

Research Article

Beliefs, Attitudes and Practices of Mothers towards Breastfeeding Colostrum and Factors Associated: Case of the Yaounde Gynaeco-Obstetric and Pediatric Hospital

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Abstract

Introduction: Varying beliefs, attitudes and practice exist amongst mothers about the first milk (Colostrum) produced by the mammals after parturition. However, convincing evidence about the importance of colostrum to the future health status of the baby exist. The main of this research was to assess the beliefs, attitudes and practice of nursing mothers attending the Yaounde Gynaeco-Obstetric and Paediatric Hospital (YGOPH), towards breastfeeding colostrum at birth.

Methods: This was a cross-sectional study, conducted at the YGOPH, from April 1st to June 30th 2018. Maternal belief, attitude and practice towards breastfeeding colostrum were assessed.

Results: Of 379 respondents, 82, 58% mothers gave colostrum to their babies, and knew that it was very good, very nutritive and full of antibodies to protect their babies, while those who did not breastfeed

colostrum 66 (17, 41%) and gave reasons such as: it is not good, baby was sick; colostrum is dirty; request from a relative not to give and would make the child sick. Most mother with higher levels of education breastfed colostrum compared to those with lower levels of education ($p=0.0215$). Factors associated with breastfeeding colostrum was early initiation to breastfeeding (OR=13,63; IC=3,95-4714; $P=0,000$), and mother's source of information, OR=1,779; CI=1,025-3,081.

Conclusion: Most mothers breastfed colostrum, however due to limited knowledge and some socio-cultural beliefs some mothers still avoid breastfeeding colostrum. Thus, educational sessions during antenatal clinics should be intensified and more sensitization on media will help reduce ungrounded beliefs also, private sector salaried mothers should be motivated to breastfeed colostrum, through incentives.

Keywords: Breastfeeding; Colostrum; Infant young child feeding; Cameroon, nutrition, attitudes and practices of mothers

Introduction

Nutrition is a fundamental pillar of life, hence important for health and development throughout the entire life span [1]. Inadequate nutrition would lead to nutritional deficiencies and malnutrition in infants and children who happen to be the most vulnerable group, due to their low level of immunity, small size and dependence on parents.

According to UN Inter-agency Group for Child Mortality Estimation (IGME), in Cameroon, the rate of infant mortality has steadily decreased from 2015 to 2019 by 57.35 to 50.17 respectively. However, despite the progress, in reducing infant mortality over the past years, under five years' mortality rate still accounts for approximately 74.8 per 1000 live births in 2019 [2]. Several factors among which avoidance of breast feeding colostrum account for the high child mortality rate. Colostrum is a nutrient rich breast fluid produced by the mammary gland of females after delivery, before breast milk production begins. Besides important nutrient, colostrum is rich in immune, growth and tissue repair factors, important for further development [3]. Compared to mature milk, it has been observed that colostrum has a higher protein concentration and lower energy, fat and lactose [4].

After birth, under normal conditions, the baby is solely dependent on the mother for feeding and security. According to the World Health Organization (WHO) mothers are encouraged to start breast feeding their babies within first hour after delivery, insisting on the importance of colostrum [5]. Cameroon is not an exception to this recommendation. Thus in Cameroon as in many other countries, this recommendation is echoed besides many other teachings during antenatal clinics and routine visits in health facilities.

However, it has been observed that in spite of the educational sessions during antenatal and the numerous sensitizations, the rate of infant mortality is still increasing; thus the need to assess the beliefs, attitude and practice of mothers regarding breastfeeding colostrum and the factors susceptible to influence this practice, arises.

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Materials and Methods

Study design and population

A cross-sectional study was conducted within 03 months from April 1st to June 30th 2018 at the Yaounde Gynaeco-Obstetric and Pediatric Hospital. The YGOPH is a reference health facility created in 2002 and specialized in the care of mothers and children. It is situated at Djoungolo District Ngouso, in Yaounde 5, Mfoundi Division, Center region.

Study participants were mothers at the antenatal care unit, and the maternity, who either came to the hospital for routine vaccination of their child or for pediatric consultation and who gave their signed informed consent. Mothers were excluded from the study if they were pregnant, in a critical state or had difficulties answering the questionnaire.

