

Factors Associated with the Implementation of the WHO Breastfeeding Recommendations in Momo Division, North-West Region of Cameroon

Abstract

Breastfeeding is essential to break the spiteful cycle of malnutrition in children. In spite of the WHO recommendations on optimum breastfeeding practices and their extensively acknowledged benefits, adherence to these recommendations in Cameroon remains incredibly low. The aim of this study was to identify the factors associated with the implementation of the WHO breastfeeding recommendations among mothers whose children are aged 0 to 24 months in Momo Division, Cameroon. To achieve this goal, 540 mothers attending 22 health units in the 5 sub divisions of Momo division completed structured interviewer administered questionnaire. Through this questionnaire, information on their socioeconomic and demographic characteristics, their knowledge and cultural beliefs about breastfeeding practices and the characteristics of their babies were collected. Results show that 51.5% of babies were girls and 46.1% of mothers had secondary education as their highest level of education. The monthly household income of most (80%) of the mothers was less than 100000frs CFA. Factors found to influence pre-lacteal feeding were mode of delivery, mother's attitude on the type of first food to be given to the baby and birth order. Breastfeeding initiation within one hour following delivery was associated with place of delivery and mode of delivery. Exclusive breastfeeding was influenced by breast problems, mother's employment status, and misconceptions. The only factor associated with frequency of breastfeeding was the infant's age. Duration of breastfeeding was associated with birth weight, and maternal knowledge on recommended duration of breastfeeding. The main impairments to breastfeeding practices were mistaken ideas based on misinformation, inadequate or no maternity leave, caesarian method of delivery, delayed breast milk secretion, breast problems and non-satiation of the baby after breastfeeding. The misconceptions noticed amongst mothers in this Division was the belief that breast milk alone is not enough to meet the nutritional needs of the baby for up to six months, expressed breast milk should not be fed to the

30 baby and that infants below 6 months need water to quench their thirst. Maternal knowledge on
31 breastfeeding was good as many knew the importance of breast milk.

32

33 **Keywords:** Breastfeeding, associated factors, WHO recommendations, Momo Division.

34 **1. Introduction**

35 Malnutrition is a public health problem worldwide, children aged 0-59 months being the most
36 affected. Countries in West and Central Africa including Cameroon are the most concerned by
37 this calamity [1]. Among the causes of malnutrition, the inadequate breastfeeding seems one of
38 the most significant, knowing that breastfeeding determines the optimal development of physical
39 and mental capacity, immunity and correct feeding habits, and prevent the adverse consequences
40 of nutrition and health status of children [2]. Breastfeeding is a unique way of providing ideal
41 nutrition as breast milk contains all the nutrients needed by the infant for healthy growth and
42 development [6]. Breastfeeding is of great significance for the infant, the mother and the family
43 as it results in improved child and maternal morbidity and mortality [2]. Thus, breastfeeding has
44 the single largest potential impact on child morbidity and mortality of any preventive
45 intervention [2].

46 Optimal breastfeeding practices recommended by WHO include initiation of breast feeding
47 within the first hour after delivery, exclusive breastfeeding from 0 to 6 months and continued
48 breastfeeding until 24 months with optimal complementary feeding from 6 months [2]. It is also
49 recommended that children should be breastfed eight to twelve times in a day [3]. The rates of
50 these optimal breastfeeding practices remain abysmally low especially in developing countries
51 regardless of overwhelming scientific evidence to support the importance of optimal
52 breastfeeding practices for child mortality, morbidity and malnutrition, and non-communicable
53 diseases in adult life. In developing countries, only 39% of infants are breastfed up to 24 months
54 of age and only 38% of infant age 0-6 months benefit from exclusive breast feeding [4]. The rate
55 of exclusive breastfeeding in West and Central Africa (28%) remains among the lowest in the
56 world [5].

