

Breastfeeding in the Department of Obstetrics and Gynecology of Yalgado Ouedraogo Teaching Hospital: Knowledge, Practices and Factors Affecting Early Initiation

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Abstract: Breastfeeding is a practice that has existed since the beginning of procreation. The rate of early initiation of breastfeeding at birth remains modest. The objective of this study was to assess women's knowledge of breastfeeding and to look for factors influencing the early initiation of breastfeeding. A cross-sectional study was conducted in the Department of Gynecology and Obstetrics at Yalgado Ouedraogo teaching Hospital using a structured questionnaire to 320 women in the 1st week of postpartum period from June 1st, 2014 to September 15th 2014. Majority of women (83.8%) believe that exclusive breastfeeding is possible. Colostrum is a good food for 45.6% of mothers. Mothers who knew the ideal time of breastfeeding initiation accounted for 33.8%. More than half of the mothers (56.2%) did not know the benefits of breastfeeding. Only 25.7% started breastfeeding within one hour after delivery. Other substances were added very early to breastfeeding in 30% of cases. Educational level, marital status, delivery route, and knowledge of breastfeeding initiation time would influence the early initiation of breastfeeding. Although breastfeeding is a natural practice in many countries, its benefits are not well known by mothers. The promotion of breastfeeding, especially exclusive breastfeeding, must be based on strengthening the knowledge of new mothers.

Keywords: Breastfeeding, Knowledge, Factors Associated, Early Initiation

1. Introduction

The numerous benefits of breast feeding both for the baby and mother have been well researched and published in scientific literature [1-4]. Breastfeeding provides the child with the nutrients and antibodies needed for growth and protection against certain diseases, thereby reducing the infant mortality rate [5]. WHO, American Association of Pediatrics and UNICEF strongly recommend initiation of breastfeeding within one hour after delivery and

exclusive breastfeeding until the age of 6 months and to continue breastfeeding for up to two years and more, by providing diversification [5-10].

The early initiation of breastfeeding is therefore crucial because it ensures the survival of the new-born given the richness of colostrum.

Unfortunately, according to some habits and customs in developing countries, colostrum would not be good for child and it is best to give sweet or herbal tea instead of colostrum which is by far the best food for the baby in the first hours of life [11].

In general, the initiation of breastfeeding is late, exposing the newborn to hypoglycaemia and to a diet other than breast milk with all the consequences that may result [12].

Only 39% of newborns are breastfed within one hour of delivery in developing countries [5]. In Africa, 20% of infants under six months were exclusively breastfed. This rate was only 3% in Chad and 12% in Côte d'Ivoire according to UNICEF data in 2012 [10].

In Burkina Faso, according to the Demographic and Health Survey in 2010, the proportion of exclusively breastfed 6-month-old was 25% [13] despite the many activities that NGOs are conducting for its promotion.

Given the importance of early initiation of breastfeeding and insufficient study on this subject, this work was initiated with the aim of evaluating breastfeeding practices and specially to determine the factors involved in breastfeeding, influencing early initiation in the Department of Gynecology and Obstetrics at Yagado OUEDRAOGO Teaching Hospital.

This study will identify shortcomings in the practice of breastfeeding in order to propose corrective strategies.

2. Patients and Methods

This study was conducted in the Department of Gynecology and Obstetrics at Yalgado OUEDRAOGO Teaching Hospital located in Ouagadougou (Burkina Faso). It is one of the country's reference hospitals.

2.1. Type of Study and Study Population

This was a descriptive and analytical cross-sectional study which took place from June 1st to September 15, 2014, a period of 3 and a half months.

The study population consisted of women who gave birth in the Department of Gynecology and Obstetrics at Yalgado OUEDRAOGO Teaching Hospital.

The criteria for inclusion of mothers were:

have given birth after 28 weeks of amenorrhea in the Department of Gynecology and Obstetrics between June and September 2014;

be in the 1st week of postpartum;

have consented to participate in this study.

Women who gave birth to a stillbirth and those who did not choose breastfeeding were excluded from the study.

