

Evaluation of Postpartum Lactation Counselling on Exclusive Breastfeeding Rate at Six Months

Nga Motaze Annie Carole, MD ¹ Emadeu Lesly, MD ²; Epée Ngoué Jeannette, MD ^{1,4}; Sandie AE, PhD ⁴, Njom Nlend Anne Esther, MD ^{1,2,5}

¹ Essos Hospital Center, National Social Insurance Fund Hospital, Yaoundé, Cameroon; ² Higher Institute of Medical Technology, University of Douala, Yaoundé, Cameroon; ³ Faculty of Medicine and Biomedical Sciences, University of Yaoundé 1, Yaoundé, Cameroon; ⁴ African Population and Health Research Center, Dakar, Senegal, ⁵ Health Ebene Consulting Research Department, Yaoundé, Cameroon

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Corresponding author email: Anne Esther Njom Nlend, MD, Associate Professor of Pediatrics anne.njom@gmail.com

Abstract

Objective: to evaluate the effects of postpartum lactation counseling on the rate of exclusive breastfeeding (EBF) at 6 months. **Method:** We conducted a cross-sectional analytical study with retrospective data collection over a period of 7 months in mother-child couples aged 6-15 months who received postpartum lactation counseling. Data collection was done according to a pre-established and pre-tested questionnaire; examining the mothers' socio-demographic characteristics, post-intervention practices during the first six months. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 23.0 software and the Odds Ratio (OR) with its 95% confidence interval was used to assess the association between the different counselling variables. in lactation and the exclusive practice of breastfeeding. Any difference was considered statistically significant when the p-value was less than 0.05. **Results:** We recruited 499 mother-child pairs, the median age was 31 years, with an interquartile range [28-34]; most employed, living in couple. Post-intervention practices were generally appropriate and above average (74% for skin-to-skin contact less than 30 minutes, 61.6% for early breastfeeding less than an hour after delivery, 84.4% for breastfeeding on demand, expression and conservation of milk for 44.1% and 83.8%, while 50.7% practice removal of teats); on the other hand, mother-child cohabitation was only possible for 4.2% of them. Postpartum lactation counseling was associated with a high rate of EBF at 6 months through practices such as: milk expression [72.2%; OR: 3.996; (CI: 1.77-8.97; p=0.001)], avoidance of teats [51.4%; Odd Ratio(OR): 2.73; (CI: 1.20-4.11; p=0.01)], breastfeeding on demand [57.5%; OR: 4.645; CI: 1.93-23.06; p=0.003]] and mother-child co-rooming [81%; OR: 4.91; CI: 1.41-19.98;

$p=0.012$]. Skin-to-skin contact less than 30 minutes after delivery ($p= 0.807$) and milk storage ($p= 0.635$) had no effect on the EBF rate at 6 months. The general prevalence of EBF at 6 months post-intervention was 44.3 %, higher than the national average according to the Cameroonian Demographic Health Survey (DHS 2018) and fast approaching the 50% target of 2025. Conclusion: Education and postnatal follow-up of breastfeeding mothers through lactation counselling programs have resulted in improving appropriate skills and practices; thus, are essential for the promotion of sustainable exclusive breastfeeding.

Keywords: lactation counselling, postpartum, exclusive breastfeeding

Introduction

Breastmilk is the first natural food for infants, rich in calories and nutrients necessary for their growth during the first months of life with proven long-term benefits [1]. According to the World Health Organization (WHO), adequate breastfeeding practices would help prevent approximately 823000 annual deaths in children under five [2,3]. To this end, the WHO launched an intervention aimed at promoting and supporting EBF at 6 months with 50 % target coverage by 2025 [3]. In our country, some variations have been registered during the past decades moving from 24% in 2004 to 20% in 2011 [4,5]. In developing countries exclusive breastfeeding up to 6 months is insufficiently practiced with a risk of death 14 times higher than infants exclusively breastfed [6]. To address this poor exclusive breastfeeding rates the United Nations International Children's Emergency Fund (UNICEF) and the WHO launched the Baby Friendly Hospital Initiative (BFHI) in 1991 which was revised in 2018[7]. This initiative was developed to encourage health facilities worldwide to better support breastfeeding through the Ten Steps to Successful Breastfeeding. This movement was further emphasized through the WHO Global Targets 2025 to improve maternal, infant and young child nutrition