57 Several studies have shown different maternal, household, societal and infant factors associated
58 with breastfeeding practices, including maternal knowledge on breastfeeding, maternal

59 employment status, level of education of mother, level of income of household, region and area
60 of residence (urban, rural), cultural behaviors, healthcare system, age, gender and number of
61 children [10-14]. These factors affect breastfeeding and exclusive breast feeding rates in
62 different directions and to varying degrees depending on the region and culture [6]. A study
63 within specific communities is therefore very important as evidence generated from this study
64 can be used to inform, design and implement interventions and policies to improve breastfeeding
65 and consequently child health and nutrition in these communities and similar settings. Hence, the
66 aim of this study was to identify the socio demographic, economic and cultural factors associated
67 with the implementation of the WHO breast feeding recommendations in Momo Division, an
68 area located in the North-West Region of Cameroon.

69 **2. MATERIALS AND METHOD**

70 **2.1 Study Area**

71 The study was conducted in 22 health facilities in Momo Division. Momo Division, one of the
72 seven Divisions in the North West region of Cameroon is inhabited by 138, 693 people, with a
73 population density of 77.40 inhabitants per km. The majority of the population are farmers,
74 semi-skilled or unskilled laborers. This division is divided into five Sub Divisions: Batibo,
75 Mbengwi, Ngie, Njikwa and Widikum with its head quarter being Mbengwi [7]. It has a surface
76 area of 1792 km². The road network in this Division is very poor and because of this the status of
77 health facility is also poor [7].

78 **2.2 Research Design, Recruitment of participants and data collection**

79 The study utilized a descriptive cross sectional study design to determine the factors associated
80 with breastfeeding practices. The survey was carried out from August to November 2017.

81 The study was a random sample of 540 mothers from all the five sub Divisions of Momo whose
82 breastfed children were aged between 0 and 24 months and were either breastfeeding or not at
83 the time of the study. The number of mothers included in the study exceeds that expected from
84 Fishers formula for sample size [8].

85 These were mothers who came to the health facility implied in the study either for pediatric
86 consultations or for vaccination of their children and gave their informed consent to participate in

87 the study. A pre-tested structured interviewer questionnaire which was self-administered by
88 literate mothers and interviewer-administered for those who could not read, was used to collect
89 data from the study participants.

90 The questionnaire included various factors that had a potential effect on breastfeeding practices.
91 These included maternal age, level of education, parity, matrimonial status, level of income, type
92 of delivery, professional status, level of education, gender, birth weight of the baby, problems
93 faced during breastfeeding, and level of maternal knowledge on child nutrition, as well as
94 attitude and beliefs on breastfeeding etc.

95 **2.3 Ethical Considerations**

96 The study obtained the ethical clearance from the Regional Hospital Institutional Review Board.
97 Authorization to conduct the research was granted by the College of Technology, University of
98 Bamenda.

99 **2.4 Data Processing and Analysis.**

100 After collecting the data, the database was then cleaned and a code was ascribed to each data.
101 The data were entered using Microsoft Excel 2011. The data were transported to SPSS version
102 20.0 for statistical analysis. Odds ratio was calculated to assess the relative risk in order to
103 determine the strength of associations. Frequency distributions, bar charts and tables were
104 produced using Microsoft Excel 2011.

105 **3. Results and Discussion**

106 **3.1 Characteristics of the study population**

107 **3.1.1 Characteristics of the babies**

108 A total of 540 babies were surveyed and their characteristics compiled in Table 1. 52% of the
109 children were girls and 48% were boys. Most of the children (61.5%) were of age 0-6 months,
110 followed by the age group 7-13 months (28%), and 14-24 months old (10.6%). Concerning the
111 birth weight, 10% of the children weighted below 2.5kg at birth meanwhile 82% of them had the
112 normal birth weight (2.5 -4 kg), and 6.7% above 4kg. Most of the births were single births
113 (96.85%) while twins constituted only 3.15%. For the birth order, 34% of the children were the

114 first child, 25% of them were second, 17% were third, and 25% fourth and above. Most of the
 115 mothers (89%) gave birth in a health unit, while 11% gave birth at home. The mode of delivery
 116 of the babies was predominantly normal (85%) and the rest (15%) were through a caesarian
 117 section.