2.2. Sampling

The main sampling unit is the woman and her baby. The sample size is calculated with the following formula:

$$n = t^2 \times p \times (1-p) / m^2$$

n: Minimum sample size to obtain significant results for an event and a fixed level of risk

t: Confidence level (the standard value of the 95% confidence level is 1.96)

P = 0,273 is the proportion of women who started breastfeeding immediately according to a 2005 study that was 27.3%; q = 1-p = 0.727; m is the margin of error at 5%.

With a confidence level of 95% and a significance level of

5%, we obtain 305 women. Considering 5% of non-responses, we included a total of 320 women.

2.3. Variables Studied

Variables included in this study were socio-demographic characteristics, breastfeeding initiation time, the obstetrical history, the delivery route, mother and child's state of health, mothers' knowledge and practice about breastfeeding include the substances given to the child during breastfeeding initiation and factors associated to early initiation of breastfeeding.

2.4. Collection and Analysis of Data

The data were collected by interview using a questionnaire. These data were completed directly on the survey form for mothers.

After explaining to the women, the purpose of the study and obtaining their consent, the cards were filled individually by themselves for those who are literate. For those who did not know who were illiterate, a medical student filled out the cards during an interview with these women. We witnessed the beginning of breastfeeding of some new-borns at the end of filling the form.

The data was entered and analysed on a microcomputer using the Epi Info version 3.5.1 statistical analysis software. The graphs were made using the Excel spreadsheet.

Odds ratio was used to determine the degree of association and the Student's test for the comparison of averages. The results were statistically significant for p < 0.05.

2.5. Ethical Considerations

The study was undertaken with the aim to improve the health status of both mother and child. Informed consent of the mothers was required before they were included in the study. The anonymity and confidentiality of the responses were guaranteed for all women included. Prior authorization was obtained before the completion of this study.

3. Results

The sample included 320 mothers who were in the 1st week after delivery with their newborns. The number of deliveries in the department during the study period was 1790. Vaginal delivery accounted for 45.4% and caesarean section for 54.6%.

3.1. Sociodemographic Characteristics of Women

The average age of women was 26.51 ± 5.99 years with extremes of 15 and 45 years. The age group of 20 to 30 years accounted for 58.7%. Mothers under 20 years old accounted for 17.2% of the sample. Women with no income-generating activities (housewives, student) accounted for 68.1% of the sample. The distribution of mothers according to their characteristics is presented in Table 1.

Table 1. Distribution of women according to sociodemographic characteristics.

Sociodemographic Characteristics	Number	Percentage
Age		
15-25 years	152	47.5
26-35 years	146	45.6
36-45 years	22	6.9
Socio-professional status		
Housewife	178	55.6
Student	40	12.5
Informal sector	40	12.5
Employee	36	11.3
Trader	26	8.1
Level of schooling		
Higher	25	7.8
Secondary	101	31.6
Primary	48	15.0
Franco-Arabic school	12	3.8
literate	3	0.9
Not literate	131	40.9
Religion		
Catholic	90	28.1
Protestant	27	8.4
Muslim	200	62.5
Animist	3	0.9
Marital status		
Married	269	84.1
Concubine	45	14.1
Single	6	1.9

3.2. Obstetric History and Childbirth Data

The mean age of the penultimate children of women was 60.51 ± 32.1 months with extremes of 12 and 216 months. All these children were breastfed. The mean duration of breastfeeding was 19.82 ± 5.16 months. The minimum duration was 6 months and the maximum duration was 36 months.

The number of antenatal cares (ANC) performed ranged from 1 to 8 with an average of 3.55 ± 0.98 . Women with at least 4 ANC accounted for 57.2% of the sample.

Among women, 26.3% reported receiving breastfeeding counseling during antenatal cares.

Table 2 presents the distribution of women by obstetrical history and birth data.

Table 2. Distribution of women according the number of prenatal care completed.

