

Association Between Diarrhea, Feeding Habits and Other Socio-Demographic Factors in Children Aged 0 – 2 Years in the Buea, Tiko and Limbe Health Districts in Cameroon

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ABSTRACT

Feeding practices are associated with childhood diarrhea and their severity. Most children 0 to 2 years experience diarrhea. Feeding practices may play a major role in the occurrence of this disease. The present study aimed to evaluate the association between feeding practice among children below 2 years with diarrhea in Buea, Tiko and Limbe health districts. A cross-sectional hospital-based survey study was carried out in three Health Districts (Limbe, Buea and Tiko) in the Southwest Region of Cameroon. A total of 1155 mothers attending infant welfare clinics across six hospitals were included. A structured questionnaire was used to collect data on feeding practices as well as socio-demographic factors. The study revealed that diarrhea was more common among children whose mothers used homemade food for baby as food formula. Using just breastmilk was associated with low occurrence of diarrhea (6.9%). Generally, children from Tiko reported the significant highest cases of diarrhoea cases, where Tiko reported 25.3%; ($P = 0.024$). Among the mothers, the age group that reported significantly ($P < 0.001$) higher prevalence of diarrhoea (27.1%) was 32 – 38 years. Level of education and monthly income were significantly associated diarrhoea ($P < 0.05$). Exclusive breastfeeding was practiced by 55.5% of the mothers, whereas complementary feeding was practiced by 45.5% of the mothers. The highest proportion of mothers who exclusively breast fed their children were from Limbe (61.6%), followed by Buea (59.3%) and the least from Tiko (45.6%). The occurrence of diarrhea and its association with socio-demographic factors cannot be undermined.

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KEYWORDS: Feeding, Socio-demographic, Association, Diarrhea, Buea, Tiko, Limbe, Cameroon

INTRODUCTION

Infectious diseases are illnesses caused by germs such as bacteria, protozoans, viruses and fungi that enter the body, multiply and can cause an infection. Some infectious diseases are contagious or communicable, meaning they are capable of spreading from one person to another person. Other infectious diseases can be spread by germs carried in air, water, food or soil. Diarrhea is an infectious disease that continues to be a major cause of mortality to a wide population in developing countries especially in Africa (Boutayeb, 2010). Approximately 12 million children younger than 5 years of age die every year of malnutrition with most of these children living in developing countries (WHO, 2013).

More than 50% of these deaths are attributed to diarrhoea, acute respiratory illness, malaria, or

measles, conditions that are either preventable or treatable with low-cost interventions (Tazinya *et al.*, 2018). Most of these deaths occurred in children under the age of 2 years, who have a deficiency in naturally acquired immunity and as a consequence have the highest rates of infection, complications, and mortality. Diarrhoea is the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual). It is one of the major and most common child hood diseases of public health concern. Diarrhoea diseases are pathological conditions that lead to an increase in the volume of stools with an alteration in the consistency mainly due to an increased water content (Semrad, 2012). Sometimes the fluid stool also contains mucus, pus or blood. The pathophysiological mechanisms

resulting to increase in water in the stools is due to inadequate absorption by the bowels or increased fluid poured into the bowels by active secretion or by damage and exudation into the lumen. Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene. Other causes such as septic bacterial infections are likely to account for an increasing proportion of all diarrhoea-associated deaths (Shinde, 2015). Children who are malnourished or have impaired immunity as well as people living with HIV are most at risk of life-threatening diarrhoea (Muhammad, 2016). Diarrhoea kills 2,195 children every day more than AIDS, malaria, and measles combined (Liu *et al.*, 2012) as shown in Figure 2. Diarrheal diseases account for 1 in 9 child deaths worldwide, making diarrhoea the second leading cause of death among children under the age of 5. For children with HIV, diarrhoea is even more deadly; the death rate for these children is 11 times higher than the rate for children without HIV (Hutton *et al.*, 2007). Although malnutrition is prevalent in developing countries, it is rarely cited as being among the leading causes of death (Bain *et al.*, 2013). About 178 million children globally are stunted and Africa has the highest rates (WHO, 2013). Generally, the risk of malnutrition in the first 2 years of life has been directly linked with poor breastfeeding and complementary feeding practices of mothers alongside high rates of infectious diseases (Arimond and Ruel, 2004). Breastfeeding (BF) has been associated with reduction in morbidity and mortality in children less than 2 years, particularly those exclusively breastfed up to 4 and 6 months of age (WHO, 2008; Kalanda *et al.*, 2006). The World Health Organization (WHO) recommends exclusive breastfeeding of all infants until six months of age (WHO, 2013). In spite of all the sensitization, the prevalence of exclusive breastfeeding remains low (Dhakal *et al.*, 2017). About 44% of infants 0–6 months old are exclusively breastfed. Few children receive nutritionally adequate and safe complementary foods; in many countries less than a fourth of infants 6–23 months of age meet the criteria of dietary diversity and feeding frequency that are appropriate for their age (WHO, 2023). In many countries less than a fourth of infants 6–23 months of age meet the criteria of dietary diversity and feeding frequency that are appropriate for their age (Kunyanga & Kaindi, 2022).