118 **Table 1.** Demographic Characteristics of the Baby

Characteristics	Category	Number	Percentage (%)
Sex	Boy	262	48.5
	Girl	278	51.5
Age (months)	0-6	332	61.5
	7-13	151	28
	14-24	57	10.6
Birth weight	< 2.5kg	59	10.9
	2.5-4 kg	445	82.4
	> 4 kg	36	6.7
Nature of birth	Single birth	531	98.3
	Twins	9	1.7
Birth order	First	182	33.7
	Second	134	24.8
	Third	89	16.5
	Fourth and above	135	25.0
Place of delivery	Health unit	479	88.7
	At home	61	11.3
Mode of delivery	Normal	459	85.0
	Caesarian section	81	15.0

119 **3.1.2 Socio-economic and Demographic Characteristics of the Mothers**

120 Socioeconomic and demographic characteristics of the mothers are presented in Table 2. Results
 121 show that the mothers surveyed were relatively young with most of them being below 30 years
 122 (74%), whereas 23% were in the age group of 31 - 40 years, and only 2.6% were above 40 years.
 123 The matrimonial status varies greatly among the mothers, with 75.4% of them being married and
 124 24.6% single, divorced or widows. This is an indication that majority of children are raised in
 125 family units. Concerning level of education, 2.6% had no formal schooling, 39% had primary
 126 school as their highest level of education, close to half of the mothers (46%) ended with
 127 secondary education level and only 12% attended higher education. Pertaining to the family
 128 income, approximately the half of the studied population (49%) had an income between 50,000
 129 and 100,000 CFAF, whereas 31% had a monthly income below 50,000 CFAF. A percentage of

130 15.9% of the mothers had an income above 100,000 CFAF, with a few women (4.4%) above
 131 300.000 CFAF. Most of the mothers (62%) were self-employed and 28.2% unemployed,
 132 meanwhile 9.6% of them had paid jobs.

133

134 **Table 2.** Socio-economic and Demographic Characteristics of the Mothers

Characteristics	Category	Number	Percentage
Age	< 30 years	400	74.1
	31-40 years	126	23.3
	> 40 years	14	2.6
Marital status	Married	408	75.4
	Single	113	20.9
	divorce	13	2.4
	Widow	6	1.3
Level of education	No formal education	14	2.6
	Primary education	210	38.9
	Secondary education	249	46.1
	Higher education	67	12.4
Employment status	Paid job	52	9.6
	Self-employed	336	62.2
	Unemployed	152	28.2
Monthly household income (CFAF)	<50.000	168	31.1
	50.000-100.000	262	48.5
	100001-300000	86	15.9
	>300000	24	4.4

135 **3.2 Maternal Knowledge, Attitude and Beliefs on Breastfeeding.**

136 Table 3 gives information about knowledge, attitude and beliefs of the mothers concerning
 137 breastfeeding. Most of the mothers (80.7%) had the appropriate knowledge on breastfeeding in
 138 the domain of breast milk being the best food for the baby. Over half of the respondents (63.5%
 139 and 60% respectively) knew that breastfed babies are healthier than formula-fed infant and that
 140 the recommended period for Breast feeding is at least 2 years. Only 37% of them knew that
 141 exclusive breast feeding has health benefits for the mother. Most of the mothers (88.7% and
 142 83.7% respectively) had a positive attitude with respect to feeding the baby with colostrum and
 143 giving a baby breast milk as the first food after birth. About half of the respondents (50.2%) had
 144 a good attitude concerning feeding the baby with expressed breast milk. Only 35.6% of