Sample size

The sample size was determined using the Lorentz formula based on the assumption from previous studies that 60% of the mothers were not knowledgeable on breastfeeding colostrum to their babies, 5% marginal error and 95% CI and a none response rate of 10% were considered.

$$\begin{aligned} \text{Lorentz formula: } n &= (Z_{\alpha})^2 p q / d^2 \\ &= (1.96)^2 (0.6) (0.4) / 0.0025 = 368.7936 \\ &\rightarrow 10\% \text{ of } 368.7936 = 36.87936 \\ n &= 368.7936 + 36.87936 = 406 \end{aligned}$$

Data collection and analysis

A pretested structured interviewer questionnaire was used for data collection. Data on socio-demographic characteristics, time of initiation to breastfeeding, breastfeeding colostrum, reasons or motivations for giving colostrum to baby, duration of breastfeeding, source of information on breastfeeding and importance of colostrum recommendations used to compare mother's initiation to breastfeeding and breastfeeding colostrum practices was based on recommendations from WHO.

Before analysis, data were cleaned, coded and entered into Excel 2016 and Epi Infos 7 for statistical analysis. The chi test, multivariate analysis was used to determine the association between the participation in nutritional education and giving colostrum to babies at birth as well as the association between mother's source of information and attitude on breastfeeding colostrum.

Ethical consideration

An ethical clearance was obtained from the ethical institutional committee for human health research with the authorization n°744/CIERSH/DM/2018.

Results

Demographic characteristics

Overall, 406 women were recruited and included in the study at the YGOPH. The majority of the mothers were aged between 26 and 35. Details on participant's educational level and occupation can be seen on (Table 1). Out of the 406 who participated in the study, 397 responded to the question on level of education and 395 on the question on occupation.

Variable	# Mother	Percent (CI 95%)	# Father	Percent (CI 95%)
Level of Education				
Higher	181	45.59% (40.76-50.51)	200	51.15% (46.26-56.07)
No response	00	00.00% (00.00-00.00)	01	00.26% (00.05-01.43)
Never studied	04	01.01% (00.39-02.56)	04	01.02% (00.40-02.60)
Primary	31	07.81% (05.56-10.87)	33	08.44% (06.07-11.62)
Secondary	181	45.59% (40.76-50.51)	153	39.13% (34.42-44.05)
Total	397	100.00%	391	100.00%
Occupations				
No response	00	00.00% (00.00-00.00)	1	00.26% (00.05-01.48)
Other employee	224	56.71% (51.78-61.51)	206	54.21% (49.18-59.15)
retired	00	00.00% (00.00-00.00)	1	00.26% (00.05-01.14)
Salaried	71	17.97% (14.50-22.06)	11	02.89% (01.62-05.11)
Student	67	16.96% (13.58-20.98)	146	38.42% (33.67-43.40)
Unemployed	33	08.35% (06.01-11.50)	15	03.95% (02.41-06.41)
Total	395	100.00%	380	100.00%

Table 1: Socio-demographic characteristics.

Practices of mothers in relation to breastfeeding colostrum

Of the 379 who responded to this question, 313 (82,11%) mothers had given colostrum to their babies, while 66 (17.89%) had not. Most of the women who had not given colostrum to their babies were salaried from the private sector 58.42% (117/303), while 19,14% (58/303) were civil servants; 14.52% (44/303) were students and 7.92% (24/303) unemployed.

Concerning the time of first initiation to breast milk, 83.92% (261/311) claim to have started breast feeding immediately after birth, 14.47% (45/311) between 2-3 days after birth; 1.61% (05/311) one week after birth; 1.34% (05/373) of all never breast fed their babies. Also, about 95.31% (386/405) claim to have given breast milk to their babies for at least 06 months, while 4.69% (19/405) never breast fed for up to 06 months. Multivariate analysis showed that there is an association between the time to breastfeeding initiation and the fact of giving colostrum. In fact, children who are breastfed immediately after childbirth have a better chance of receiving colostrum compared to those who are introduced to breastfeeding one week (OR=13.63; IC=3.95-4714; P=0.000). Likewise, infants who are breastfed 2-3 days after giving birth are more likely to receive colostrum than those introduced to breastfeeding one week after birth (OR=4.27; IC=1.14-1594; P=0.030).