Statement of the Problem

Malnutrition is one of the principal underlying causes of death for many of the world's children,

contributing to more than a third of under-five deaths globally. In Buea, Tiko and Limbe Health Districts, malnutrition is common among children living in different communities (Nkuo-Akenji *et al.*, 2008; Mbuh and Nembo 2013). Usually, there are contradictory reports on the risk of malnutrition in the first 2 years of life and its association with poor breastfeeding and complementary feeding practices of mothers together with high rates of infectious diseases such as malaria, diarrhoea and respiratory (Arimond and Ruel, 2004; Asoba *et al.*, 2019). Breastfeeding is said to protect against infectious diseases and provide protection against respiratory tract infections in infants, though the findings are inconsistent and need more scientific backing (Tarrant, 2010). Investigating the influence of feeding practices of mothers on the nutritional status of children under 2 years and the impact on diarrhea may be an important approach towards reducing the burden of child malnutrition and diarrhea, thus enhancing population health and socio-economic development.

Objectives

Main objective

This work aimed at investigating Feeding Practices And Their Association To Diarrhoea, Malaria, And Respiratory Diseases Among Children 0 To 2 Years In Buea, Tiko And Limbe Health Districts.

Specific objectives

1. To determine the rate of exclusive breastfeeding and complementary feeding in children 0 – 2 years.
2. To determine the prevalence of diarrhoea in children 0 – 2 years and its association with feeding habits in the Buea, Tiko and Limbe health districts.
3. To investigate the association between diarrhea and sociodemographic factors in relation to feeding practice in children 0 – 2 years in the Buea, Tiko and Limbe health districts.

Research Hypotheses

Main Research Hypothesis

There is a relationship between sociodemographic data, feeding practice and the occurrence of diarrhea in children 0 – 2 years in Fako Division.

Specific Research Hypotheses

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2. There is a relationship between feeding practice and the occurrence of diarrhea in children 0 – 2 years in Fako Division.

Rationale

Nutritional status is closely tied to immune responses to infection, being on the one hand, an important determinant of the risk and prognosis of infectious diseases, and on the other hand, being directly influenced by infection (Caulfeld *et al.*, 2004).

Although diarrhea is recognized as a serious public health problem in Cameroon, very little comprehensive studies relating diarrhea-causing pathogens responsible for endemic diarrhea among Cameroon's children have been reported in the medical literature (Institut National de la Statistique - INS/Cameroun and ICF. International, 2012).

This study will also allow us to bridge the knowledge gap by generating epidemiological information by which to guide proper formulation of prevention and control programs in this area.

Methodology

This study was carried out in PMI Tiko, Tiko District hospital, Buea Regional Hospital, PMI Buea, Limbe Regional Hospital and PMI Limbe, located in Fako Division of the Southwest Region of Cameroon.

This study is a cross sectional hospital-based survey that was carried out between the months of February 2021 and July 2022. After obtaining an Ethical clearance from the Faculty of health science institutional review board, an administrative authorization from the regional delegation of public health of south west and local authorizations from the various health facilities (Integrated Health Center Buea Town, 7th Days Adventist and District Hospital Bota). A pilot study was carried out by administering 20 questionnaires to 20 mothers who had children within the required age (0 to 2 years old) and who volunteered to participate. The pilot study was carried out in order to adjust any lapses and or errors. After which the results were inputted and analyzed and the necessary corrections made. The updated

questionnaire was then reprinted and used for the study proper.

