastfeeding in public, and intense promotion of commercial milk formulas. Factors associated with the problem of malnutrition among young children vary from place to place in the world, and Ghana is no exception. Among these factors is inappropriate dietary

intake, infectious diseases, socioeconomic factors, a lack of mothers' nutritional knowledge, and negligence or distraction due to other mothers' activities (Daba *et al.*, 2013).

Cognisant of the high prevalence of inappropriate child feeding practices, the Ethiopian government adapted the Infant and Young Child Feeding (IYCF) guideline in 2004 to improve infant and young child feeding practices. However, the IYCF practice remains inappropriate and likely to be a major cause of under nutrition (Disha, Rawat, Subandoro, & Menon, 2012). According to the 2016 Ethiopian Demographic and Health Survey (EDHS), infant and young child feeding practices are not as recommended by the World Health Organisation [WHO] (2008). Only 58% of young children less than six months of age were exclusively breastfed, and the optimal complementary feeding practice was 7%. Contrary to the recommendation made by the WHO (2008), 9% of young children less than six months of age used a bottle with a teat, a practice that is discouraged because of the high risk of infection for the child (Central Statistical Agency, 2016).

In Ghana, 98% of infants are ever breastfed but are fed with prelacteal feed, contrary to the World Health Organisation recommendation that young infants be fed only breast milk for the first six months of life. Therefore, 76% of young children aged 6–9 months in Ghana are breastfed and at the same time receive complementary foods. Again, according to the Ghana Demographics and Health Survey (2015), young children age 0-35 months breastfeed until 20.9 months and are exclusively breastfed for only 2.5 months instead of six months. Much is done in Ghana to overcome poor young child feeding practices that are the roots of malnutrition among children, but some children are still victims (CIA World Factbook, 2018).

A study by Gyampoh, Otoo, and Aryeetey (2014) also confirm that children should be introduced to complementary foods at 6 months, as directed by WHO and UNICEF (2003). The food given should be safe, adequate, and appropriate to prevent growth faltering in under-five children, thereby reducing childhood deaths. Some schools of thought have, however, indicated that complementary feeding can be introduced at 4 months (Awogobenja & Ugwuona, 2010). Moreover, a new Norwegian study showed a link between vitamin B_{12} deficiency and the delayed development of young children's brains and nervous systems regarding how long young children in Norway should be fed breast milk exclusively and when the weaning process should commence with an introduction to solid foods with immediate effect (Graven, 2013). Undernutrition is estimated to be associated with 2.7 million child deaths annually, or 45% of all child deaths. The first 2 years of a child's life are particularly important, as optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better overall development. Optimal breastfeeding is so critical that it could save the lives of over 820 000 children under the age of 5 each year (WHO/UNICEF/World Bank, 2017). The study sought to assess the nutritional knowledge and feeding practices of mothers on young children feeding in Dadease and Effiduase municipalities. The study sought to assess the nutritional knowledge and feeding practices of mothers on young children feeding in Dadease and Effiduase municipalities

2. METHODOLOGY

Research Design

This study is a survey design that used the quantitative paradigm. Specifically, the study adopted a cross-sectional survey design. This design has the advantage of measuring current attitudes or practices. It is also capable of receiving data in a short period of time. A cross-sectional survey design fits well with this study because the researchers obtained data from a section of mothers whose children were between 0 and 24 months old at the time of data collection.

Study area

The study was conducted in two (2) towns: Dadease and Effiduase, in the Sekyere-Kumawu and Sekyere-East districts, respectively. Sekyere-Kumawu District had a total population of 77,710, while Sekyere-East had 66,023 (2010 Population Census). Both districts are within the Ashanti Region of Ghana. Natives of both towns do more crop farming to feed their families and also contribute to national productivity. Meanwhile, Effiduase is a busy town in commercial activities and also has a high rate of 'white collar' jobs as compared to Dadease in the Sekyere-Kumawu district.

Population of the study

The population for the study comprised mothers who had 0–24-month-old children in the two towns. The target population was 1220 mothers who had 0–24-month-old young children at Dadease and Effiduase in the Sekyere-Kumawu and Sekyere-East Districts, respectively. This represented 717 mothers from Effiduase and 503 mothers from Dadease. This figure comprised the list of mothers with 0–24-month-old young children who have attended the Post-Natal Clinic and also had their names in the attendants register for the past two years (February 2016 to February 2018). The accessible population was made up of mothers who had children aged 0–24 months and attended the post-natal clinic at Dadease and Effiduase in the months of February and March, 2018. The accessible population of this study was realistic because it involved research participants who were available at the time of data collection. The accessible population of mothers and young children in both towns was 62 mothers in Dadease and 100 mothers in Effiduase, summing up to 162 mothers and their young children (Annual District Report, 2017).