Motivation for giving colostrum or not to babies

Of the 307 women who gave their reasons for giving or not giving Colostrum to their babies, there is a discrepancy of reasons given by the mothers. The main reasons for which mothers gave colostrum to their babies were: it is the best milk (17.83%); it is nutritive (15.89%); contains antibiotics and is nutritive (11.3%); good for the baby's

health (08,14%); rich in vitamins (06.59%); important for the baby (05.43%); baby was hungry (05,04%); its normal to give (03.88%) and other reasons (12.03%); no response (04.65%). The main reasons why mothers did not give colostrum to their babies were: colostrum is not good (22.45%); baby was sick (22.45%); colostrum is dirty (20.41%); request from a relative (06.12%) could make the child sick (06.12%) and no response (10.20%).

Nutritional education at health services and mothers' attitude to giving the colostrum

Of the 374 mothers who responded, 172 (45.9%) mothers had taken part in nutritional education sessions provided at the YGOPH while 202 mothers did not. Amid those who took part in nutritional education, 80.81% (139 /172) gave colostrum to their babies while 19,19% did not. Meanwhile, amongst those who did not have nutritional education, 84.16% (170/202) gave colostrum to their babies while 15,84% did not. Analysis by Chi test shows that there is no association between participation in nutritional education meetings at YGOPH and giving colostrum to babies at birth (OR=0.7934; 95% IC= 0.462-1.359).

Level of education in relation to colostrum intake

According to the level of education, out of 308 having given colostrum to their offspring, 47.08% (145) had a higher level of education; 44.16% (136) secondary level; 8.12%(25) primary and 0.65% (02) none. Amongst all mothers with higher education (164) 88.41% gave colostrum compared to 11.59% who did not. For mothers with secondary school level, 77.71% compared to 22.35% gave colostrum and among those with primary level, 80.65% versus 19.35% had given colostrum. The Chi2 test showed a statistically significant relation between the mother's educational level and the attitude to give up the colostrum ($p=0.0215$).

Source of information

The majority of mothers were informed about the colostrum in health facilities, i.e. 236 (64.48%) against 130 (35.52%) having been informed elsewhere other than health training. Of the 302 mothers who gave colostrum, 202 (66.89%) against 100 (33.11%) had received their information in the nutritional unit of the health facility. Among those who received the information in the health facility itself, 85.59% (202/236) had given colostrum compared to 14.41% (34) who did not, 23% gave no response. The Chi-square test showed an association between the mothers' source of information and the attitude to give the colostrum to baby (OR=1.779; CI=1.025- 3.081).

Discussion

This study aimed at assessing beliefs, attitudes and practice of mothers towards breast feeding colostrum and factors associated at the Yaounde Gynaeco-Obstetric and Paediatric Hospital. The main observation of the study is that most mothers (82.11%), breastfed colostrum, irrespective of occupation, level of education, marital status, source of information on breastfeeding and colostrum; and believed it was important for the babies, while 17.89 did not. This observation is contrary to results from another study in Uttarakh and in India, where colostrum avoidance was incurred by 92% mothers. Similar to the India study, the main reasons for not breastfeeding colostrum were linked to some misconceptions due to lack of awareness on the importance of breastfeeding colostrum. Such misconceptions include the belief that colostrum is dirty, immature milk and thus will make

the baby sick. Minor reasons for not breastfeeding colostrum included: giving birth at home, mother heading household, in the India study [6,7]. In this study, reasons for discarding colostrum included: breast-milk not flowing, mother or baby being sick, mother and child being separated after delivery, mother being in a critical situation. Some of the reasons given by the mothers to justify the fact that they gave colostrum to their babies were that "it is the best milk, it is nutritive, it contains antibodies and it is beneficial, they were advised by friend, contains vitamins. This is in line with the results of a study done in the Fula and Mandingaethnic group in Guinea Bissau, in which women view colostrum as beneficial for their babies and belief it is more nutritive than breast milk that flows after [8]. The fact that the study took place in a renowned hospital in Yaoundé, an urban area exposes the mothers to more information through antenatal care, and sensitization through media, and could be a possible reason for such high level of awareness on breastfeeding colostrum.