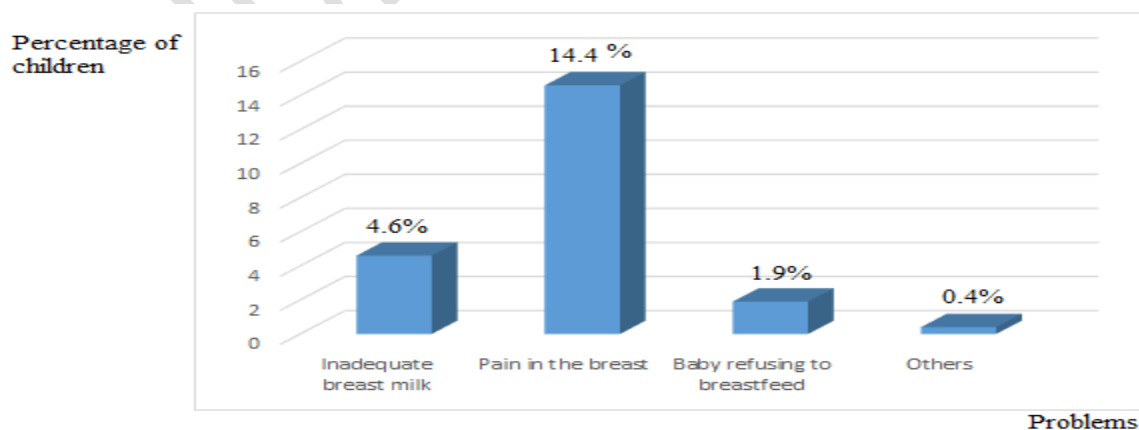
145 respondents believed that breast milk alone is enough food for the baby for up to six months and
 146 65.4% believed that infants below 6 months do not need extra water.

147 **Table 3.** Maternal knowledge, Attitudes and Beliefs on Breastfeeding

Variable	Statement	N (%)
Knowledge	Breast milk is the best food for babies.	436 (80.7)
	Exclusive breast feeding has health benefits for the mother	200 (37.0)
	Breastfed babies are healthier.	343 (63.5)
	Recommended period for BF is at least 2 years.	322 (59.6)
Attitudes	Colostrum given to the baby.	479 (88.7)
	Breast milk as first food after birth.	452 (83.7)
	Expressed breast milk fed to the baby.	271 (50.2)
Beliefs	Infants below 6 months need water.	355 (65.6)
	Breast milk alone is enough for six months.	192 (35.6)

148 **Problems faced during Breastfeeding**

149 Figure 1 presents difficulties encountered by the mother and their children during breastfeeding.
 150 Although a greater part of the participants (78.7%) did not encounter any problem while
 151 breastfeeding, there was still a significant number of the respondents (21.3%) who complained
 152 about breast problems. Some of the problems experienced by the mothers include pain in the
 153 breast (14.4%), inadequate milk (4.6%) and baby refusing to breastfeed (1.9%).



154

155 **Figure 1.** Problems experienced during breastfeeding

156

157 **3.3 Factors associated with Breastfeeding Practices**

158 **3.3.1 Factors associated with Pre-Lacteal Feeding**

159 Relationship between some factors and pre-lacteal feeding is presented in table 4 which
 160 shows a significant relationship between the birth order of the child and pre-lacteal feeding
 161 (p=0.002). The first children were about two times more likely to be given food before the
 162 normal flow of breast milk. A significant association also exists between mode of delivery and
 163 pre-lacteal feeding, babies delivered through caesarian delivery being more likely to receive pre-
 164 lacteal feeding (p=0.000). This could be explained by the fact that the mothers who deliver
 165 through a caesarian section require some time to recover from the anesthesia. Indeed, a previous
 166 study showed that cesarean delivery is a significant risk factor for pre-lacteal feeding in the first
 167 week of life [9]. Mother’s attitude on the type of first food that should be given to the baby also
 168 significantly affect the pre-lacteal feeding of children (p=0.002). Generally, pre-lacteal feeding is
 169 caused by delayed milk secretion in some mothers.