Sample and Sampling Techniques

The sample size used for this study consisted of 122 mothers: 72 from Effiduase and 50 from Dadease. The sample of 122 represented 10% of the target population. The choice of 10% of the target population is based on Dornyei's (2007) assertion that between 1–10% of a study population gives a magic sampling fraction. A multistage sampling procedure that combined both probability and non-probability sampling techniques was used to arrive at the sample size of 122 mothers and their young children. One thousand, two hundred and twenty (1220) mothers and their 0–24-mmonth-old babies were sampled purposively during post-natal clinic (PNC) attendance, popularly known as weighing, at four child care (CC) centres at Dadease

and Effiduase from the attendant register. Mothers having 0–24-month-old infants and children were only selected purposefully because such children possessed characteristics identified as useful for this study. Though this technique may breed bias and may not lead to the right representation of the population, it was considered very useful since in-depth information was derived from mothers who were in the position to provide the required data. The centres visited were categorised into four clusters (C) in order to sample respondents fairly across the towns; clusters were Effiduase Government Hospital (C1), which had 60 respondents, and Divine Grace Medical Centre (C2), which also had 40 respondents, both at Effiduase in the Sekyere-East District. Dadease Central was cluster three (C3), which had 32 respondents, and Dadease Akotosu was cluster four (C4), which also had 30 respondents at Dadease, also in the Sekyere-Kumawu District. In all, 162 mothers with 0–24-month-old infants and young children were used in the four clusters who happened to have their names registered in the PNC attendants register and still attend PNC. This is because some mothers had their names in the register but did not visit the centres again.

Mothers were then regrouped into sixteen (16) strata from the clusters according to their level of formal education: no school at all, basic, senior high school (SHS), and tertiary education. The breakdown of samples from individual strata is illustrated in Table 3.1. Twenty-two (22) mothers and their young children were selected from stratum one (S1) as mothers whose education level was at the basic school, seven (7) mothers whose education level was at the secondary school from stratum two (S2), and tertiary level for stratum three (S3), respectively. Only one (1) mother, who had no education at all, was selected for Stratum Four (S4). Therefore, 37 mothers and their babies were selected from Cluster 1 at the Effiduase government hospital. Twenty-two (22) mothers were selected for stratum five (S5) as mothers whose educational level was at the basic school, six (6) mothers whose level of education was at SHS and tertiary, respectively, for strata six and seven (S6, S7), and only one (1) mother who had no education at all with her child for stratum eight (S8). Stratification from Divine Grace Medical Centre, which was cluster two (C2), had 35 samples also at Effiduase. From cluster three (C3), Dadease central, 16 mothers and their babies were conveniently selected as mothers with basic school education for stratum nine (S9), seven (7) mothers who had senior high school education for stratum ten (S10), and only one (1) mother with tertiary education for stratum eleven (S11). Also, only one mother who had no classroom education was conveniently selected for Stratum Twelve (S12). A sample of 25 mothers with their young children was selected from Dadease Central (C3). The same number of respondents was selected from cluster four (C4), which was Dadease Akotosu and consisted of strata (13, 14, 15, and 16). The total sample from Dadease was 50 mothers and their young children. In a nutshell, 122 mothers represented 10% of the target population of the study based on the rule of thumb that between 1–10% of a study population gives a magic sampling fraction, as asserted by Donyei (2007).

Finally, convenience sampling was employed to select the sample size for this study. Conveniently, 72 mothers and their children were sampled from Effiduase in the Sekyere-East District, while 50 mothers and babies were also sampled from Dadease in the Sekyere-Kumawu District. Convenience sampling is a non-probability sampling technique where

subjects are selected because of their convenience, accessibility, and proximity to the researcher (Saunders, Lewis, & Thornhill, 2012). This procedure relies on data collection from the characters that were conveniently available to participate in the study. Convenience sampling was considered because only mothers who were available and willing to provide information about their choice of feeding practices for their young children were accessed. It was also convenient to reach the mothers because of the proximity of the towns to the researchers.

Table 1: Distribution of the Study Population

Clusters (C)	Target Population	Accessible	Educ. level	Sample
C1. Effiduase Govt. hospital	602	60	Basic	22
			SHS	7
			Tertiary	7
			No Education	1
C2. Divine Grace Med. Centre	115	40	Basic	22
			SHS	6
			Tertiary	6
			No Education	1
C3. Dadease Central	320	32	Basic	16
			SHS	7
			Tertiary	1
			No Education	1
C4. Dadease Akotosu	183	30	Basic	16
			SHS	7
			Tertiary	1
			No Education	1
Total	1220	162		122

Key: Educ. Level = Educational level.

Data collection instruments

Instruments employed for this study were a questionnaire, weighing scale, weighing cards, and infantometre or tape measure, which enhanced triangulation and closed gaps in collected data where false and misleading information could be detected (Greeff, 2002). A structured questionnaire was used to aid data collection from mothers in line with the research objectives for this study. It included closed-ended questions with a list of options for respondents to choose from as a means of creating an atmosphere of uniformity in responses to aid easy analysis. Some of the questions for this survey contained five-point Likert scale items: strongly agree (SA = 4), agree (A = 3), neutral (N = 5), disagree (D = 2), and strongly disagree (D =1). Statistics was made easy by combining strongly disagree and disagree

responses together to represent disagree for point 1 (D + SD), strongly agree and agree responses were also put together to represent agree for point 2 (SA + A), and neutral was on its own to represent no point (0). A 6-point rating scale and yes-or-no (dichotomous) questions were also used. Items were structured to reflect the key themes in the research questions.

Validity of the Instrument

Face validity was done by giving the instruments to colleagues of the Masters' of Philosophy and Home Economics programmes at the University of Education, Winneba (UEW) for scrutiny and peer review. Indeed, their comments were considered for review of the questions. The content validity of the instruments was also granted through a review by the research supervisor, who scrutinised the items for their suitability before the pre-test. All the necessary corrections to the items were made and declared valid by the supervisor. Construct validity was ensured by employing accepted definitions and constructions of concepts and terms and operationalizing the research and its measures.