which include to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% [8]. Overall, both BFHI and the Ten Steps have demonstrated benefits in short, mid-term and long-term outcomes on breastfeeding rates; notably early BF initiation, EBF duration, rates of BF at discharge; however, the need of community support has been highlighted. In addition, this initiative lacks ownership and integration within the national policy in many countries [8-10] At the national level, according to the latest 2018 Cameroonian Demographic Health Survey (DHS 2018), it appears that only 39;7% of infants aged 0 to 6 months are exclusively breastfed [11]. To the best of our knowledge, several studies have evaluated the effects of educational intervention pre, per or postpartum or at all stages [12]. Regardless of observed effects, the more complex the intervention is, the higher is its operational cost. Thus, it seemed necessary to us to evaluate the effect of an exclusively postpartum intervention to inform and support breastfeeding women with the aim of increasing exclusive breastfeeding rates at 6 months. Therefore, our study aimed at assessing the impact of postpartum lactation counselling on the EBF rate at 6 months post-delivery.

Materials and methods

This study was carried out at the specialized lactation counselling unit of the Essos Hospital Center (EHC) in Yaoundé over a 7 month-period from December 2018 to November 2019. After consulting the registers, we identified the participants who met our criteria. Our target population consisted of mother-child couples followed in the hospital and enrolled in the post-partum lactation counselling. We included mothers of infants aged 6 to 15 months who gave their consent. The session of counselling occurred after birth within the first 3 days of life in the nursing space area. Two trained counsellors provide mothers with all explanation and demonstration on breastfeeding, position, attachment, milk expression and various conditions to ensure success and exclusivity up to 6 months. For the study, the data was collected

using a pre-established and pre-tested digital sheet. the variables studied included the practices of the mothers after lactation support during the first 6 months such as number of feeding times, milk expression and storage, co-rooming, use of teats. As for the analysis, these data were firstly entered and recorded using Cspiro version 7.2 software and secondly analysed using SPSS version 23.0 software. The quantitative variables such as the age of the participants were presented in median with their interquartile range; the qualitative variables including the counselling practices during the first 6 months were represented in the form of numbers and percentages. Finally, unadjusted and adjusted analysis was performed to identify elements associated to EBF at 6 months.

Results

This study allows us to include 499 participants according to the flow diagram (figure 1)

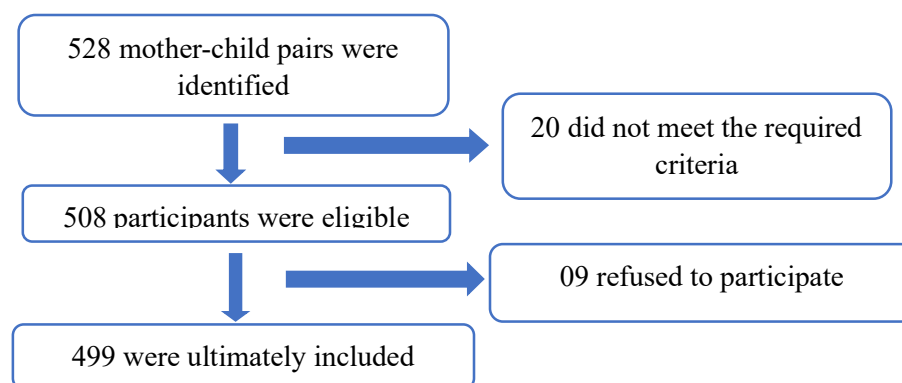


Figure 1: Flow Chart of the study population

The median age of the mothers was 31 years, with an interquartile range ranging from 28 to 34 years. They were mostly employed in the private or public sector with a high level of education, in couple and multiparous (Table 1).

Table 1-Sociodemographic characteristics of mothers

Variable		Numbers (N)	Percentage (%)
Age groups (years)	[15 – 25[	44	8.8
	[25 – 35[	341	68.3
	[35 – 45[	111	22.3
	[45 – 55[	3	0.6
Occupation	Employed	330	66.2
	Household	90	18
	Pupil/Student	79	15.8
Marital status	Single	165	33
	In couple	331	66.3
	Widow	3	0.6
Educational level	None	10	2.0
	Primary	12	2.4
	Secondary	87	17.4
	University	390	78.1
Parity	Primiparous: 1	174	34.8
	Multiparous: 2 to 3	253	50.7
	Great multiparous: 4 and more	72	14.4

Initial breastfeeding practices

Skin-to-skin contact was practiced by three-quarters of the mothers less than 30 minutes later birth and latching for less than an hour after the baby was born by two-thirds. Half breastfed on demand. Regarding the expression of breast milk, 44.1% of the

participants did so, of which 84% kept it. The use of pacifiers including bottles with teats was done only by 14.4% of mothers and the majority put the baby to sleep in a cradle next to her as shown in Table 2.