Sample size determination

For this work, the estimated population size (N) from the 2021 population statistics for children 0 – 2 years (Limbe = 11957, Buea = 10452 and Tiko = 9119) was obtained from the Regional Delegation of Public Health, SW Region (MINSANTE/CIS, 2021), and the level of significance (ϵ) was 0.05 or 5%. Thus, the estimated sample size was calculated for each Health District and presented as shown in Figure 1.

Inclusion criteria and exclusion criteria

This study included children below the age of 2 years who leaved in at least one of the study areas. The study excluded children who were born prematurely, HIV positive children and children with disabilities. The study also excluded children whose parents dropped out and were no longer interested in participating in the study. The sample size for this study was determined based on Yamane's approach for finite population (Yamane, 1967) using the formula;

$$n = \frac{N}{1 + N(\epsilon)^2}$$

Where, n = the expected sample size,

N = the finite population out of which the sample was drawn,

ϵ = the level of significance (or limit of tolerable error).

$$Limbe(n) = \frac{11957}{1 + 11957(0.05)^2} = 387$$

$$Tiko(n) = \frac{9119}{1 + 9119(0.05)^2} = 383$$

$$Buea(n) = \frac{10452}{1 + 10452(0.05)^2} = 385$$

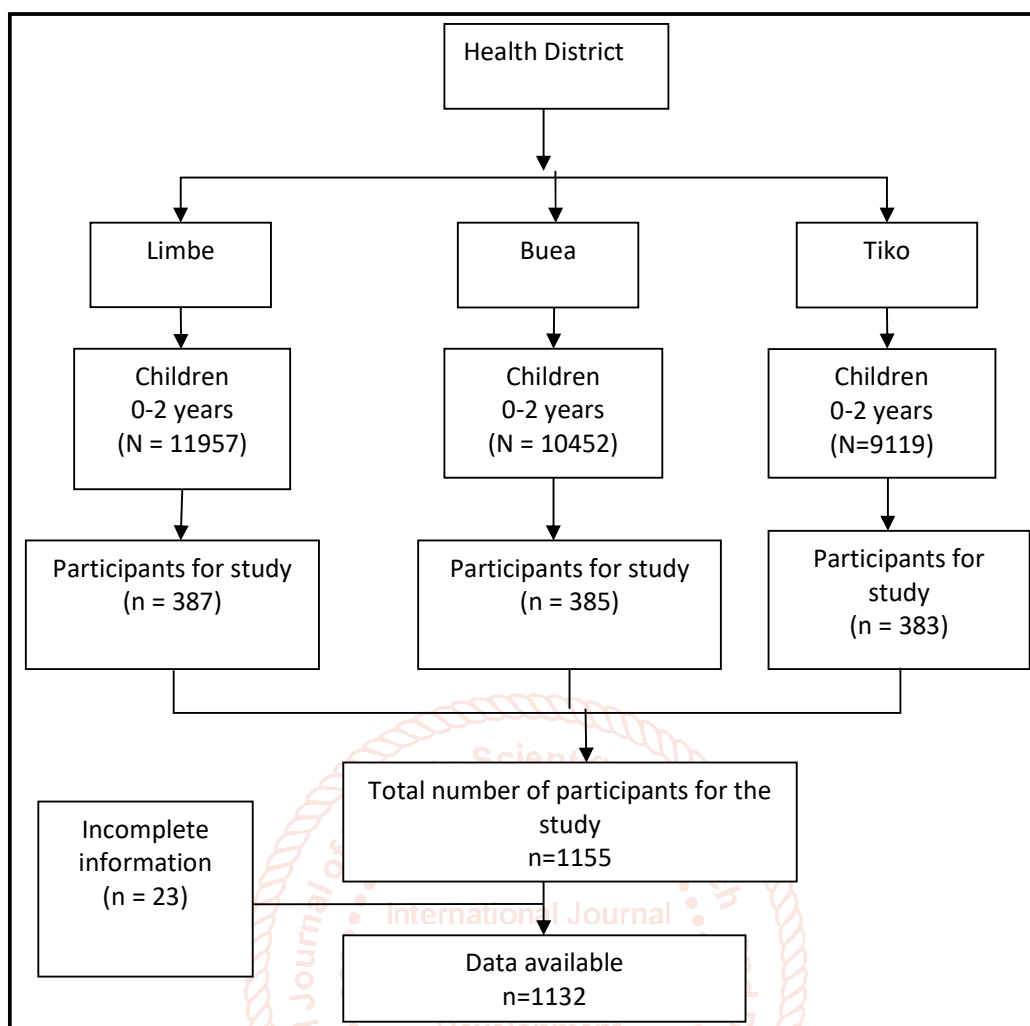


Figure: Sample flow chart

At the start of the study in each site, the parents and guardians of the children were educated on the study protocol and the benefits of participation. Upon obtaining the consent from the participants, structured questionnaire was then administered to the participants. The questionnaire was divided into 4 sections, with section A targeting anthropogenic measurements, section B capturing socio demographic characteristics which helped us to determine the association between diarrhea, malaria, respiratory diseases and socio demographic characteristics. Section C was made up of questions concerning the different feeding practices. Section D, vaccination status on malaria, diarrhea and respiratory diseases.

The questionnaire was self-administered to literate participants while it was interviewer administered to participants who could not understand.

Findings

Characteristics of study participants