Reliability of the Instrument

To ensure reliability of the questionnaire used, a pilot test was conducted on 20 mothers conveniently sampled at Oyoko, a nearby town located between the two towns where the study was conducted. Validity and reliability of the study's questionnaire were tested using Cronbach's alpha in the Statistical Package for Social Sciences (SPSS) version 20. This yielded a reliability coefficient (r) of 0.879, which was deemed an acceptable measure of reliability because it was above the 0.70 threshold value of acceptability as a measure of reliability by Dornyei and Taguchi (2010). All corrections were made to the questionnaire before the main study was done.

Data Collection Procedure

An introductory letter was obtained from the Head of the Department of Home Economics Education at the University of Education, Winneba. This letter provided the details of the study and addressed issues of confidentiality and anonymity. The letter was used to obtain permission from the district assemblies, Ghana Health Service, and relevant stakeholders in the two districts. An approval or request letter was then issued from the districts before data collection commenced. The questionnaires were hand-delivered by the researcher and two research assistants to the respondents. For respondents who could not read and write, the researcher read and interpreted the questions to them using Asante Twi as the medium of communication, and their responses were recorded. The questionnaire was completed within 25 minutes. Completed questionnaires were collected on the same day to be coded for analysis. Each questionnaire was identified with counting numbers on top, which served as a reminder of the total sample to gather data from.

Data Analysis

Responses from respondents were tallied in order to formulate frequencies and percentages presented on tables with the use of the Statistical Package for Social Sciences (SPSS) version

20 software. Independent variables such as nutritional knowledge of mothers, socio-economic factors (mother's age, job situation, total income, culture, etc.), and dependent variables such as infants' and young children's feeding practices were used for inferential statistics. Regression analysis was adopted to predict the influence of young children's feeding practices, exclusive breastfeeding precisely, and some selected independent variables (mothers' level of education, age, postnatal clinic services, culture, household income, etc.). The interpretation of correlation coefficients of inferential statistics was based on Cohen, Cohen, West, and Aikens' (2003) interpretations.

Ethical Considerations

As a way of dealing with ethical issues in this study, ethical clearance for this research was obtained from the Department of Home Economics Education, University of Education, Winneba. This letter was used to obtain clearance and permission from the two district assemblies and district health directorates. Mothers were allowed to choose whether to participate or not in the research. Confidentiality was one of the obligations of the researcher; mothers were assured of the use of their data for solely academic purposes. Hence, they were asked not to indicate their names or those of their children in order to meet the principle of anonymity. Mothers were enlightened about the need to participate in the programme due to the fact that their involvement, indulgence, and assistance would provide the needed information for the study.

3. Results and Discussion

Demographic Characteristics of Respondents

Table 2 shows the demographic characteristics of respondents in the study. The majority of mothers (72, or 59%) in this study were from Effiduase, which was more than half of the study sample, while the remaining 50, or 41%, came from Dadease. It was noted from Table 4.1 that the majority of mothers (96, or 79%) were within the age range of 20–35. Only 16(13%) were above 35 years. However, the study captured 10 (or 8%) teenage mothers who were within the age range of 15–19 years. Again, 81 (60%) of the mothers were married, with 40 (33%**)** single mothers, and only 1 (1% of the mothers) was a widow. Findings from Table 2 show that almost every mother had an education, except for 4 (or 3%) of them who had no formal education. Results from Table 2 revealed that 76 (62%) mothers had basic education, and 27 (22%) mothers also had senior high school (SHS), vocational, or technical education. Furthermore, only 15 (12% of) mothers had a tertiary education. The employment status of mothers from Table 2 below reveals that more than half of the mothers (65, or 52%) were self-employed and 28 (or 23%) were housewives with no job outside the home. Again, about 16 (13%) of the respondents were government workers, 8 (7%) were apprentices, and 5 (4% were apprentices and at the same time employees of a one-man business establishment.

Most respondents, 45 (37%) received no monthly salary, 31 (25%) mothers received a monthly salary below GH200, 29 (24%) mothers also received salary between GH200 and GH600, 4 (3%), mothers received a monthly salary between GH601 and GH1000 and more than GH2000, respectively, and 8 (7%), mothers received GH1001 and GH1500, while only

one respondent, 1 (%), received GH1501. Young children's' demographic characteristics presented in Table 2 show infants and young children's age in months, gender, and order of birth. It was found from Table 2 that 49% of the infants fell within the age range of 0–6 months and 24% were within the age range of 6.1–12 months. Meanwhile, 15% fell within the age range of 12.1–18 and 18.1–24 months, respectively. Female young children were 55%, and male young children were 45%. As many as 27% of young children were found to be firstborn while 25.4 % were second-born, and 18.9 % were third-born. Also, 11.5% of young children were fourth born, 6.6% were fifth born, 4.9% were sixth born, and the least, 2.4%, were seventh and eighth born, respectively.

Table 2: Demographic Characteristics of Mothers

Variable	**Variable category**	**F**	**%**
Community	Dadease	50	41
	Effiduase	72	59
Age range	15-19	10	8
	20-24	25	21
	25-29	31	25
	30-35	40	33
	Above 35	16	13
Marital status	Married	81	66
	Divorced	0	0
	Widow	1	1
	Single mother	40	33
Lev. of Educ.	No formal education	4	3.3
	Basic	76	62.3
	SHS	27	22.1
	Tertiary	15	12.3
Employment status	Government worker	16	13
	Self-employed	65	53
	Housewife	28	23
	Working for somebody	5	4
	Apprentice	8	7
Level of Income	No Income	45	37
	< GH₵ 200	31	25
	GH₵ 200-600	29	24
	GH₵601-GH₵1000	4	3
	GH₵1,001-GH₵1,500	8	7
	GH₵1,501- GH₵2000	1	1
	>GH₵2000	4	3

Key: F= Frequency; %= Percentages, Lev. Of Educ. = level of education; (n=122) = sample size

Mothers Educational Level within Communities, Marital Status and Exclusive Breastfeeding.