Table 2: Distribution of post-interventional practices

Variable		Workforce	Percentage (%)
	Less than 30 minutes	369	74

Delay of skin- to -skin contact after delivery	More than 30 minutes	69	13.8
	I do not remember	61	12.2
Breastfeeding time after childbirth	Less than 1 hour	307	61.6
	More than 1 hour	154	30.8
	I do not remember	38	7.6
Frequency breastfeeding during the last 6 month	On demand	421	84.4
	More at night	42	8.4
	More during the day	36	7.2
Co-rooming (mother -child cohabitation)	I used a crib outside my room	456	91.4
	The baby slept in my room next to me	21	4.2
	Intermittently	22	4.4
Expressing milk	Yes	245	44.1
	No	220	49.1
	I did not know	34	6.8
Use of pacifiers /bottles with teat	Yes	72	14.4
	No	253	50.7
	Only bottle with teat	174	34.9
Milk storage	Yes	206	83.8
	No	34	13.8
	I did not know	6	2.4

Prevalence of exclusive breastfeeding at 6 months and associated factors

The rate of EBF was 44.3% at 6 months and that of mixed breastfeeding 46.1% in our study population. Following adjustment in multivariate analysis of the above-mentioned factors, the expression of breast milk, the eviction of baby bottles, breastfeeding after

childbirth before thirty minutes, mother - child co-rooming as well as breastfeeding on demand during the first six months of life were found to be independently associated statistically to the 6 months exclusive breastfeeding rate (Tables 3 and 4).

Table 3: Feeding Mode during the first 6 months of life

Variables	Numbers (N=499)	Percentage (%)
Breastfeeding mode during the first 6 months	Exclusive breastfeeding	221 44.3
	Predominant breastfeeding	46 9.22
	Mixed breastfeeding	230 46.06
	Bottle feeding	2 0.40

Table 4: Factors associated to 6 months exclusive breastfeeding

Variable		Feeding with milk Maternal exclusive		Unadjusted OR (95% CI, p)	OR Adjusted	CI (95%)	P value
		Yes	No				
Time to the first breastfeeding attachment	less than 1 hour	164(53.4)	143(46.6)	2.606(1.23-5.48,0.012)	0.903	0.90 - 0.31	0.049
	more than 1 hour	46(29.9)	108(70.1)	0.968(0.44-2.13,0.936)	0.757	0.75 - 1.25	0.612
	I do not remember	11(30.5)	25(69.5)	-	-	-	-
Expressing milk	Yes	177(72.2)	68(27.8)	3.718(1.77-7.77,0.001)	3,996	1.77-8.97	0.001
	No	30(13.6)	190(86.4)	0.226(0.10-0.49,0.002)	0.233	0.09-1.54	0.061
	I did not know	14(41.2)	20(58.8)	-	-	-	-
Timing of breastfeeding	On demand	153(57.5)	113(42.5)	6.319(1.77-22.50,0.004)	4,645	0.93 - 23.06	0.368
	More during the day	54(34.8)	101(65.2)	2.495(0.68-9.06,0.165)	2.8	0.54 - 14.28	0.216
	+ More at night	14(18)	64(82)	-	-	-	-
	Yes	30(41.6)	42(58.4)	1.323(0.75-2.32,0.329)	1.35	0.59-3.09	0.472

Using pacifiers /bottle with teats	No	130(51.4)	123(48.6)	1.958(1.31-2.91,0.001)	2.73	1.20-4.11	0.01
	Only bottles	61(35)	113(65)	-	-	-	-
Co-rooming	Intermittently	4(36.4)	7(63.6)	0.763(0.22-2.64,0.669)	0.393	0.10-1.51	0.175
	The baby slept in the room next to me	17(81)	4(19)	5.674(1.88-17.12,0.002)	4.91	1.41-16.98	0.012
	I used a crib outside the bedroom	200(42.8)	267(57.2)	-	-	-	-

DISCUSSION

Post-intervention practices during the first six months

In our survey, post-intervention practices were found to be mostly above average and appropriate. In addition, we record two fold rate of early initiation of breastfeeding compare to average national average for early initiation records in the 2014 DHS-MICS of 31.2% [13]. These results after intervention are similar to those found by Valdès et al in a mother and child center [14] as well as Anne Baerug in 2016 where the counselling and breastfeeding support had respectively

Post-intervention breastfeeding rate at 6 months

The post- interventional EBF rate at 6 months that emerges from our study was 44.3%. Overall, this rate is concordant with data reported by Coutinho et al in 2013 in

increased EBF rates, and any breastfeeding practices in the intervention group compared to the control[15]. Similarly, in Africa, Roida et al in Morocco [16] following an educational program for postpartum mothers found that appropriate practices during the first 6 months were 2.4 times higher in the intervention group compared to the control group, highlighting the need to educate and support lactating mothers.

