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The Pattern of Breastfeeding among a Group of Neonates in Yaounde, Cameroon

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Abstract

Breastfeeding is a physiological process which is necessary for growing neonates. We aimed to describe the process of breastfeeding among a group of Cameroonian neonates and their mothers. A descriptive study was carried out over a six-month period, from December 2018 to May 2019 at the Yaoundé Gynaeco-Obstetric and Paediatric hospital. We enrolled 250 neonates and mothers. The mean gestational age was 38.4 ± 1.6 weeks, with an average birth weight of 3168.6 ± 508.7g. The average time for breastfeeding initiation was 2 hours and 97 (38.8%) neonates were put to the breast within the first hour after birth. All neonates with delayed breastfeeding initiation suffered other inadequate breastfeeding practices: 153 (61.2%). Sixty women (39.2%) originated from the Centre region, with 37 (61.6%) having traditional beliefs and practices antagonizing breastfeeding. The rate of caesarean delivery was 31.2% (78 out of 250), and 92.3 % of such women had inadequate breastfeeding practices. Breast pathologies occurred in 85 women (55.5%), and all had inadequate breastfeeding practices. Sixteen (16) mothers out of 18 (88.9%) with HIV infection had poor breastfeeding practices. Among neonates with delayed breastfeeding initiation, 38 (24.8%) were hospitalized within 7 days, of which 21 (55.2%) were related to sepsis and 6 (15.7%) to metabolic disorders. Such neonates with inadequate breastfeeding represented 83.3% (15 out of 18) infants with hypotrophy. In conclusion, the rate of poor breastfeeding practices was high. Improving women education, as well as perinatal counselling on good breastfeeding practices and its advantages may be helpful.

Keywords: Infant Breastfeeding; Breastfeeding Pattern; Cameroon

Introduction

Exclusive breast milk feeding during the first six months of life has been described by the World Health Organization (WHO) as necessary for the normal development of neonate infants and toddlers [1,2]. It is therefore a mother's responsibility to breastfeed and assure the baby's wellbeing throughout this period. In fact, there is substantial evidence that breastfeeding decreases neonatal mortality and morbidity, including sepsis-related deaths, diarrhea and respiratory infections in neonates and children [2,3]. Furthermore, it has a nutritional protective function against obesity and other chronic diseases in the long-term. Breastfeeding is as well essential for strengthening mother-infant bonding, and is a known protective factor against breast cancer. According to the WHO, breastfeeding after childbirth should be initiated within the first thirty minutes to an hour following delivery [1,2]. A successful or adequate breastfeeding process takes into consideration the timely initiation of the act, the effectiveness of its technique, the exclusiveness of the process, during the recommended duration [1-3]. In most developing countries worldwide and in Africa in particular, considerable efforts including the improvement of perinatal counseling and education with emphasis on breastfeeding have been put in place to improve practices [4-8].

There are however, some maternal, neonatal or environmental factors occurring during the perinatal period which may hinder this process. These factors determining the success of the breastfeeding process may therefore vary from one context to another and with time. In effect, while some countries have recently registered considerable ameliorations in terms of breastfeeding rates, relatively lower data have been reported from other countries [9-11]. For example, Fetaye in South-East Ethiopia used a community based cross-sectional study of 608 mother-infant pairs, to show a rate of timely breastfeeding as low as 52.4%, with breastfeeding counselling and the fact of being in rural area as predictors [9]. In this survey we aimed to describe the process of breastfeeding among a group of Cameroonian neonates and their mothers in order to permit comparison and eventually suggest adjustments so as to enable further improvements.

Methodology

We did a descriptive cross-sectional 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. All live birth neonates including preterm infants weighing more than 2000g, with no contraindication to breastfeeding and whose mothers consented to participate in our study were enrolled. Ill newborns unable to breastfeed or who had evident digestive birth defects preventing breastfeeding, as well as mothers opting for breastmilk substitutes were excluded. The enrolled mothers and neonates were observed and enquired for adequate breastfeeding practices in conformity with the WHO's recommendations. Timely breastfeeding was investigated during the first hour following delivery while the breastfeeding technique, the exclusive use of breastmilk as food and the intention to do so during the first six months of life were noted as well. 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, birth status and time to breastfeed. 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 was used to characterize any statistically significant results. The Odds ratio with its 95% confidence interval was used to establish the risk relationships.

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

Sociodemographic Characteristics

We enrolled 250 neonates and their mothers, among which 208 (83.2%) had at least secondary school education level. The mean gestational age was 38.4 ± 1.6 weeks, with an average birth weight of 3168.6 ± 508.7g. The state of the neonate was satisfactory immediately after birth in 230 (92%) cases. The average time for breastfeeding initiation was 120 minutes (2 hours) and 97 (38.8%) neonates were put to the breast within the first hour after birth as shown in Table 1.