Table 3 shows a cross-tabulation of mothers' educational levels attained in the two communities. The majority of respondents -- 44 (61%) in Effiduase and 32 (64%) in Dadease -- had basic education, while 14 (28%) in Dadease and 13 (18%) in Effiduase had senior high school education. Table 3 found 2 (4%) mothers who had tertiary education at Dadease and 13 (18%) mothers who also had tertiary education at Effiduase. The findings of this study disagrees with a study by Bonnet et al., (2019) in European multi-regions finds that mothers who were younger and less educated were more likely to stop breastfeeding before their babies were aged 6 months. In other words, they did not perform complete EBF. Education level, parity, and socioeconomic factors could indicate whether mothers breastfeed or not their babies

Table 3: Level of Education of Mothers in Dadease and Effiduase

Education level	**Dadease**		**Effiduase**	
	F	**%**	**F**	**%**
No education	2	4	2	3
Basic	32	64	44	61
SHS	14	28	13	18
Tertiary	2	4	13	18
Total	**50**	**100**	**72**	**100**

Key: F = Frequency; **%** = Percentage; n = Sample size (n=122)

Source: Field data (2018)

Influence of Mothers' Educational Level and Marital Status on Exclusive Breastfeeding

Table 4 describes a cross-tabulation analysis of the mother's educational levels, marital status, timing of introducing supplementary foods, and exclusive breastfeeding. This analysis revealed that mothers' marital status, timing of introducing supplementary foods, and educational level did not statistically influence their decision to do exclusive breastfeeding ($p = 1.00$, 0.178, and 0.474, respectively). It was confirmed clearly in Table 4 that 80% of mothers who obtained up to a tertiary level of education responded positively that they did exclusive breast feeding, while 20% did not, followed by 75% of mothers who had no education at all, while 25% of these categories of mothers did not. Sixty-four percent of mothers with a basic school education level reported that they practiced exclusive breastfeeding, and 36% did not. Also, 63% of senior high school leavers (mothers) reported that they did not, while 37% did.

Mothers' marital status did not statistically influence exclusive breastfeeding ($p = 1.000$, $p > 0.05$), as 67.5% of single mothers testified that they did exclusive breastfeeding while 32.5% did not, a close percentage of 67 married mothers agreed they did exclusive breastfeeding,

and 33% of the same category did not practice exclusive breastfeeding. In cross-tabulation of young children's age and exclusive breastfeeding, the result reported in Table 4 shows that only 39 (65%) young children' aged 0–6 months were exclusively breastfed, 69% of young children who were 6.1–12 months old were also exclusively breastfed, and 67% of young children aged 12.1–18 and 18.1–24 months old, respectively, were exclusively breastfed. Moreover, young children's' age in months was highly significant (p = 0.000) with exclusive breastfeeding when mothers were asked whether they did exclusive breastfeeding.

A report on mothers' time of introducing other foods or water apart from breast milk revealed that 95% of the mothers had introduced other foods or water to their 0–6 month infants, while only 3% of the 0–6 month old infants were exclusively breastfed after the sixth month recommended by WHO and UNICEF (2009). There was also no statistical relationship between mothers' timing of introducing supplementary foods and exclusive breastfeeding (p = 0.178). According to a study conducted across several European countries, moms who were younger and less educated were more likely to discontinue nursing before their children reached the age of six months. To put it another way, they did not conduct a full EBF. Socioeconomic status, parity, and educational attainment can all affect whether moms choose to breastfeed or not (Bonnet et al., 2019). The length of breastfeeding may also be influenced by psychological factors, such as maternal IQ and low-risk prenatal behaviour at delivery, according to certain studies conducted in Chile (Farkas & Girard, 2019). The same result was reached by a different study that was carried out in Eastern Indonesia using data from the 2012 Indonesian Family Life Survey.

Table 4: Influence of Mothers' Educational Level and Marital Status on Exclusive Breastfeeding

EBF	**No Education**	**Basic**	**SHS**	**Tertiary**	**r**	**p**
Level of Education						
No	1(25)	27(36)	10(37)	3(20)	0.065	0.474
Yes	3(75)	49(64)	17(63)	12(80)		
Total	4(100)	76(100)	27(100)	15(100)		
Marital Status	Married	Widow	Single			
No	27(33)	1(100)	13(32.5)		0.000	1.000
Yes	54(67)	00	27(67.5)			
Total	81(100)	1(00)	40(100)			
Young children	0-6	6.1-12	12.1-18	18.1-24		
Month	21(35)	9(31)	6(33)	5(33)	0.594	0.000
No	39(65)	20(69)	12(67)	10(67)		
Yes	60(100)	29(100)	18(100)	15(100)		
Total						
TS						
<3	12(20)	1(3)	1(6)	3(20)		

3	17(28)	6(21)	2(11)	4(27)		
4-6	28(47)	19(66)	11(61)	6(40)	-0.123	0.178
7-9	2(3)	3(10)	3(17)	0(.00)		
10-12	1(2)	0(.00)	1(6)	2(13)		
Total	60(100)	29(100)	18(100)	15(100)		

Keys: r= Correlation coefficient; p= alpha value; EBF= Exclusive Breastfeeding; SHS= Senior High School; TS= Time of introducing other foods/supplementary foods. All figures in brackets are percentages