Characteristic	Number	percentage
Parity		
Primiparous	136	42.5
Pauciparous	121	37.8
Multiparous	63	19.7
Duration of breastfeeding of the penultimate child (n=168)		
6-12 months	17	10.1
13-18 months	67	39.9
19-24 months	78	46.4
Over 24 months	6	3.6
Antenatal care (ANC) completed	Number	Percentage
1 ANC	8	2.5
2 ANC	29	9.1
3 ANC	100	31.2
Over 3 ANC	183	57.2

Characteristic	Number	percentage
Term of child at birth		
Premature	12	3.8
At term	301	94.1
Post-term	7	2.2
Delivery route		
Vaginal delivery	200	62.5
Caesarean	120	37.5
Type of childbirth		
Single childbirth	309	96.6
multiple childbirth	11	3.4

In the immediate postpartum, 39 out of 320 women had a pathology. The diagnosed conditions were: arterial hypertension (20 women), postpartum haemorrhage (9 cases), sickle cell disease (4 women), 3 cases of HIV infection including 1 associated with tuberculosis, 1 case of severe malaria, 1 case of heart disease and 1 case of asthma.

HIV-infected women have opted for safe breastfeeding.

For neonates, the mean birth weight was 3018.03 ± 539.07 g with extremes of 1100g and 4600g. The Apgar score at the first minute of birth was 8 to 10 in 92.8% of cases and 4 to 7 in 7.2% of the sample.

3.3. Women's Knowledge of Breastfeeding

Of the 320 women included, 289 women said they had heard of exclusive breastfeeding. Sources of information on exclusive breastfeeding varied. The main source was the health staff with 56.7%. Breast milk is the best way to feed the newborn in 86.3% of women. For 13.7% of women, water must be added to breast milk to feed the baby at birth. Exclusive breastfeeding was possible according to 83.8% of the women interviewed. For other women (16.2%) this was impossible. The average duration of exclusive breastfeeding proposed by mothers was 6.11 ± 3.82 months.

Regarding women's knowledge of the benefits of breastfeeding, 43.8% of women were able to cite at least one breastfeeding benefit and 56.2% of women could not find any benefit.

Disaggregated data on women's knowledge of breastfeeding are presented in Table 3.

Table 3. Results of the Knowledge Assessment on Exclusive Breastfeeding.

Designation	Number	Percentage
Source of breastfeeding information (n= 289)		
Health worker	164	56.7
Media	52	18
During classes	26	9.0
Friends	24	8.3
Parents	12	4.2
Documents	10	3.5
Public Opinion	1	0.3
Breastfeeding initiation according to mothers (n = 320)		
Less than 30 minutes	4	1.3
30 minutes to 1 hour	104	32.5
1 to 4 hours	210	65.6
5 to 24 hours	2	0.6
Duration of exclusive breastfeeding proposed by women (n = 268)		

Designation	Number	Percentage
< 6 months	42	15.7
6 months	210	78.3
Over 6 months	16	6
Breast milk benefits cited by women (n=188)		
disease prevention	81	43.1
good growth	39	20.7
good nutrition	37	19.7
mother-child affection	18	9.6
free milk	10	5.4
birth spacing	3	1.6

3.4. Mothers' Views on Breastfeeding

Colostrum is good for the baby according to 70% of the women, The non-favourable opinions for giving the colostrum to the newborn represented only 6,6%. The rest of the women (23.4%) did not know what colostrum is.

The majority of women (69.7%) report that exclusive breastfeeding is a good practice. Those who had doubts about implementation of exclusive breastfeeding accounted for 20.6%. One tenth of women (9.7%) say they do not know the meaning of exclusive breastfeeding.

3.5. Practices of Breastfeeding After Childbirth

In the survey, 86.2% of mothers (276 women) had already breastfed and 13.8% of mothers had not yet done so. We helped some women to initiate the breastfeeding of their child. The average time for breastfeeding was 292.66 minutes (4 h 52 minutes) with extremes of 23 minutes and 1440 minutes (24h). Seventy-nine mothers (25.7%) performed initiation of newborn breastfeeding (assessed in 307 infants) within one hour after delivery (as recommended). It was

carried out between 1 and 4 hours by 109 women (35.5%) and beyond 4 hours by 38.8% of the mothers. The reasons given for initiation of breastfeeding are presented in Table 4.