Variables	N (250)	Percentage (%)
Time of breastfeeding initiation (minutes)		
> 60	153	61.2
≤ 60	97	38.8
< 30	49	19.6
[30 – 60]	48	19.2

Table 1: Distribution according to breastfeeding initiation

All neonates with delayed breastfeeding initiation suffered other inadequate breastfeeding practices as well, including one or more other poor practices such as unexclusiveness, ineffectiveness or briefness of breastfeeding duration, with a rate of 61.2% (153) as shown in Table 2. Out of this, 60 women (39.2%) originated from the Centre region, with 37 (61.6%) having traditional beliefs and practices antagonizing breastfeeding.

Variables	N (153)	Percentage (%)
Delayed initiation of breastfeeding > 60 minutes	153	100
Formula use or other breastmilk substitutes	102	66.8
Ineffective breastfeeding technique	77	50.3
No intention for 6 months exclusive breastfeeding	51	33.3

Table 2: Practices among women and neonates with inadequate breastfeeding

Clinical Characteristics

Although 144 out of 153 inadequately breastfed newborns were in good health immediately after birth, 38 (24.8%) were hospitalized within 7 days, of which 21 (55.2%) were related to sepsis and 6 (15.7%) due to metabolic disorders. Neonates with inadequate breastfeeding represented 83.3% (15 out of 18) infants with hypotrophy. The rate of caesarean delivery was 31.2% (78 out of 250), and 92.3 % of such women had inadequate breastfeeding practices. Breast disorders occurred in 85 women (55.5%), among which painful inflammatory and/or infectious conditions occurred in 58 (69.4%) women, including nipple crevices, breast engorgement, inverted nipples, mastitis and abscess. While 24 (28.2%) had secretion anomalies predominated by quantitative disorders. All women with obvious or supposed breast disorders had inadequate breastfeeding practices. Up to 16 mothers out of 18 (88.9%) with HIV infection had poor breastfeeding practices. Further incidences of inadequate breastfeeding practices among specific subpopulations are shown in Table 3.

Variables	N	Total	Percentage (%)
Preterm neonates < 37 weeks	18	21	85.7
Low birth weight < 2500g	15	18	83.3
Neonates with Sepsis	13	14	92.9
Caesarean delivery	72	78	92.3
HIV infection in mother	16	18	88.9
Centre region ethnic group	60	90	66.7
Primary education level of mothers	22	28	78.6

Table 3: Incidences of inadequate breastfeeding among some specific subpopulations

Ability, Frequency and Satisfaction in Breastfeeding

The overall levels of breastfeeding inability and dissatisfaction were respectively 34% and 11.6% in mothers. Most women (82.8%) were breastfeeding at least 8 times per day, and 73.2% breastfeeding neonates seemed satisfied as shown in Table 4.

Variables	N (250)	Percentage (%)
Breastfeeding ≥ 8 times in a day	207	82.8
Baby satisfaction and satiety	183	73.2
Mothers' satisfaction and relief	221	88.4
Breastfeeding inability	85	34

Table 4: Ability, frequency and satisfaction in breastfeeding

Discussion

Among the various operational terms used in this survey, the notion of breastfeeding quantification and satisfaction were based on observable criteria such as the child's vigor in suckling, the type of arousal, swallowing, and the number of breastfeeding in a day. Satiety was estimated by the baby calming and sleeping after breastfeeding. A whole analysis of the level of satisfaction associated with the process of breastfeeding in this survey showed that mothers and infants satisfaction were increased when the number of breastfeeding in a day was ≥ 8, as provided by physiology [12]. On the other hand, breastfeeding inabilities were likely assimilated to breast anomalies and probably causing up to 26.8% infants dissatisfaction and insatiety after breastfeeding. From these, we may therefore deduce that the presence of breast disorders was likely to affect the frequency of breastfeeding, as well as the associated satisfaction in mothers and infants, and vice-versa.

The assessment of breastfeeding practices was based on four main characteristics including timely initiation, the use of breastmilk substitute or not, the effectiveness of the breastfeeding technique and the duration of exclusive breastfeeding. Among these various characteristics, the delay of breastfeeding initiation was the most contributive, occurring in all women with poor breastfeeding practices. This induced the use of formula milk or other substitutes in over 66.8% women with inadequate breastfeeding practices, and more than 33.3% not having the intention to do exclusive breastfeeding over 6 months. This is slightly higher than values obtained from earlier surveys conducted in Cameroon, according to which 20-28% of women do not abide to the first six months exclusive breastfeeding recommendation [13-15]. This may be due to progressive "urbanization and development effect", which is responsible for the modernization of behaviors, with changing local feeding practices, and the psychological perception of breastfeeding in modern African communities [4-8].