Source: SPSS Data Analysis of field data (2018)

Infants and young children feeding practices by mothers at Dadease and Effiduase

Results obtained on the type of feeding practices mothers adopted for their infants and young children (0–24 months old) are presented in Tables 4.5, 4.6, 4.7, 4.8, and 4.9. Table 5 shows that 53% of mothers used three feeding practices (breast feeding, formula feeding, and drinking water) at the same time, irrespective of the age (month) of the child (0–24 months). Only 22% of mothers used breastfeeding only when their babies were under the age of 6 months; 14% fed their young children with household food available; and 9% used breastfeeding and water at the same time. It was also noticed that 2% of the mothers had introduced complementary foods. Table 5 revealed only one mother who used artificial feeding. Responses on whether mothers did exclusive breastfeeding or not indicated that as many as 66% of mothers did exclusive breastfeeding, and the remaining 34% claimed they did not do exclusive breast feeding (Table 5). The frequency of feeding infants and young children other foods in a day showed that 30% and 26% of mothers fed their young children 4-6 times and 10-12 times, respectively, in a day, 21% fed their young children 7-9 times, and 17% also fed their young children 3 times a day. However, only 6% fed their young children less than three times a day (Table 5).

Mothers' responses on the month they introduced other foods to their infants and young children apart from breast milk revealed that 53% of mothers introduced other foods to their infants in their 4^{th} to 6^{th} months. Also, 37% of mothers had given other foods to infants below 4 months, while 24% of mothers and 13% of mothers also gave other foods to their young children when they were three months old or less than three months old. Table 4.5 records 7% of mothers who gave other foods to their young children in the seventh month, which is immediately after the sixth month and is, preferred to be the month to feed any young children other foods to supplement the breast milk. Few respondents (3%) fed their young children other foods at 10–12 months. Only 1% of the mothers did not respond to the question. When mothers were asked when they stopped complete breastfeeding, their responses in Table 5 indicated that 49% and 37% of mothers had stopped complete breastfeeding at 24 and 18 months, respectively; 8% of mothers also indicated they stopped complete breastfeeding at 10 to 12 months. Meanwhile, 3%, 2%, and 1% of mothers ceased complete breastfeeding within 7-9 months, 4-6 months, and less than three months, respectively.

From Table 6, 45 (55.5%) mothers indicated that they did exclusive breast feeding because "they knew the health benefits of exclusively breast feeding," and 36 (44.4%) mothers also indicated that they did exclusive breast feeding due to the fact that they had learned about it from their nurses. However, 17 (41.4%) mothers did not do exclusive breastfeeding for the reason that "they did not have enough breast milk to satisfy infants". Again, 7 (17%) of the mothers also did not do exclusive breastfeeding due to the fact that "infants had dry mouths, cried a lot, did not get enough breast milk to suck, and medical issues." Few mothers (2% of the total) also indicated work demands as a barrier to exclusive breastfeeding.

Table 5: Mothers' feeding practices for young children

Variable	Variable category	F	%
Feeding practices	Breastfeeding only	27	22
	Breastfeeding and water	11	9
	Artificial milk feeding	1	1
	Breastfeeding, formulae feeding and water	64	53
	Complementary feeding	2	2
	Household foods	17	14
Frequency of feeding infants and young children with supplementary foods in a day.	<3 times	7	6
	3 times	21	17
	4-6 times	36	30
	7-9 times	26	21
	10-12 times	32	26
	Others	0	0
Responses of whether a mother did Exclusive or not.	No	41	34
	Yes	81	66
Age/month to start giving other foods apart from breast milk.	No response	1	1
	<3months	16	13
	3 months	29	24
	4-6 months	64	53
	7-9 months	8	7
	10-12 months	4	3
Month to stop complete breastfeeding of young children.	<3months	1	1
	3 months	0	0
	4-6 months	2	2
	7-9 months	4	3
	10-12 times	10	8
	18 months	45	37
	24 months	60	49

Key: F= Frequency; %= Percentage. Source*: Field Data (2018)*

Table 6: Mothers' Reasons for doing exclusive breastfeeding

Response	**F**	**(%)**
Teachings from nurses	36	44.4
Child grows well and protects child against infections/diseases	45	55.5
Total	**81**	**100**

Key: F = Frequency; **%** = Percentage, n= Sample size. Source: *Fieldwork data (2018)*

Table 7: Mothers' Reasons for not doing exclusive breastfeeding

Response	**F**	**(%)**
Not enough breast milk to satisfy them	17	41.4
Child cries much and does not suck enough breast milk	7	17.0
Medical condition	7	17.0
Child had dry mouth	7	17.0
Work/job demands	3	7.3
Total	**41**	**100**

Key: F = Frequency; **%** = Percentage, n= Sample size. Source: *Fieldwork data (2018).*

Comparing feeding practices adopted by Mothers in Effiduase and Dadease

Table 8 below compares the young children's feeding practices that mothers adopted in the two studied communities. About 29.1% and 12% of respondents from Effiduase and Dadease, respectively, breastfed their babies without water or food, while 10% of mothers from Dadease and 8.3% of mothers from Effiduase gave water in addition to breastfeeding before the sixth month. Only 2% of mothers from Dadease did artificial feeding, while none did it at Effiduase; 2.7% of respondents from Effiduase fed their young children complementary foods, while none did it at Dadease. Meanwhile, 44% of mothers from both Effiduase and Dadease did mixed feeding, that is, breastfeeding, supplementary feeding, and drinking water.