170 **Table 4.** Factors associated with Pre-Lacteal Feeding

Factors	OR	P-value	95% C.I. for OR	
			Lower	Upper
Birth order(ref:1)		.002		
2	.526	.025	.083	1.336
3	.391	.007	.293	1.142
4	.326	.001	.579	1.968
Mode of delivery (ref=normal)				
Caesarian	.232	.000	.134	.403
Breast milk first (ref=true)				
False	.358	.002	.189	.675

171 P value < 0.05 indicates a significant association ref=reference category; OR=odds ratio; C.I=Confidence Interval.

172 **3.3.2 Factors associated with Breastfeeding initiation within one hour**

173 Table 5 presents factors associated with breastfeeding within 1h following delivery. There is a
 174 significant association between place of delivery and initiation of breastfeeding (p=0.000).
 175 Children born in health facilities are 5.2 times more likely to be breastfed within an hour
 176 following delivery than children born at home. This is probably because in health units, there is a
 177 promotion of good breastfeeding practices. Hence, women deliver at home miss out on the
 178 professional support and encouragement needed to establish early breastfeeding. Moreover,
 179 several studies have proved institutional delivery to be a crucial factor in the early adoption of
 180 breastfeeding [10-13].

181 Also, mode of delivery significantly affects period of initiation of breastfeeding (p=0.000), the
 182 latter being less likely to be timely in mothers who had given birth by caesarian. Mothers who
 183 delivered their infants by the normal vaginal method were more likely to practice early initiation
 184 of BF compared to mothers who delivered by the caesarean method. Children delivered normally
 185 are 7.7 times more likely to receive breast milk within one hour than those born through
 186 caesarian section. This delayed breastfeeding initiation is most probably caused by the physical
 187 condition of the mother after delivery whereby some mothers claimed that they did not have a
 188 good health status to be able to breastfeed or the painful conditions associated with caesarian
 189 section. Fatigue and limited mobility also reduce the impetus of cesarean section mothers to
 190 breastfeed. Many studies have reported the same results [14-16]. Contrarily, DiGirolamo *et al*
 191 [17] concluded that type of delivery (vaginal versus caesarian) had no significant influence on
 192 BF practices.

193

194 **Table 5.** Factors associated with Breastfeeding Initiation within one hour

Factors	OR	P value	r value	95% C.I. for OR	
				Lower	Upper
Place of delivery (ref=health unit)					
Home	.199	.000	-1.61	.097	.409
Mode of delivery (ref=vaginal)					
Caesarian	.130	.000	-2.04	.065	.262

195 P value < 0.05 indicates a significant association; ref=reference category; OR=Odds Ratio, C.I=Confidence Interval, r value=correlation
196 coefficient.

197 **3.3.3 Factors Associated with Exclusive Breastfeeding**

198 Association between exclusive breastfeeding and some studied factors is presented in Table 6. It
199 shows that there is a significant association between employment status of mothers and the
200 practice of exclusive breastfeeding up to 6 months. Unemployed mothers were 1.6 times more
201 likely to breastfeed their children exclusively for six months than mothers who were self-
202 employed or had paid jobs. This data is in concordance with data reported in numerous previous
203 studies [18-21]. This could be justified by the fact that unemployed mothers are constantly at
204 home with their babies and are more likely to breastfeed them for as long as 6 months. More so,
205 female workers in Cameroon are usually granted 14 weeks of maternity leave which is
206 equivalent to approximately 3 months [22]. Under these conditions, mothers are urged to resort
207 to the supplementation of breast milk substitutes before 3 months so that their infants familiarize
208 to bottle feeding during their absence.