Table 4. Reasons for starting or not breastfeeding.

Item	Number	Percentage
Reasons for starting breastfeeding (n= 276)		
It is the best milk	126	45.7
it is the recommended milk	43	15.6
for the baby's health	36	13.0
mother's milk is healthy and easy to digest	30	10.9
because it's obligatory	17	6.2
because it is essential	15	5.4
Promote the lactation	9	3.2
Reasons for not starting breastfeeding (n=44)		
No lactation	21	47.7
Pains	17	38.6
waiting for the child to wake up	13	29.5
transfer of the child in neonatology	11	25.0
mother under the effects of anesthesia	9	20.4
mother's tiredness	6	13.6

Of 307 newborns seen with their mothers, 93 (representing 30.3%) had received substances before or with breast milk. Exclusive breastfeeding was effective in 69.7% of children. The administration of these substances was provided by mothers in 80.2% of cases and by grandmothers in 12.1% of cases. The substances administered were plain water (82.8%), sugar water (8.6%), artificial milk (4.3%), lemon juice (3.2%) and honey (1.1%).

Factors Influencing Early Breastfeeding

A bivariate analysis was done in search of associated factors. Table 5 shows the results.

Table 5. Association between sociodemographic characteristics with initiation of breastfeeding (BF) among mothers: results of bivariate analysis.

Characteristics	Breastfeeding within one hour	Breastfeeding after 1 hour	OR and CI à 95%	P value
Age				
<25 years	34(23.9%)	108(76.1%)	1	0.4283
>25 years	41(24.8%)	124 (75.2%)	1.0503 (0.6227-1.7714)	
Level of education				
illiterate and lower level	35(18.9%)	150 (81.1%)	1	0.0044
University level	39(31.2%)	86 (68.8%)	2.0383(1.2000-3.4624)	
Professional status				
Housewives	43(25%)	129 (75%)	1	0.3430
workers	31(23%)	104(77%)	0.8863(0.5019-1.5619)	
Marital Status				
Married	56(21.8%)	201(78.2%)	1	0.0140
Not married	19(38%)	31(62%)	0.4546(0.2389-0.8649)	
Parity				
Over 1 delivery	45(25.7%)	130(74.3%)	1	0.2758
Primiparous	30(22.7%)	102(77.3%)	0.8497(0.5002-1.4432)	
Age of the last child				
Over 6 years	13(36.1%)	23(63.9%)	1	0.1523
Under 6 years	35(27.1%)	94(72.9%)	0.6588(0.3011-0.4414)	
Counselling on BF during ANC				
yes	23(26.4%)	55(74.6%)	1	0.3027
No	52(23.6%)	168(76.4%)	1.6111(0.6572-2.0511)	
Delivery route				
vaginal	63(33%)	128(67%)	1	0.0001
C-section	17(14.5%)	100(85.5%)	2.8952(1.5951-5.2551)	
Age of pregnancy				
At term	71(25.1%)	212(74.9%)	1	0.1872
Premature or post term	4(16.7%)	20(83.3%)	1.6745(0.5537-5.0642)	

Characteristics	Breastfeeding within one hour	Breastfeeding after 1 hour	OR and CI à 95%	P value
Type of pregnancy				
Single	73(24.7%)	223(75.3%)	1	0.4706
Multiple	2(18.2%)	9(81.8%)	1.4731(0.3112-6.9740)	
Neonate health				
Good health	72(24.8%)	218(75.2%)	1	0.3678
Neonatal distress	3(17.6%)	14(82.4%)	0.6488(0.1813-2.3222)	
Maternal illness				
No	61(22.9%)	205(77.1%)	1	0.0464
Yes	14(34.1%)	27(65.9%)	1.9426(0.8602-3.5301)	
Breastfeeding initiation time				
Known	68(90.7%)	40(9.3%)	1	<0.001
Not known	7(3.5%)	192(96.5%)	0.594 (0.5066-0.6814)	

The difference is significant if $p < 0.05$ and if the confidence interval does not contain the number 1. Thus, the factors associated with early breastfeeding were the level of education, the marital status, the delivery route and knowledge of breastfeeding initiation time.