Table 8: Comparing feeding practices adopted by Mothers in Effiduase and Dadease

Com	**BF only**	**BF & W**	**BF, S & W**	**A F**	**C F**	**HF**	**Total**
Dadease	6 (12)	5(10)	32(64)	1(2)	0(0)	6(12)	50(100)
Effiduase	21(29.1)	6(8.3)	32(44.4)	0(0)	2(2.7)	11(15.2)	72(100)
Total	**27 (22)**	**11(9.0)**	**64(52.4)**	**1(0.8)**	**2(1.6)**	**17(13.9)**	**122(100)**

Key: n= Sample size, BF= Breastfeeding, S= Supplementary feeding, W= Water, AF= Artificial milk Feeding, CF= Complementary Feeding, HF= Household Food

Source: *Field data (2018).* Note: Figures in brackets are in percentages

Mothers Reasons for doing or not doing exclusive breastfeeding

Table 9 compares mothers' reasons why they did or did not do exclusive breastfeeding in both communities. Twenty-one (42%) and fifteen (30%) mothers from Dadease did exclusive breastfeeding for the reason that they knew the health benefits of breast milk and had enough teachings from their nurses, respectively. Again, fifteen (20.8%) and thirty (41.6%) mothers also from Effiduase practiced exclusive breastfeeding due to the same reasons outlined above. However, 16 (32%) mothers at Dadease and 27 (38%) mothers at Effiduase did not do exclusive breastfeeding due to insufficient breast milk that made the child cry a lot, medical issues, the child having dry mouth, and work demands or pressures. According to research by PUNCH Health-Wise, as the 2020 World Breastfeeding Week gets underway, some Lagos mothers who want to practise exclusive breastfeeding are hindered by a variety of factors, including a lack of institutional and family support, inadequate baby-friendly facilities, a lack of awareness, and the length of maternity leave.

Table 9: Mothers Reasons for doing or not doing exclusive breastfeeding

a. Reasons why mothers did Exclusive breastfeeding.

	Communities			
	Dadease		**Effiduase**	
	F	**%**	**F**	**%**
Teachings from Nurses	21	42	15	20.8
Knew health benefits	15	30	30	41.6
b. Reasons mothers did not do Exclusive breastfeeding.				
Not enough breast milk	5	10	12	16.6
Child cries a lot	1	2	6	8.3
Medical reasons	5	10	2	2.7
Child had dry mouth	3	6	4	5.5
Work demands/pressure	0	0.0	3	4.1
Total	50	100	72	100

Keys: %= Percentages; F= Frequency; n= sample size

Nutrition knowledge of mothers' influence type of infants and young children feeding practices

Mothers' nutrition knowledge was assessed based on their sources of nutritional information, knowledge of breast milk, the type of feeding practices adopted for feeding their infants and young children, as well as the dietary practices offered to infants and young children by their

mothers through a dietary recall. These are presented in Tables 10, 11, 12, and 13. Table 10 depicts sources of nutrition information for mothers caring for their young children. From Table 10, it was reported that 116 (42%) mothers had nutrition information from hospitals or clinics, 73 (26%) of the mothers had nutrition information from family and friends, and 57 (21%) and 31 (11%) mothers had their nutrition information from electronic media (radio, television, and newsprint) and organisations (clubs, churches, etc.), respectively.

Table 10: Sources of nutrition information for mothers (multiple responses)

Source	**Multiple response**		
	F	**%**	**Rank**
Clinic/Hospital	116	42	1st
Friends and relations	73	26	2nd
Electronic & print media (TV, Radio, Newsprint, Magazine)	57	21	3rd
Organisations (Clubs, Associations, Churches, etc.)	31	11	4th
Total	**277**	**100**	

Key: F = Frequency; % = Percentage; n = sample

Source*: Fieldwork data (2018).*

Frequency of hands washing before feeding young children

Table 11 shows mothers' frequency of hand washing before feeding their infants and young children. It was revealed that 79 (29%) mothers and 70 (25%) mothers washed their hands before handling food, washed their hands only before and after eating, and washed their hands only after visiting the toilet, respectively. More so, 36 (13%) mothers disclosed they observed personal hygiene by washing their hands whenever they were dirty. Again, 15 (5%) mothers disclosed that they also washed their hands whenever they felt like doing so. However, 4 (or 1%) of the mothers disclosed that they rarely (never) washed their hands when handling their young children.

With young children's dietary recall, mothers' responses presented in Table 13 on the types of foods they fed their infants and young children in the last 24 hours before data collection show that a number of 34 of the infants between 0 and 6 months old were fed carbohydrate foods like bread, yams, and rice, while 26 infants in that same age category were not fed carbohydrate foods in the last 24 hours. Twenty-one young children within the age group of 6.1–12 months were also fed carbohydrate foods, while eight (8) were not fed carbohydrate foods. Again, 31 of the young children found between the ages of 12 and 24 months were fed carbohydrates, while only 2 were not. Infants and young children aged (53), within 0–6 months; (15), within 6.1–12 months; and (10), within 12.–24 months, were fed with animals

and animal products such as meat, fish, milk, and offal in the previous 24 hours. Young children of about 7; 14; and 23 were also not fed with animals or animal products. Legumes such as beans and groundnuts were given to 53 infants within the ages of 0–6 months, 22 within the ages of 6.1–12 months, and 14 within the ages of 12.–24 months to eat in the last 24 hours. On the other hand, 31 infants and young children were not fed with legumes in the last 24 hours.