209 Pain in the breast during breastfeeding also significantly influenced exclusive breast feeding
210 ($p=0.014$). Mothers who had no pain during exclusive breastfeeding period are 1.9 times more
211 likely to breastfeed their children exclusively for six months. The consequence of these
212 difficulties is a negative experience with breastfeeding which is followed by a reduction in
213 mothers' confidence to breastfeed their infants, hence, causing early cessation of exclusive breast
214 feeding [23]. Concordantly, other similar studies carried out had the same findings [18, 24, 25].

215 The knowledge of mothers on exclusive breastfeeding until 6 months is significantly associated
216 with the duration of exclusive breastfeeding ($p=0.000$). Mothers who believed that breast milk
217 alone is not enough food for the baby for up to six months are less likely to breastfeed their
218 children exclusively for six months (Table 6). Another study also showed that cultural beliefs
219 concerning breastfeeding have a significant influence on its implementation [26]. The mothers'
220 knowledge of exclusive breastfeeding was generally good in this study, although some
221 remarkable gaps were identified. Mother's inadequacy of breastfeeding knowledge was
222 expressed by the fact that most of them did not know that exclusive breast feeding has maternal
223 health benefits [27] and that breast milk can be expressed, stored safely and given to the child in
224 the absence of the mother.

225 **Table 6.** Factors associated with Exclusive Breastfeeding

Factors	OR	P value	95% C.I. for OR	
			Lower	Upper
Difficulties BF (ref=experienced)				
No problem	1.976	.014	1.149	3.400
Professional status (ref=Unemployment)				
Self employed	.604	.039	.358	1.020
Paid job	.685	.030	.289	1.626
Breast milk alone is enough	.119	.000	.076	.185

226 P value < 0.05 indicates a significant association; ref=reference category; OR=Odds Ratio; C.I=Confidence Interval; r=correlation coefficient

227 **3.3.4 Factors associated with Frequency and Duration of Breastfeeding**

228 Tables 7 and 8 respectively indicate the factors linked to frequency and duration of
 229 breastfeeding. Table 7 shows that there is a significant association between baby’s age and
 230 frequency of breast feeding. Children above 6 months are less likely to breastfeed more than 8
 231 times a day. Concerning duration (Table 8), there is a significant association existing between
 232 infant weight at birth and the duration of breastfeeding. Children who were born weighing less
 233 than 2.5kg were 5 times more likely to be breastfed for 2 or more years than children who were
 234 born weighing 2.5kg or more. There is also a significant association between age of the baby and
 235 duration of BF. This means that as children grow older they are more likely to stop
 236 breastfeeding. Also, mother’s knowledge on recommended duration of Breast feeding until 2
 237 years and beyond significantly affects duration of breastfeeding (p=0.012). Mothers who had the
 238 knowledge of the recommended period were 6 times more likely to breastfeed their children for
 239 up to two years and beyond. The other factors did not significantly affect the duration of Breast
 240 feeding. Also, mother’s knowledge on recommended duration of Breast feeding positively
 241 affected the duration of Breastfeeding the child. This information is affirmed by results presented
 242 by Chambers *et al.* [28] and Pascale *et al.* [29] that showed positive association between
 243 mothers’ knowledge and Breast feeding practice.

244

245

246 **Table 7.** Factors associated with Frequency of Breastfeeding

	OR	P-value	95% C.I. for OR	
			Lower	Upper
Age (ref=0-6months)		.000*		
7-13 months	.453	.001*	.285	.720
14-24 months	.372	.004*	.190	.729

247 P value < 0.05 indicates a significant association; ref=reference category; OR=Odds Ratio; C.I=Confidence Interval

248 **Table 8.** Factors associated with Duration of Breastfeeding

Factors	OR	P value	95% C.I. for OR	
			Lower	Upper
Infant weight (ref=Below 2.5kg)		.006*		
2.5-4kg	.203	.017*	.055	.752
Above 4kgb	.262	.022*	.025	2.716
Age (ref=0-6months)		.011		
7-13months	.323	.017	.457	4.883
14-24months	.349	.024	.298	10.769
Maternal knowledge (ref=True)				
False	.164	.012*	.040	.669