Brazil[17], who after a lactation counselling intervention conducted by trained community health workers found a post-intervention rate of 50%, twice higher than the pre -

intervention rate; the same is true for the study reported by Gu et al in 2016 in China [18] (individual instruction and group education), and Martens in 2000 in Canada[19], which respectively found EBF rates of 42% and 54% post-intervention versus 10.3% and 31% pre-intervention. Nationally, Chiabi et al reported 84.8% rate of EBF at birth and 23.5% at six months. Medical advice (49.3%) and concern for the child's health (42.5%) were the two main reasons for practicing exclusive breastfeeding for the first six months of life; while

resumption of studies or work (38.4%) and the belief that the newborn was not 'satisfied' (34.2%) were the main reasons for introducing other foods [20]. However, these basic rates were found out of any breastfeeding support intervention therefore corroborating the requirement to settle such an approach in order to reach the 2025 target of 50% EBF [12,14-15]. Thus, vigorously supporting and educating breastfeeding mothers in our community could significantly increase the duration and improve EBF practices at 6 months.

Delivery room and practices effect of postpartum lactation advice on AME rate at 6 months

Practices in the delivery room

- **Early latch**

From our results, it appears that participants who put their child to the breast before one hour after delivery had an EBF rate of 53.4% vs 29.9% for those who did not. Indeed, early breastfeeding is essential for the survival of the newborn and for the establishment of long- term breastfeeding. It must be done

within the hour following birth because it is at this time that the newborn's sucking reflex is at its maximum. Digirolamo et al in 2008[21], found that mothers who did not breastfeed within an hour after birth had a 13 times greater risk of early stopping breastfeeding including early diversification.

- **Expressing breast milk**

Participants who expressed their milk ($p=0.001$) had a prevalence of AME of 72.2% vs 13.6% for those who did not express. Indeed, the expression allows the mother not to feed her child directly, so she can return to work or undertake certain social activities while continuing to breastfeed exclusively. Sabin et al in 2017 in

Pakistan [22], had found a prevalence twelve times higher in case of milk expression by lactating mothers, Win et al in 2006 [23] in a cohort carried out in a maternity hospital in Australia, had found that women who expressed milk were more likely to practice EBF up to 6 months unlike the others.

• Use of pacifiers

Of our participants, those who did not use a pacifier had a risk almost 3 times higher of exclusively breastfeeding up to 6 months unlike those who use it. In 2016, Kronborg et al [24] found a similar result according to which the use of pacifiers had an almost 3 times higher risk of early diversification

before 6 months, such profile was further detailed in Brazil [25] Indeed, the use of the pacifier can be responsible for sucking disorder and can lead to a nipple confusion which can thus reduce the frequency of feedings and be the cause of milk insufficiency.

• Mother-child rooming-in

Mothers who observed rooming-in practices ($p=0.012$) had on the one hand a EBF rate at 6 months of 81% vs 42% for those who used a crib outside their room and on the other hand were 5 times more likely to exclusively breastfeed up to 6 months. These results are concordant with those found by Crenshaw et al

in 2020 [26], which showed a positive influence of mother-baby continuous rooming-in 24 hours on EBF rates from 3 months. However, a need to support mothers and overcome some barriers to rooming-in are overemphasized elsewhere [27].

• Breastfeeding on demand

Mothers who breastfed on demand day and night were 4.6 times more likely to breastfeed exclusively up to 6 months than the others and, on the other hand, a rate of EBF twice as high

(57.5% vs. 18-34%). These results are concordant with those displayed in another setting, where all the women on EBF at 6 months were breastfeeding on demand [28],

CONCLUSION

Postpartum lactation counselling contributed firstly to improving mothers' practices during the first six months and secondly to increasing the prevalence of EBF. The practices advocated by the council such as early latching, expressing milk, mother-child

cohabitation, eviction of teats and breastfeeding on demand were the determining factors of EBF up to 6 months. We recommend to the Ministry of Public Health to ensure the training of health personnel on the knowledge and skills

necessary to provide lactation advice, organize mass media awareness campaigns on the benefits of breastfeeding and the establishment of places conducive to breastfeeding. expression, milk storage and

breastfeeding on demand. To medical health personnel to encourage, educate and support women in breastfeeding in general and exclusively in particular during prenatal consultations until their discharge.

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