Table 11: Frequency of hands washing before feeding young children

Hand washing practice	Multiple response		
	Freq	%	Rank
Wash hands before handling food	79	29	1st
Wash hands only before and after eating	73	26	2nd
Wash hands after toilet	70	25	3rd
Wash hands whenever they are dirty	36	13	4th
Wash hands when I feel like doing so	15	5	5th
Never	4	1	6th
Total	**277**	**100**	

Key: %= Percentages, n= sample. Source*: Fieldwork data (2018).*

Nutritional knowledge of mothers' on positive nutritional statements

Response of mothers to some facts about breast milk presented in Table 12 clearly shows that almost all the mothers, 120 (98%) agreed on the statement, "Breast milk is the best for babies of 0–6 months old" One percent (1%), however, was neutral or disagreed. The majority of mothers, 86 (70%) agreed to the fact that "porridges are appropriate for a 0–6-month-old young child,", with 33 (27%) disagreeing and 3 (2%) ending up being neutral on the statement. "First breast milk secretion after birth is best for babies", was agreed by 81 (66%) mothers, with 40 (33%) mothers who neither agreed nor disagreed. Only one (1%) mother disagreed with the statement (Table 12). Meanwhile, 93 (76%) mothers disagreed that "first breast milk is yellowish in colour,", while 25 (20%) were neutral, and only 4 (3%) agreed with the stated statement. Eighty-seven (71%) were neutral, and thirty-one (25%) of them disagreed with the statement, "Lack of growth relates to the inadequacy of food nutrients in the child's diet", but four (3%) agreed. The statement, "Protein foods build the child's body," was disagreed by 25 (20%) mothers, agreed by 3 (2%) mothers, and 94 (77%) mothers neither agreed nor disagreed. Again, 9 (7% of mothers) agreed that "carbohydrate foods provide bulk in the child's diet", while 17 (14% of mothers) disagreed; meanwhile, 96 (79%) mothers neither agreed nor disagreed with the statement (Table 12).

A hundred and twelve mothers (92%) agreed that "fats and oils prolong hunger", 6 (5%) disagreed, and 4 (3%) were neutral. Moreover, 116 (96%) agreed that "minerals and vitamins protect the body", 3 (2%) were neutral, and the remaining 3 (2%) disagreed with the stated statement. The majority of mothers, 118 (97%), agreed that "the child's diet should contain

two or more food nutrients in their required proportions", Four mothers (3%), were neutral, and none disagreed with this statement. More so, 110 (90%) mothers agreed on the statement that "fruits and vegetables provide more water in the child's diet", 8 (7% of them) decided on neutral, and 4 (3% of them) disagreed (Table 12).

Table 12: Nutritional knowledge of mothers' on positive nutritional statements

Statement	Agree		Neutral		Disagree	
	F	%	F	%	F	%
Breast milk is the best for babies of 0-6 months old.	120	98	1	1	1	1
Porridges are appropriate for 0-6 month's old babies.	86	70	3	2	33	27
First breast milk after birth is best for babies.	81	66	40	33	1	1
First breast milk is yellowish in colour.	4	3	25	20	93	76
Lack of growth relates to inadequate nutrients in diet.	4	3	87	71	31	25
Protein foods build the child's body (growth).	3	2	94	77	25	20
Carbohydrate foods provide bulk in the child's diet.	9	7	96	79	17	14
Fats and oil prolongs hunger.	112	92	4	3	6	5
Minerals and Vitamins protect the body.	116	96	3	2	3	2
A child's diet should contain two or more food nutrients listed above in their right proportions.	118	97	4	3	0	0
Fruits and Vegetables provide water in a child's diet	110	90	8	7	4	3

Key: F = Frequency; % = Percentage; (n =122) = sample

Source: *Field data (2018)*

Dietary Practices for Young children (Dietary Recall).

It was also clear from Table 13 that (56, 15, and 14) infants and young children within the age range of 0–24 months were fed fruits and vegetables in the last 24 hours, while (14, 14, and 19) infants and young children were not fed fruits and vegetables. Moreover, (55, 13 and 27) infants and young children found between the ages of 0 and 24 months were fed oily foods, while (4, 16 and 6) of them within the same age range were not fed oily foods in the last 24 hours. Table 13 also has the report that (58, 19 and 16) infants and young children within the age range of 0–24 months were fed sugary foods and fizzy drinks, and (three, 10 and 18) of the children were not fed sugary foods in the last 24 hours.

Table 13: Dietary Practices for Young children (Dietary Recall)

Food types	Response	Ages		
		0-6 F	6.1-12 F	12-24 F
Bread, Rice, Maize foods, cassava foods, Plantain, Yam etc.	Yes	34	21	2
	No	26	8	31
Animals and animal products (Meat, Fish, Milk, Offals, Yoghurt etc.	Yes	53	15	10
	No	7	14	23

Legumes (Beans, Soya beans, Groundnut, 'Agushie', 'Neri' etc.	Yes No Never	53 7 0		22 7 0		14 17 2	
Fruits and Vegetables (Banana, Watermelon, Orange, Cabbage, carrot etc.	Yes No Never	56 4 0		15 14 0		14 19 0	
Oily foods: Palm oil, Shear butter, Vegetable oil etc.	Yes No	55 4		13 16		27 6	
Sugary foods and fizzy drinks: Biscuits, pancakes, cakes, coke, sobolo drink etc.	Yes No Never	58 2 0		19 10 0		15.5 17.5 0	

Key: F = Frequency; % = Percentage; n = sample

Source: *Field data (2018).*

Socio-economic factors that influence the selection of young children feeding practices by mothers