The socio-demographic and socioeconomic characteristics of the study participants are shown in Table 1. A total of 1154 children within the age 0 – 2 years, residing in Buea 32.8% (378), Limbe 33.6% (388) and Tiko 33.6% (388) in Buea, Tiko and Limbe health districts area were evaluated. The proportion of males (51.9%) slightly exceeded that of females (48.1%). Participation within age groups was comparable with more of the children in the 0 – 6 months (56.4%) age group. The majority of the women were within the age group 25 – 31 years (51.5%), married (66.0%) and had attended tertiary level of education (35.5%). A greater proportion of the women were employed (58.8%) in the private sector (82.3%). In addition, the monthly family income was above 90.000 F CFA among mothers (table 1).

Table 1: Socio-demographic and socio-economic characteristics

Variable	Category	% (n)
Child		
Study area	Buea	32.8(378)
	Limbe	33.6(388)
	Tiko	33.6(388)
Gender	Male	51.9(599)
	Female	48.1(555)
Age group (months)	0 – 6	56.4(651)
	7 – 12	16.9(195)
	13 – 18	13.6(157)
	>18	13.1(151)
Mother		
Age group (years)	18 – 24	30.2(349)
	25 – 31	51.5(594)
	32 – 38	13.4(155)
	39 – 45	3.3(38)
	>45	1.6(18)
Marital status	Single	33.4(386)
	Married	66.0(762)
	Divorced/Separated/Widow	0.5(6)
Level of education	Primary	17.5(202)
	Secondary	47.0(542)
	University	35.5(410)
Employment status	Employed	58.8(679)
	Unemployed	41.2(475)
Type of employment	Government employee	17.7(120)
	Private employee	82.3(559)
Monthly family income (FCFA)\$	20.000 – 40.000	27.2(308)
	41.000 – 70.000	21.3(241)
	71.000 – 90.000	18.4(208)
	>90.000	33.1(375)
Religion	Christian	94.6(1092)
	Muslim	5.4(62)

\$ = Data available for 1132 participants.

Clinical characteristics

The prevalence of diarrhea in children aged 0 – 2 years was 21.1%, as shown in table 2. The prevalence of anemia was 8.8% and prevalence of anemia was significantly higher ($P < 0.001$) in the age group > 18 months (38.4%) than the other age groups. More so, anemia was highly reported among malaria positive cases (41.9%, 85) than malaria negative children. The difference was significant ($\chi^2 = 338.34$; $P < 0.001$). Equally, malaria positive children reported a significantly higher prevalence of fever (25.6%; $\chi^2 = 122.72$; $P < 0.001$) as compared with malaria negative children.