4. Discussion

In this study, the mothers were mostly young. The average age was 26.51 ± 5.99 years with extremes of 15 and 45 years. The most represented age group was between 20 and 30 years old with a frequency of 58.70%. These results are comparable to those of Ben-Slama F et al in Tunisia [14] and Mekonen et al in Ethiopia [5] who respectively found an average age of 27 ± 5.7 and 27.9 ± 4.03 . In the study of Raheel H and Tharkar S [1], women under 30 accounted for 57.7% and mothers with higher education accounted for 7.8%. This indicates the low enrolment rate of women in the low-income countries. In France, in the Siret V et al series [15], the majority of mothers (58%) were over 30 years old and 2/3 had higher education.

The proportion of married women is high (84.1%) in our sample. This is similar to most studies in Africa.

Women's knowledge of breastfeeding

Of 320 women surveyed, 289 women said they had heard of exclusive breastfeeding. The mothers' sources of information were mainly health workers. More than a quarter (26.3%) of women reported receiving breastfeeding counseling during prenatal consultations. In France, 80% of women received information on breastfeeding during childbirth preparation [15].

Initiation of breastfeeding should be done within one hour of delivery according to the recommendations of WHO and UNICEF [5, 9, 10, 16]. Only 33.8% of women in this series thought it could be done in the first hour after a normal delivery. This rate is much lower than the results of Raheel and Tharkar in Saudi Arabia (77.3%) [1].

In practice, only 25.7% of mothers actually breastfed within one hour of delivery. This rate is lower than those of Mekonen et al [5] in Ethiopia (48.7%) and Raheel and Tharkar [1] in Dammam (51.3%). However, this rate is higher than those found in Riyadh (21.3%) and Ariana in Tunisia (20%) [1, 14]. In France, 67% of mothers started breastfeeding within 3 hours after giving birth [15].

All mothers started breastfeeding within 24 hours. This

rate is higher than that of Raheel and Tharkar in Saudi Arabia [1] where the initiation rate at 24 hours postpartum was 63.1% in Riyadh and 71.3% in Dammam. In many countries, breastfeeding is practically the only way to feed the newborn. The only challenge, therefore, is the early initiation of breastfeeding.

In general, mothers start breastfeeding infants late after half an hour, while one of the conditions of the Baby Friendly Hospital Initiative is breastfeeding within half an hour after a normal delivery. This reflects the lack of awareness of the benefits of this practice by mothers and the lack of support from their entourage. The late start of breastfeeding is not without consequences on the health of the newborn and the mother. Indeed, it exposes the newborn to the risk of hypoglycemia, promotes the early introduction of other substances, thus reducing the chances for the newborn to benefit from colostrum. It also delays milk production and increases the risk of bleeding and postpartum placental retention for the mother.

Exclusive breastfeeding is possible according to 83.8% of women. The proportion of mothers who thought that exclusive breastfeeding lasted 6 months was 78.3%. Almost a quarter (21.7%) did not know the duration of exclusive breastfeeding. This is not acceptable for a country where breastfeeding is practically the only acceptable and accessible mode of feeding for the newborn.

In this series, 43.8% of women had been able to cite some benefits of exclusive breastfeeding. The benefits known to women in order of frequency were disease prevention, good growth of the child, good nutrition, strengthening mother-child affection, free milk and birth spacing. In the series of Siret et al [15], the choice of breastfeeding is done mainly for the benefits of the child (76%) and for the benefits in the mother-child relationship (35%). In Dammam, Saudi Arabia, according to Raheel and Tharkar [1], the known benefits of the mothers are the nutritional quality of colostrum (98.5%), the effect on uterine retraction (89%), the reduction of postpartum bleeding (89%), stimulates milk ejection (89.3%), reduces the risk of breast cancer (98%).