Table 14 rated selected social and economic factors from 1 to 6; where 1 was interpreted as an excellent influence, 2 was a very good influence, 3 was a good influence, 4 was an average influence, 5 was a fair influence, and 6 was a poor influence. To make analysis easy, 1 and 2 (excellent and very good) scores were combined to form Highly Influenced (HI), scores 3 and 4 were also put together to form Moderately Influenced (MI), and 5 and 6 were put together for Not Influential (NI). From Table 14, about 75% of the mothers were highly influenced by postnatal services offered by health providers, 11% were moderately influenced by postnatal services, and 13% were not influenced by postnatal services. No significant association was found between post-natal clinic services and exclusive breastfeeding ($r = 0.062$, $p = 0.496$) at the 0.05 significant level. A record of 30% of mothers were highly influenced by family and friends on their choice of infant and young child feeding practices; 49% of mothers were also moderately influenced by family and friends; and 21% of mothers found family and friends not influential at all (Table 14). Table 14 revealed that the age of the mother had a strong influence on 13.1% of the mothers, a moderate influence on 25.4% of the mothers, and no influence on 61.4% of the mothers. Mothers age had no statistically significant influence on exclusive breastfeeding ($r = -0.059$, $p = 0.519$).

Table 14 also clearly reported 11% of mothers who were highly influenced by work demands, 23% who were moderately influenced, and 66% who were not influenced by work demands or situations. But the table reported work demands and situations that were statistically significant ($r = -0.202$, $p = 0.026$). Table 4.14 also reported 3% and 6% of mothers who were highly influenced by income and culture, respectively; 15% and 51% of mothers were also moderately influenced by income and culture, respectively. Again, the majority of mothers (79%) and fathers (46%), respectively, were not influenced by income

and culture. Culture, work demands, and income were statistically significant with exclusive breastfeeding [(r = 0.338, p = 0.000), (r = -0.202, p = 0.026), and (r = 0.225, p = 0.013)]. Social and environmental factors such as work demands also determine the mothers' choice of effective breastfeeding, as manifested in a study by Wondu (2013), who found that 36.2% and 28.5% of mothers claimed job demands and insufficient breast milk as their main reasons for not following EBF practices, respectively, during the early life of the baby. Moreover, the highest proportions of mothers (50.0%) had low breastfeeding frequency and duration, and this was associated with work places where babies were not allowed or there was no privacy for breastfeeding. In effect, Wondu's study has indicated that about 44.2% of mothers introduced additional foods to their infants before 6 months (Wondu, 2013). It is more likely for educated women to breastfeed their infants, but they are always struck to discontinue breastfeeding at a certain point in time, which might be due to work situations. Although return to work is associated with early discontinuation of breastfeeding, a supportive work environment may encourage mothers to continue (Breastfeeding Legislation in the United States, 2005). Wondu also stressed the fact that 39.0% of health and feeding information had reached mothers through outlets such as television, radio, friends, and culturally through experience from their families. About 41.6% of information on the importance of breastfeeding has been obtained from hospital health workers (postnatal services).

Table 14: Influence of selected socio-economic factors on Infants' feeding practices of Mothers

Factor		HI	MI	NI	Total	R			p
Mother's age	Freq	16	31	75	122	-.059			.519
	%	13.1	25.4	61.4	100				
Family and friends	Freq	36	60	26	122	.149			.101
	%	30	49	21	100				
Cultural practices	Freq	4	62	56	122	.338			.000
	%	3	51	46	100				
Work/job/ demands	Freq	14	28	80	122	-.202			.026
	%	11	23	66	100				
Post-natal clinic services	Freq	92	14	16	122	.062			.496
	%	75	11	13	100				
Household Income	Freq	7	18	79	122	.225			.013
	%	6	15	97	100				

Key: HI= highly influential; MI= moderately influential; NI= Not influential; n= Sample;

Freq= Frequency; % = Percentage; r= Correlation coefficient; p= alpha value

Source: *Fieldwork data (2018*).

4. Conclusions

In conclusion, most mothers fed their infants other liquid foods apart from breast milk below the age of six months, despite the awareness created by various stakeholders, including nurses and nongovernmental agencies. A lot of the mothers practiced mixed feeding by

combining breastfeeding, supplementary feeding, and water when the young children were below six months. Also, maternal education level and mother's age were insignificant factors on the choices of infants and young children's feeding practices ($p > 0.05$). Again, there was a significant influence between post-natal clinic services, family and friends, culture, work demands, availability of food, household income, and optimal infant and young child feeding practices (p .05). The high prevalence of malnutrition among infants and young children can be attributed to the fact that nurses pay more attention to infants and young children's weight than their height when assessing their nutritional status. It is however clear that the fallen standard of infant and young child feeding among mothers is as a result of the poor nutrition knowledge of mothers in Dadease and Effiduase in the Sekyere-kumawu and Sekyere-East respectively.

Recommendations

The educational policy of Ghana should factor in nutrition education programmes right from the basic/junior high school levels, where most women reach on the education ladder. This will help build the minds of women towards optimal infant and young child feeding before they enter motherhood. It would be useful to every female, and active involvement can enhance the outcome for mothers-to-be. Also, health workers should capitalise on the number of mothers who made the hospital and clinic their first point of recovery for nutrition information as their first point of spreading nutrition information to more of these mothers and making a strong impact on them. The community health nurses should be role models and duly practice certain health ideologies, such as exclusive breastfeeding, to motivate lactating mothers to follow their examples.

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