Table 2: Clinical characteristics of children 0 – 2 years

Variable	Category	% (n)
Diarrhea prevalence	All children	21.1(244)
Anemic status	Anemic	8.8(101)
	Non-anemic	91.2(1053)
Fever status	Febrile	7.3(84)
	Afebrile	97.2(1070)
Mean weight (SD) in kg	7.9(3.5)	
Mean height (SD) in cm	61.2(17.0)	
Mean temperature (SD) in °C	36.7(0.6)	
Mean head circumference (SD) in cm	40.3(7.1)	

Feeding practices in the study population

The different feeding practices evaluated were exclusive breastfeeding and complimentary feeding . As shown in Table 3, the highest proportion of mothers who exclusively breast fed their children were from Limbe (61.6%), followed by Buea (59.3%) and the least from Tiko (45.6%). Significantly ($P < 0.001$), most parents in the three study sites practiced complementary feeding with their children from birth. Among the children whose parents gave information on their age, a statistically significant ($P = 0.020$) proportion of parents in the age group 18 – 24 years exclusively breastfed their children (55.6%) while, parents between 39 – 45 years had the highest proportion of children who were given complementary feeding (68.4%).

Table 3: Association between socio-demographic, socioeconomic factors on different infant feeding methods

Parameter	Number examined	Infant feeding methods % (n)		χ^2 ; P value
		Exclusive breastfeeding	Complimentary feeding	
Study area	Buea	378	59.3(244)	23.34; <0.001
	Limbe	288	61.6(239)	
	Tiko	388	45.6(166)	
Age group (years)	18 – 24	349	55.6(194)	11.72; 0.020
	25 – 31	594	57.9(344)	
	32 – 38	155	51.0(79)	
	39 – 45	38	31.6(12)	
	>45	18	61.1(11)	
Marital status	Single	386	61.7(238)	15.73; <0.001
	Married	762	52.8(402)	
	Divorced/ Separated/ Widow	6	0.0(0)	
Level of education	Primary	202	57.9(117)	2.61; 0.271
	Secondary	542	53.0(287)	
	University	410	57.6(236)	
Employment status	Employed	679	58.9(400)	7.93; 0.005
	Unemployed	475	50.5(240)	
Family income	20.000 – 40.000	308	57.5(177)	7.57; 0.056
	41.000 – 70.000	241	59.3(143)	
	71.000 – 90.000	208	58.7(122)	
	>90.000	375	49.9(187)	

Association between diarrhea and feeding habits

The association between diarrhea and feeding habits is shown in Table 4. Diarrhea was more common among children whose mothers used homemade food for baby as food formula. Using just breast milk was associated with low occurrence of diarrhea (6.9%). Using formula only as a feeding method was associated with higher occurrence of diarrhea (76.9%) among children. Children who were introduced complementary food at after 6 months had the highest proportion of diarrhea (31.8%) while children who are not breastfeeding yet had the lowest (18.3%). A majority of children who were breastfed for 6 months had the highest prevalence of diarrhea.

Table 4: Association between diarrhea and feeding habits

Variable	Category	Diarrhoea positive % (n)	χ^2 ; P value
Formula food	Cerelac, Custad, Phosphatine	31.4(142)	74.5; <0.001
	Homemade baby food	43.4(53)	
	Homemade meals for everyone	26.7(8)	
	Water/milk	12.6(23)	
	Breast milk	6.9(11)	
Feeding method	Exclusive breastfeeding	15.6(100)	46.02; <0.001
	Formula only	76.9(10)	
	Breast milk/Formula/Homemade	27.0(131)	
	No breastfeeding	18.8(3)	

Introduction of complementary food	<3 months	25.2(63)	93.41; <0.001
	3 – 6 months	30.6(121)	
	After 6 months	31.8(42)	
	Not yet/Never	4.8(18)	
How long the baby was breastfed	<6 months	7.3(42)	143.79; <0.001
	6 months	42.0(92)	
	7 – 12 months	30.6(95)	
	>12 months	33.3(12)	
	No breastfeeding	23.1(3)	

Association between diarrhea and socio-demographic factors

Among children, generally, Tiko reported the highest cases of all infections with a statistically significant difference among diarrhea cases, where Tiko reported 25.3%. The prevalence of diarrhea varied significantly among age groups with children >18 months reporting the highest prevalence (52.3%) (Table 5). Among mothers, the age groups that reported significantly ($P < 0.001$) higher prevalence of infection (27.1%) was 32 – 38 years. Level of education and monthly income were associated with diarrhea meanwhile; ($P < 0.05$) (Table 5).