In effect, there is evidence that neonates with delayed breastfeeding initiation stand greater chances to receive breastmilk substitutes in the first three days of life, and are as well less susceptible to breastfeed exclusively during the first six months [16,17]. Therefore, high rates of delayed breastfeeding initiation may be responsible for poor breastfeeding practices by inducing other malpractices. On the other hand, the effectiveness of the act of breastfeeding was defined by deep, tonic and slow suctions separated or not by short pauses and yielding breastmilk into the baby's mouth. The duration or briefness of the breastfeeding process was assessed in terms of mothers' intention to breastfeed exclusively during the first six months. This was due to the difficulty to follow all women over a six-month period. However, a number of research works have revealed positive associations between breastfeeding intension and initiation with exclusive breastfeeding. This may provide some rationale to our procedure. The early skin-to-skin contact which is encouraged immediately after delivery was used to describe any physical interaction between the mother and the newborn within the first hour of life.

This intimate contact during the first minutes after birth is thought to facilitate bonding and interactions between the mother and the baby through sensory stimuli such as touch, warmth and smell. In fact, early skin-to-skin contact usually allows for the newborn to find and hold the mother's breast by itself. It has the additional advantage to favor early breastfeeding initiation.

The rate of inadequate breastfeeding practices in this survey was quite high with more than one newly delivered woman out of two having at least one inadequate breastfeeding practice. This was mainly as a result of delayed breastfeeding initiation (61.2%), as all women with inadequate practices were not starting breastfeeding in due time after delivery. This phenomenon was majored after caesarean delivery, with a rate of timely breastfeeding as low as 2.8%, which is in line with literature predictions [6,16-

18]. The overall rate of timely breastfeeding initiation was quite lower than values reported from a number surveys in some African developing countries such as Ethiopia, Kenya, Zimbabwe where values oscillating between 60 to 75% have been registered [6,18,19]. It was as well lower than values reported in a number of developed countries such as France and Australia, where values as high as 98% have been described [4,20]. Likewise incidences above 65% have been found in countries in the Middle-east and Asia including Saudi Arabia (77.8%) and Nepal (66.4%) [8,20-22].

Apart from neonates delivered through caesarean section, of which 92.3% were inadequately breastfed, probably because of factors such as pain, endocrinal changes and mother-infant physical seperation, other subpopulations with particular characteristics seemed to register higher rates of inadequate breastfeeding. This was the case of preterm neonates (85.7%), infants with low birthweights (83.3%), and those affected with neonatal sepsis (92.9%). This may be due to the fact that such neonates can present with life-threatening conditions necessitating emergency care which might considerably hinder the normal breastfeeding process [22]. On the other hand, breast anomalies (55.8%) and HIV (88.9%) infection were likely to constitute barriers to proper breastfeeding in mothers affected [23,24]. The regional origin of mothers involving some psycho-sociocultural influences could have contributed as well to poor breastfeeding practices, as this was prevalent among women originating from the Centre region. This would be coherent, given that geographical factors and socioeconomic-related parameters may influence the breastfeeding process [23,25]. However, the fact that the study was conducted in Yaoundé which is the capital city of the Centre region, may have involved a selection bias not making comparison within this group plausible.

The Highest rates of hypotrophy and postnatal hospitalization mainly due to neonatal sepsis were recorded among neonates with inadequate breastfeeding during the first week of life, with probable associations between these parameters. However strong analytical studies are required for the identification of risk associations and eventually causality links. One of the most significant determinants of good breastfeeding practice found in the literature is the education level of mothers [6,20-22]. In this survey, although 83.2% mothers had an acceptable education level corresponding to secondary school, they lacked specific knowledge about breastfeeding. Nevertheless, the rate of poor breastfeeding practices was as high as 78.6%, among mothers with primary education level in this survey. This could be responsible for poor understanding of medical staff 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 are likely to have job occupations, which could reduce their availability for breastfeeding as well [6].

Conclusion

The rate of poor breastfeeding practices was quite high in this survey, with over 1 mother out of 2 having inadequate practices, though the level of breastfeeding quantification and satisfaction associated was high as well. This was mainly determined by a delay in the initiation of the breastfeeding process, which is susceptible to induce other inadequate practices in terms of ineffectiveness, unexclusiveness and briefness of breastfeeding duration. Perinatal and environmental factors may impact these practices and so there might be a need for analytical studies to identify relationships. However, breastfeeding practices may be reinforced by improving antenatal care, and counseling with emphasis on good breastfeeding practices in order to prevent perinatal-related complications, which are susceptible to alter the process.

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