249 P value < 0.05 indicates a significant association; ref=reference category; OR=Odds Ratio; C.I=Confidence Interval

250 **4. CONCLUSION**

251 The factors found to be associated with breastfeeding practices include; the birth order of the
 252 child, mode of delivery (normal or caesarian), birth weight, maternal knowledge and beliefs on
 253 recommended breastfeeding practices, professional status of the mother and difficulties during
 254 breastfeeding period. These factors principally affect pre-lacteal feeding, breastfeeding initiation,
 255 exclusivity, frequency and duration. Nutrition interventions concerning breastfeeding should
 256 focus more on these factors for a greatest implementation of WHO recommendations.

257

258 Authors have declared that no competing interests exist.

259

260 REFERENCES

- 261 1. Sokol E, Aguayo V, Clark D (2007) Protecting Breastfeeding in West and Central Africa:
262 25 Years Implementing the International Code of Marketing of Breast milk Substitutes.
263 UNICEF Regional Office for West and Central Africa. 1-2.
- 264 2. World Health Organization (2017) Guideline. Protecting, promoting and supporting
265 breastfeeding in facilities providing maternity and new born services. Geneva. 1-3.
- 266 3. United Nations International Children’s Emergency Fund, World Health Organization,
267 United Nations Educational, Scientific and Cultural Organization, United Nations Fund for
268 Population Activities, United Nations Program on HIV and AIDS, United Nations
269 Development Program, World Food Program, World Bank (2010) Facts for Life (4th ed).
270 New York ISBN. 47-59. (6).=No
- 271 4. Cai X, Wardlaw T, Brown D (2012) Global trends in exclusive breastfeeding practices.
272 International breastfeeding journal 7: 12.
- 273 5. Bora R (2016) Breastfeeding in developing countries: Is there a scope for improvement?
274 Journal of Neonatal Biology 5: 2-5.
- 275 6. Andy EA (2015) Literature review of the factors that influence breastfeeding: An
276 application of the health believe model, International. Journal of Nursing and Health
277 Science 2: 28-36.
- 278 7. North West Regional Agency of the National Institute of Statistics in Bamenda (2017).
- 279 8. Fisher AA, Laing JE, Stoeckel JE Townsend JW. (1991). “Objectives and hypothesis”
280 *Handbook for family planning operations research designs*. 2nd edition. The Population
281 Council. New York. pp 22.
- 282 9. Kohlhuber M, Rebhan B, Schwegler U, Koletzko B, Fromme H (2008) Breastfeeding rates
283 and duration in Germany: a Bavarian cohort study. British Journal of Nutrition 99: 1127-32.
- 284 10. Ogunlesi TA (2009) Maternal socio-demographic factors influencing the initiation and
285 exclusivity of breastfeeding in a Nigerian semi-urban setting. Maternal and Child Health
286 Journal 14: 459-65.
- 287 11. Skafida V (2009) The relative importance of social class and maternal education for
288 breastfeeding initiation. Public Health Nutrition 12: 2285-2292.