Table 5: Association between diarrhea and socio-demographic factors in children 0-2 years in the Fako Division

Variable	Category	Diarrhoea positive status % (n)
Study area	Buea	20.9(79)
	Limbe	17.3(67)
	Tiko	25.3(98)
χ^2 ; P value		7.45; 0.024
Gender	Male	19.4(117)
	Female	22.9(127)
χ^2 ; P value		1.94; 0.164
Age group (months)	0 – 6	8.4(55)
	7 – 12	34.4(67)
	13 – 18	27.4(43)
	>18	52.3(79)
χ^2 ; P value		175.04; <0.001
Age group (years)	18 – 24	19.5(68)
	25 – 31	20.2(120)
	32 – 38	27.1(42)
	39 – 45	7.9(3)
	>45	61.1(11)
χ^2 ; P value		25.43; <0.001
Marital status	Single	22.8(88)
	Married	20.1(153)
	Divorced/Separated/Widow	50.0(3)
χ^2 ; P value		4.15; 0.126
Level of education	Primary	23.8(48)
	Secondary	24.5(133)
	University	15.4(63)
χ^2 ; P value		12.76; 0.002
Employment status	Employed	20.6(140)
	Unemployed	21.9(104)
χ^2 ; P value		0.27; 0.601
Monthly family income (FCFA) [§]	20.000 – 40.000	21.8(67)
	41.000 – 70.000	18.3(44)
	71.000 – 90.000	29.8(62)
	>90.000	16.0(60)
χ^2 ; P value		16.7; 0.001

Discussion

This study reported on the prevalence of diarrhoea among children 0 – 2 years as well as its association with socio-demographic and different feeding practices. The present study found that the prevalence of diarrhoea was lower among infants whose mothers engaged in EBF. This finding is consistent with evidence from other developing countries, including Bangladesh (Mihirshahi *et al.*, 2008), Vietnam (Hajeebhoy *et al.*, 2014) and Nigeria (Ogbo *et al.*, 2016). Reasons for the protective effect of EBF on diarrhoea are based on the fact that EBF limits the infant's exposure to contaminated liquids and foods, as well as the immunological activities of breast milk to protect the infant's gastrointestinal tract from invading micro-organisms (Scrimshaw and SanGiovanni, 1997). Additionally, studies have reported that breast milk also stimulates the innate immune system (Cederlund *et al.*, 2013) and epigenetic programme of the infant, activities which are also essential for the prevention of infections (Verduci *et al.*, 2014).

It is true that breast feeding keeps the infant away from contamination, but after 3-4 months of age, breast milk alone is not sufficient to satisfy the nutritional requirement. Other food items are being introduced even though; breast feeding should be continued at least up to second year of life. Our study revealed that children who received formula only as their feeding method had the highest prevalence of diarrhoea (76.9%). This finding may be explained by the fact that foods for young children prepared under unhygienic conditions, unsafe storage, insufficient cooking time and use of unhygienic feeding utensils are frequently contaminated with pathogens and are an important risk factor of diarrhoea transmission. The risk of having diarrhoea in children whose mother had poor food hygiene practices has also been observed in a peri urban district of Guinea-Bissau (Molbak *et al.*, 1997).

The study showed that continued breastfeeding at 6 months was associated with a higher likelihood of the infant to experience diarrhoea (42.0%). This may be due to the use of bottle feeding by some mothers as well as introduction of water using bottles while still breastfeeding within the 6 months. In many African countries, the provision of water and non-milk fluids to infants is a common socio-cultural practice (Agunbiade *et al.*, 2012). These bottles may be contaminated. Similarly, the WHO considers bottle feeding as a breastfeeding indicator because of the association between bottle feeding and increased diarrheal morbidity and mortality (WHO, 2008).