Similar to our study, the India study found that the main reasons for not breastfeeding colostrum were linked to some misconceptions due to lack of awareness on the importance of breastfeeding colostrum. Such misconceptions include the belief that the colostrum is dirty, immature milk and thus will make the baby sick [6,7].

Another observation made in this study was that most of the mothers who did not breastfeed colostrum were mothers working in the private sector. A possible explanation for this could be associated with the fact that most private sector workers could barely have holidays after delivery, even if they were granted the opportunity. Faced with the reality that they may get their monthly wages deducted, most mothers would rather prefer early initiation of baby to artificial milk. It is believed that if the baby is not initiated to artificial milk early enough it may end up not accepting it again later.

It was observed that 78.93% of the mothers initiated their babies to breast milk immediately after birth. This result is contrary to another study carried out in Yaoundé recently, where only 40% mothers had breast fed their babies within the first hour after birth [9]. This is also higher compared to other studies ranging from 23% to 61% [10-13]. Besides, a correlation between the time of initiation to breast milk and breastfeeding colostrum was observed. This is evident since colostrum is the first milk that flows from the breast within the few days following delivery. Thus if the recommendation from WHO [5], to put the baby to breast milk the first 30 minutes following delivery is respected, then it is obvious that the earlier the baby is put on breast milk could predict if the baby breastfed colostrum or not.

Further, it was observed that there exists no correlation between participation in antenatal clinics or education sessions in health services and breastfeeding colostrum. Contrary to our observation, another group of researchers in Ethiopia observed a significant association between attendance in antenatal clinics and early initiation to breastfeeding.

Also, an important observation made was the fact that the higher the level of education, the more the number of mothers who breast fed colostrum to their babies, although the difference was not significant. These results agree with the results of a study in Mangalore, India, where a statistical significant association was observed between mother's educational level and perceived importance of breast feeding initiation [13]. Another recent study in Bangladesh observed an association between lack of maternal education and non-breastfeeding in the neonatal period [14]. Ngwanou and co-workers also observed

recently in a study in Yaoundé, that level of education, qualified as primary education, was also an important determinant of breastfeeding colostrum [9]. Mothers are also informed about the importance of breastfeeding colostrum besides antenatal clinics, through media and direct environment. However, besides social beliefs on the matter, lack of awareness, poor perception and understanding of acquired information, and the decision to change attitude or practice depends on level of education.

A comparison between mothers whose sources of information on colostrum were the health facility and other sources of information showed that YGOPH provides nutrition education services to pregnant and lactating women during Antenatal Care Prenatal (ANC) visits and vaccination. In this study, it was observed that the main source of information about colostrum or breast feeding to mothers was from the nutritional unit of the health facility while others got this information from other sources, including parent, school, media, or friends. This is in agreement with a study in the Okola Health district, Centre Region of Cameroon, where the major sources of information were health care providers [15]. This could be explained by the consideration the mothers have in health care providers as being the most adequate persons to provide reliable information on breastfeeding. Meanwhile in another study in Momo Division, North West Region of Cameroon, major source of information on breastfeeding were friends, family members and neighbours. A positive association was also observed between mother's source of information on colostrum and breastfeeding and the attitude towards breastfeeding the baby with colostrum [16]. Considering the fact that most mothers got informed about the importance of colostrum from health facility, which is the most appropriate source of information, it is obvious, that they got the right information and motivation to breastfed their babies with colostrum.

In spite of the positive observations concerning the practice of breastfeeding colostrum at the YGOPH, this study has some limitations. The cross-sectional nature of the study limits the study due to the fact that exposure and outcome are being simultaneously being assessed, making it difficult to derive causal relationship. In addition, the study design also gives room for information and recall bias, since the possibility to record the information wrongly or to forget the exact time of breastfeeding exists. Also, it was a monocentric study, a multi-centric study would have increased the efficacy of the study.

Conclusion

The results of this study show that mothers of the YGOPH were exposed to knowledge on the importance of breastfeeding colostrum. Meanwhile, level of education of mothers and source of information on breastfeeding colostrum played a significant role in the enhancement of breastfeeding colostrum. Working in the private sector also affected the practice of breastfeeding colostrum. Further education and community sensitization of mothers on the importance of breastfeeding colostrum, will go a long way to correct the wrong beliefs concerning breastfeeding colostrum.

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Conflict of Interests

The authors declare no conflict of interest.

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