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Research article

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Determinants of breastfeeding initiation among newly delivered women in Yaoundé, Cameroon

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Abstract

Exclusive breastfeeding is essential for the mother's wellbeing, fundamental for the newborn's development and indispensable for the reinforcement of bonding. According to the World Health Organization (WHO), breastfeeding after childbirth should be initiated within the first 30 minutes following delivery. The Early Initiation of Breastfeeding (EIBF) contributes to the reduction of neonatal morbidity and mortality but is oftentimes not respected. The objective of this survey was to determine the factors associated with breastfeeding initiation and delays. We conducted a cross-sectional study at the Yaoundé Gynaeco-Obstetric and Paediatric Hospital from December 2018 to May 2019. We included women with livebirth infants > 2000g, without breastfeeding contraindications during the first hour of immediate postpartum. We enrolled 250 mothers, mostly from the Centre region (40%), with a secondary school education level in 43%. The vaginal route was the main mode of delivery in 70% of cases. The newborns had a mean gestational age of 38.4 ± 1.6 weeks and a mean birth weight of 3168.6 ± 508.7g; the male sex predominated by a ratio of 1.29. The average time of breastfeeding initiation was 120 minutes and only 40% of mothers had put the baby onto the breast within the first hour after birth. The factors associated with delayed breastfeeding initiation were primary school education level, the Centre region as origin or place of residence, HIV infection in mothers, having delivered through caesarean section, gestational age < 37 weeks, low birthweight < 2500g and neonatal infection. After multivariate analysis, delivery by caesarean section and the Centre region persisted as independent predictors of delayed breastfeeding initiation. Therefore, we concluded breastfeeding initiation in this series was delayed, and was influenced by a number of risk factors pertaining to maternal, neonatal and interventional determinants. However, this may be reduced by the reinforcement of education on good breastfeeding practices and the strengthening of antenatal care in order to prevent complications and hence the delayed initiation of breastfeeding.

Key Words: Breastfeeding, Early Initiation of Breastfeeding, Neonate, Cameroon

Introduction

Breastfeeding is a natural process required for the growth and development of the baby. Breastmilk contains essential nutrients such as growth and immunological factors which are necessary for the neonate's development [1]. In effect, colostrum is considered as the first vaccine, a perfect food for the newborn, and is recommended within thirty minutes to an hour after birth [1]. The Early Initiation of breastfeeding (EIBF) has several benefits including the prevention of hypoglycemia and hypothermia, the early release of meconium and thus contributes to a certain measure for the prevention of neonatal jaundice. There is substantial evidence that breastfeeding decreases neonatal mortality, morbidity, sepsis-related deaths, diarrhea and respiratory infections in neonates and children [2, 3]. Furthermore, it has a protective effect against obesity and other chronic diseases in the long-term [2, 3]. However, a newborn may fully enjoy these benefits only when breastfeeding is started early enough and is given exclusively, at least during the first six months of life [3]. It has been reported that institutional or hospital delivery and care givers' support are the major cues to early initiation of breastfeeding [4–6]. A number of research

studies advocate the fact that breastfeeding largely contributed to the reduction of about 804.000 deaths (11.6%) among under-five children worldwide in 2011 [7, 8]. Countries like India during that period, had made it mandatory to keep the mother and baby in the hospital for at least 48 hours in case of normal delivery and seven days in case of caesarean section [9]. This had a significant impact on the enhancement of breastfeeding practices, as the mother and baby had to spend some days in the hospital under the watchful monitoring of the health staff. In Cameroon, according to the 2018 Demographic and Health Survey, 39.7% infants under 5 months of age were described as exclusively breastfed, though no further information about the time of breastfeeding initiation was given [10]. In sub-Saharan Africa in general, and in Cameroon in particular, data over the delay of breastfeeding at birth, as well as associated factors are scarce. This is why we conducted a study, with as main objective to determine the factors influencing the early initiation of breastfeeding among newly delivered women in Yaoundé, the capital city of Cameroon.

Methodology

We conducted a cross-sectional and analytical study over a six-month period from December 2018 to May 2020. The survey took place at the Yaoundé Gynaeco-Obstetric and Paediatric Hospital which is a University Teaching Hospital in Cameroon. We included all newly delivered women with livebirth infants weighing more than 2000g, with no contraindication to breastfeeding and who consented to participate in our study. Mothers with sick newborns unable to breastfeed or who had digestive disorders preventing breastfeeding, as well as mothers who chose breast-milk substitutes or formula feeding were excluded. The enrolled mothers were observed during the first hour after delivery to detect those that would spontaneously practice timely breastfeeding in conformity to the WHO's recommendations. Sampling was consecutive. The sources of information were mothers and medical records. A pretested questionnaire was administered and the variables sought were: age, education level, parity, region of origin, gestational age, route of delivery, birth weight, sex of the baby, the birth and newborn's status and the time taken to Initiate breastfeeding. Data were recorded and analyzed using CS Pro version 6.2 and SPSS version 20.0. Chi-square testing was used to establish statistical associations between the variables. The P value < 0.05 served to characterize any statistically significant results, while the Odds ratio with 95% confidence interval permitted to determine the risk relationships.