Previous research has indicated that breastfed infants have fewer infections and hospitalizations rate (Ogbo *et al.*, 2016). The current study showed that children who were only breastfed experienced lower respiratory diseases as compared to children who were who received other formula food. Past studies have shown that infants who receive other food substances had lower opportunities for receiving antibodies and other immune complexes from their mothers (Palmeira and Carneiro-Sampaio, 1992; Hosea *et al.*, 2008). It is also possible that the relationship between bottle feeding and respiratory diseases is evident because bottlefeeding may promote a higher rate of swallowing and more frequent interruption of breathing, which may increase the risk for micro-aspiration, and can lead to chest infection (Kim *et al.*, 2011).

Findings from the study showed that children from Tiko had significantly higher prevalence of diarrhoea (25.3%). This high prevalence of diarrhoea could be attributed to the fact that, majority of the mothers in this study area are farmers who abandon their children back home at very tender ages and are normally cater for by their senior ones. They may feed the baby with other unhygienic food substances that may result to early childhood diarrhoea. Meanwhile, malaria, diarrhoea and respiratory diseases all increased with increase in age. It is likely that maternal care has reduced in this age group. Consequently, health education and treatment should also target older age groups as they may be vulnerable to infections.

Different socio-demographic characters of the participants including study area, age group, marital status and employment status were all associated with infant feeding methods. On average 55.5% of the babies were on EBF meanwhile, 45.5% were on complementary feeding. The rate was much lower than that reported in Port Harcourt Southern Nigeria (Otaigbe *et al.*, 2005) but higher than that reported by Asoba *et al.* (2019) (22.6%) in the Mount Cameroon area. Differences in study design might have accounted for this wide variation in rates. The study in Port Harcourt was a longitudinal and interventional studies and since active mobilization and monitoring have been documented to positively impact EBF practices, the reported higher rates in these locations could be attributed to these interventions. This study being a cross-sectional design would have been devoid of such influence.

Complementary breastfeeding which involves use of both breast milk, infant formula and other non-milk feeds was practiced by significantly more (68.4%) by older women (39 – 45 years). This is probably due to

the fact that most older mothers usually start introducing other types of feeds as child gets older and able to tolerate these feeds in order to give them (mothers) time to attend to other activities. Although not significant, mothers who have attended university level of education practiced EBF (57.9%). mothers with higher education will more likely understand and be better informed of the benefits of EBF thus delay introduction of other feeds compared to mothers with lower educational attainment. This is similar to a significant finding by Lawoyin *et al.* (2001) in a study at Ibadan, Southwest Nigeria.

This study also revealed that both employed and non-employed mothers' practice significantly higher EBF than complementary feeding. They may be due to high level of awareness and correct knowledge of EBF and its practice. It was evident from this study that awareness and knowledge do equate to practice. However, some studies have reported a mismatch between knowledge and practice of EBF (Uchendu *et al.*, 2009). Also, this high level of awareness and practice of EBF may be due to the dissemination of information on EBF which has help resolve potential challenges previously faced by mothers. This finding is in line with the observations by Food and Nutrition Technical Assistance (FANTA) which also observed that vulnerability to infection is very high between ages 6-24 months of a child's life (FANTA, 2001). In addition, a study by Uyoga *et al.* (2017) among children showed that children who were breastfed for 6-10 months were more prone to illnesses due to decrease in iron stores and immunity gotten from the mother after delivery.

Conclusions

The overall prevalence of diarrhea was 21.1%. diarrhoea was more common among children whose mothers used homemade food for baby as food formula with a majority of children who were breastfed for 6 months having the highest prevalence of diarrhoea. Children from Tiko reported the highest cases of diarrhea. Diarrhea was significantly associated with mother's level of education and monthly income. On average 55.5% of the babies were on EBF meanwhile, 45.5% were on complementary feeding. Exclusively breast feeding was practiced more by mothers in Limbe (61.6%) than in Buea (59.3%) and Tiko (45.6%). Mothers in the age group 18 – 24 years exclusively breastfed their children (55.6%) while, parents between 39 – 45 years had the highest proportion of children who were given complementary feeding (68.4%).

Recommendations

➤ Primary health care sectors should be strengthened to improve access to preventive health care

information and services. This will help the country meet up with sustainable development goal to end preventable child deaths (RDPH-SW).

➤ More comprehensive studies on Nutrition and infectious diseases should be conducted to identify more effective interventional strategies to prevent and treat these conditions that impose a significant public health and socio-economic burden in this region.

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