- 289 12. Li L, Zhang M, Scott JA, Binns CW (2004) Factors associated with the initiation and
290 duration of breastfeeding by Chinese mothers in Perth, Western Australia. *Journal of Human*
291 *Lactation: Official Journal of International Lactation Consultant Association* 20: 188-195.
- 292 13. Motee A, Ramasawmy D, Pugo-Gunsam P, Jeewon R (2013) An Assessment of the
293 Breastfeeding Practices and Infant Feeding Pattern among Mothers in Mauritius. *Journal of*
294 *Nutrition and Metabolism* 2013: 2-5.
- 295 14. Saeed G, Fakhar S, Imran T, Laila L, Abbas K (2011) The effect of modes of delivery on
296 infants' feeding practices. *Iranian Journal of Medical Sciences* 36: 128-132.
- 297 15. Prior E, Santhakumaran S, Gale C, Philipps LH, Modi N, Hyde MJ (2012) Breastfeeding
298 after cesarean delivery: a systematic review and meta-analysis of world literature. *American*
299 *Journal of Clinical Nutrition* 95: 1113-35.
- 300 16. DiGirolamo AM, Grummer-Strawn LM, Fein SB (2008) Effect of Maternity-Care Practices
301 on Breastfeeding. *American academy of Pediatrics* 122: 43-49.
- 302 17. DiGirolamo AM, Grummer-Strawn LM, Fein SB (2008) Effect of Maternity-Care Practices
303 on Breastfeeding. *Pediatrics* 122: 43-49.
- 304 18. Lem N (2015) Perceptions of infant and young child feeding practices in urban and rural
305 Cameroon. *International Breastfeeding Journal* 9-15.
- 306 19. Chiabi A, Kamga BG, Mah E, Bogne JB, Nguéfack S, Fokam P, Tafen W, Tchokoteu, PF
307 (2011) Breastfeeding Practices in infants in the west region of Cameroon. *Iranian Journal of*
308 *Public Health* 40: 11-17.
- 309 20. Cameroon Labor Code (1992) The international Labour Code. Law No. 92/007 of August
310 1992.
- 311 21. Naanyu V (2008) Young mothers, first time parenthood and exclusive breastfeeding in
312 Kenya. *African Journal of Reproductive Health* 12: 125-37.
- 313 22. Bouguerra LM, Trabelsi S, Alaya NB, Zouari B (2002) Determinants of maternal
314 breastfeeding in a suburban area of Tunisia. *Pediatric Archives* 9: 11-13.
- 315 23. Pascale KNA, Laure NJ Enyong, OJ (2007). Factors Associated with Breast feeding as Well
316 as the Nutritional Status of Infants (0-12) Months: An Epidemiological Study in Yaounde,
317 Cameroon. *Pakistan Journal of Nutrition* 6 259-263.

- 318 24. Waldenström, U, Aarts, C. (2004). Duration of breastfeeding and breastfeeding problems in
319 relation to length of postpartum stay: a longitudinal cohort study of a national Swedish
320 sample. *Acta Paediatrica* 93: 669–676.
- 321 25. Chambers J, McInnes RJ, Hoddinott P, Alder EM (2007) A systematic review of measures
322 assessing mothers' knowledge, attitudes, confidence and satisfaction towards breastfeeding.
323 *Breastfeeding Review Journal*, 15: 17-25.
- 324 26. Fombong FEE, Olang B, Antai D, Osuorah CDI, Poortvliet E, Yngve A (2016) Maternal
325 Socio-demographic Determinants of Exclusive Breastfeeding Practice in Cameroon.
326 *American Journal of Food and Nutrition* 4: 83-92.
- 327 27. Victora CG, Bahl R, Barros AJD, Franca GVA, Hotron S, Krusevec J, Murch, S, Sankar, MJ,
328 Walker N, Rollins NC (2016) Breastfeeding in the 21st Century: Epidemiology, mechanisms,
329 and lifelong effect. *The Lancet*, 387, 475–90.
- 330 28. Chambers J, McInnes RJ, Hoddinott P, Alder EM (2007) A systematic review of measures
331 assessing mothers' knowledge, attitudes, confidence and satisfaction towards breastfeeding.
332 *Breastfeeding Review Journal*, 15: 17-25.
- 333 29. Pascale KNA, Laure NJ, Enyong OJ (2007). Factors Associated with Breast feeding as
334 well as the Nutritional Status of Infants (0-12) Months: An Epidemiological Study in
335 Yaounde, Cameroon. *Pakistan Journal of Nutrition* 6 259-263.