The various operational terms used were the Early Initiation of breastfeeding, defined here as the initiation of the process within the first hour following delivery. Considerations such as baby clothing was not taken into account, however, skin-to-skin contact was encouraged and noted. Breastfeeding quantification based on measurable criteria such as the child's vigor in suckling, the type of arousal and the presence of swallowing were used for qualifying the act as successful or not. The early contact was used to describe any physical interaction between the mother and the newborn occurring within the first hour of life. Therefore, skin-to-skin contact and early breastfeeding were included in this concept. In effect, early skin-to-skin contact ideally begins immediately after birth and consists in placing the naked newborn on the mother's bare chest. This practice of intimate contact during the first minutes after birth is thought to facilitate attachment or bonding and interactions between mother and baby through sensory stimuli such as touch, warmth and smell. Early skin-to-skin contact usually allows for the newborn to find and hold the mother's breast by itself as well.

Ethical clearances from the Institutional Ethics and Research Committee of the Faculty of Medicine and Biomedical sciences of the University of Yaoundé 1 and the Yaoundé Gynaeco-Obstetric and Paediatric Hospital were obtained before the beginning of the survey. The data collected was kept strictly confidential and used only for the purposes of the study.

Results

We enrolled 250 women who met the inclusion criteria during the study period.

Socio-demographic characteristics

The average age was 27.9 +/- 6.2 years. Recruited women were mostly housewives, with a secondary school education level, and mainly originating from the Centre region as shown in

Table 1: Socio-demographic characteristics

Variables	N	Percentages (%)
Profession		
Housewifes	97	38.8
Civil servant	43	17.2
Student	38	15.2
Other	72	28.8
Region of Origin (n = 250)		
Centre	110	44.6
West	68	27.2
Other	72	28.2
Level of education		
Out of school	14	5.6
Primary	28	11.2
Secondary	107	42.8
University	101	40.4

Perinatal characteristics

In our series, 36 mothers had a pathology associated with pregnancy among which 18 cases of HIV infection (7.2%), 11 cases of hypertension (4.4%), 5 cases of hepatitis B (2%), 1 case of tuberculosis (0.4%). Mean gestational age was 38.4 ± 1.6; mean birth

weight was 3168.6 ± 508.7. Vaginal delivery was the main route of delivery and 96% of the newborns had a good adaptation to extra-uterine life. Post-partum was generally uncomplicated and 24% of babies were admitted to the neonatology unit with the main diagnosis being the risk of infection (Table II).

Table 2: Perinatal characteristics

Variables	N	Percentages (%)
Mode of delivery		
Lower route	172	68.8
Ceasarian section	78	31.2
Post – Partum		
Simple	230	92
Complicated	20	8
Gestational age		
< 37	21	8.4
[37 – 42[	222	88.8
≥ 42	7	2.8
Birthweight		
< 2500g	18	7.2
[2500 – 4000[	216	86.4
≥ 4000g	16	6.4
Diagnosis on entry		
Risk of infection	15	25
Neonatal infection	14	23,3
Neonatal jaundice	14	23,3
Mild birth asphyxia	14	6,7
Other	3	21,7

Delayed breastfeeding initiation

The average time to start breastfeeding after delivery in our series was 120 minutes (2 hours). Only 38.8% of mothers had put the baby onto the breast within one hour of delivery (Table 3).

Table 3: Distribution according to breastfeeding initiation

Variables	N	Percentage (%)
Time of breastfeeding initiation (minutes)		
> 60	153	61.2
≤ 60	97	38.8
< 30	49	19.6
[30 – 60]	48	19.2

Factors determining the initiation of breastfeeding

Primary education level, Centre region, Caesarean delivery, HIV infection, gestational age below 37 weeks of pregnancy, low birthweight and neonatal infection at birth were associated with delay breastfeeding initiation after bivariate analysis. Logistic regression permitted to identify the Centre region as origin or place of residence, and Caesarean delivery as independent predictors of delayed initiation of breastfeeding (Table 4 and 5).

Table 4: Factors associated with delayed breastfeeding

Variables	Time of breastfeeding		OR	p-Value
	> 60 min	≤ 60 min		
Primary education	22(78.6)	6(21.4)	2.5	0.045
Centre region	60(66.7)	30(33.3)	2.4	0.002
HIV infection	16(88.9)	2(11.1)	5.5	0.012
Caesarean section	72 (92.3)	6 (7.7)	13.5	<0.001
Gestational age < 37 weeks	18 (85.7)	3 (14.3)	4.2	0.016
Low birthweight <2500g	15 (83.3)	3 (16.7)	3.4	0.045
Neonatal infection	13 (92.9)	1 (7.1)	10.9	0.009

Table 5: Logistic regression of associated factors

Variables	Adjusted OR (CI à 95%)	Adjusted p-value
Primary school education level	2.3 (0.8 – 6.5)	0.110
Centre region	2.54 (1.8 – 4.5)	0.033
HIV Infection	4.5 (0.9 – 22.3)	0.062
Caesarean section	11.3 (4.6 – 27.7)	< 0.001
Gestational age < 37months	2.3 (0.5 – 10.4)	0.267
Low birthweight < 2500g	1.2 (0.2 – 5.8)	0.847
Neonatal infection	6.6 (0.8 – 56.9)	0.088