Poor mothers' knowledge of breastfeeding may be due to insufficient health education. Good preparation for delivery including awareness sessions is necessary to reduce neonatal and infant morbidity.

In addition, the administration of substances to the newborn before breastfeeding is still a reality. Of 307

newborns who were already breastfed, 93 had received something other than breast milk. The exclusive breastfeeding rate was 69.7%. This rate is higher than that of Salanave B *et al* in France [17], which was 59.7%. In addition, according to the same authors, initiation of breastfeeding in maternity services was 69.1%. This rate, which is low compared to the recommendations, is explained by the fact that breastfeeding was not a common practice in the industrialized countries.

The administration of other substances to the newborn could be explained by the absence of lactation according to some women and by cultural reasons. Indeed, some ethnic groups in Burkina Faso like the Mossis equate the newborn to a foreigner who must be welcomed with water.

Bivariate analysis identified factors which were associated with early initiation of breastfeeding.

Women's educational level would significantly influence early initiation of breastfeeding ($p < 0.05$). The rate of early initiation of breastfeeding was 2 times higher for mothers who had a university education compared to those who had not reached this level (OR = 2.03).

Also, marital status was statistically significantly associated with early breastfeeding. Unmarried women are less likely to initiate breastfeeding than married mothers (OR = 0.45)

Similarly, the mother's knowledge of the ideal timing of initiation of breastfeeding was significantly associated with early breast-feeding. Mothers who knew this delay had an early initiation rate of breastfeeding that was twice as high as those who did not know it (OR = 1.96).

The delivery route would have a very significant influence on early breastfeeding ($p < 0.001$). Women who gave birth vaginally had an early initiation rate almost 3 times higher than those who had a caesarean section (OR = 2.89). Mekonen *et al* in Ethiopia [5] had already identified this factor [5]. Postoperative pain and difficulties in mobilizing women who have had a caesarean section could explain this fact. The postoperative pain and the difficulty of mobilization of the operated patients could explain this fact.

For Mekonen *et al* in Ethiopia [5], other factors favouring early initiation of breastfeeding were multiparity, urban residence, antenatal care and delivery in a health centre.

For Duclos *et al* [18], a high sociocultural level, a mother previously breastfed herself, and a previous breast feeding were associated with the choice of breastfeeding. Factors concerning the information of the mothers were also associated with the choice of breastfeeding information during the preparation to birth sessions, individual information on the breastfeeding of an ill newborn, and the simple advice to breastfeed given by a health care professional.

In developed countries, the choice of breastfeeding is personal. It is influenced by several reasons including personal motivation, knowledge of the baby's benefits, family support, maternity incentive policies [16, 19]. In sub-Saharan Africa, breastfeeding is natural and cultural, therefore an institution of society. Nevertheless, according to Bourguerra *et al*, to

improve the duration of breastfeeding, it is recommended a better monitoring of the woman's health after delivery in order to prevent certain post-pregnancy complications. In addition, a better information of women on the virtues of exclusive breastfeeding until six months of age and total breastfeeding for up to two years is recommended [20].

5. Conclusion

The practice of breastfeeding is today a major public health issue. It is a natural and cultural act for many countries. Mothers are not sufficiently aware of the benefits of exclusive breastfeeding, so other substances are administered in combination with breast milk to the newborn at birth. The initiation of breastfeeding is late in the majority of cases. Factors such as educational attainment, marital status, delivery route, and mothers' knowledge of the ideal timing of breastfeeding initiation would influence early initiation of breastfeeding.

The commitment of mothers, a better training of health professionals on breastfeeding are essential for the promotion of breastfeeding.

According to WHO and UNICEF, one of the conditions for successful breastfeeding is to help mothers start breastfeeding within one hour of birth.

A multicentric and wider study would identify the real factors associated to the practice of exclusive breastfeeding and its early initiation for the implementation of corrective actions for a better development of newborns and infants.

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