Discussion

The early or timely breastfeeding initiation may as well be considered as the percentage of newly born infant who are breastfed within the first hour following delivery. The results from this survey show a low level of Early Initiation of Breastfeeding (EIBF) in our context at 40%, which is quite lower than values obtained in the majority of developed countries such as Australia, where values as high as 98% have been reported [11]. This is as well lower than incidences reported in countries such as Saudi Arabia (77.8%), Nepal (66.4%) and in some African developing countries such as Ethiopia (73.1%). One of the main reasons to such differences may be the fact that our sample size was quite inferior to those of the other studies, in as much as environmental and cultural influences may have contributed as well [12-15].

One of the most significant determinants of breastfeeding initiation was the education level, qualified here as primary school level. In Cameroon, just as in most countries worldwide, education on breastfeeding starts at school and is generally relayed by mass communication through the media. Information and breastfeeding training may equally be provided by some health staffs including midwives and physicians during antenatal visits, briefing women on its importance and advantages [12,14-16]. This motivates pregnant women and enhances predispositions to EIBF [12]. Nevertheless, a low level of school education goes with poor understanding of instructions, ignorance, reinforcement of socio-cultural believes such as the "spoiled or bad milk" concept, which induces breastfeeding refusal. On the other hand, highly educated women may as well have job occupations, reducing their availability for breastfeeding [12]. However, failure of EIBF is more likely to occur in women with low level of school education, as it was the case in this survey.

The regional origin of women seemed to impact breastfeeding initiation as well. This result is similar to studies showing that breastfeeding practice may be affected by geographical factors and even socioeconomic-related parameters [17, 18]. In this survey, mothers were mostly from the Centre region, with the possible implication of selection bias, given that the study was carried out in Yaoundé which is the capital city of the Centre region. Just as in a number of African countries, different regions in Cameroon may have specific cultures, traditions and different levels of socioeconomic development. In some traditions worldwide, some women have negative believes concerning colostrum and wrong thoughts about "spoiled breastmilk" or "bad milk transformation". Such women are more likely to delay breastfeeding initiation [17]. Whereas, in regions with lower socioeconomic level, breastfeeding is more practiced given its cost-free natural availability [18]. This has led to suggestions for geographically-focused breastfeeding interventions, culturally competent education and interventions in indigenous communities [17].

Contrarily to the WHO 2007 recommendations for six months exclusive breastfeeding in HIV-exposed neonates under maternal antiretroviral therapy (ART), and infant prophylaxis to reduce transmission, there still persist a reluctance to breastfeed in such women [18, 19]. This may be associated with a psychological self-protective behavior bound to the fear of infecting one's own infant. In effect, a number of studies report mother infection especially with HIV as a barrier to breastfeeding [18, 19]. However, this may be overcome by the reinforcement of antenatal counselling with an accent on the advantage of breastfeeding, in order to strengthen the neonates' immunity, reduce morbidity, mortality and assure normal growth [20, 21].

Delivery through caesarean section has been discussed by a number of researchers as a determinant of delayed breastfeeding initiation in various countries. In fact, there are various physiological and endocrinal implications pertaining to this intervention, which include hormonal variations with reduced prolactin, oxytocin and endorphin levels, whereas necessary for breastmilk production, ejection and mother-infant attachment [22]. Moreover, general anesthesia causes maternal sedation and altered consciousness in immediate postpartum, responsible for mother-infant separation and delayed Breastfeeding Initiation [23, 24]. Furthermore, neonates delivered through caesarean section may develop transient tachypnea with respiratory distress preventing them from breastfeeding [25, 26]. Therefore, caesarean delivery and general anesthesia should be avoided as much as possible in order to favor EIBF among other inconveniencies.

Though there is evidence that breastmilk feeding reduces mortality, short and long-term morbidity in high risk infants including those with infection, prematurity, and low birthweight, delayed breastfeeding ignition is still often observed [25-29]. This may occur as result of the fact that such newborns may be delivered with immediate neonatal emergencies including neurologic, infectious, thermal regulation, digestive and feeding disorders. In such cases feeding may be delayed in order to rapidly attend to vital emergencies thereby causing a retardation of breastfeeding [25, 26, 27].

Conclusion

Despite the WHO recommendations and its countless benefits, the time to initiate breastfeeding after delivery as found in our survey was very long. This was influenced a number of factors, among which the belonging to the Centre region and delivery through caesarean section appeared to be independent predictive factors. Therefore, special emphasis should be laid antenatal visits with problem solving so as to prevent pregnancy complications and reduce emergency caesarean deliveries. Furthermore, information, education and communication on the necessity to initiate breastfeeding as soon as possible after delivery should be emphasized, and the message reinforced or adjusted with socio-anthropological considerations to ease adherence.

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Conflict of Interest

The authors declare that they have no competing interest.

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