

# Knowledge, Attitudes and Practices of Mothers Regarding Breastfeeding in the University Hospital Center of Brazzaville (Republic of Congo)

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## Abstract

**Objective:** To analyze the knowledge, attitudes and practices of mothers about breastfeeding at the Brazzaville University Hospital Center. **Population and Methods:** Analytical KAP study, conducted from February 1 to May 31, 2019, including exclusively manner mothers who have started breastfeeding for at least 4 months and at most 24 months in accordance with the recommendations of the World Health Organization. The study variables were related to socio-demographic characteristics, knowledge, attitudes and practices. **Results:** One hundred and forty mothers were questioned. They were of a median age of 30, multiparous (61.5%), in a couple (78.6%), with gainful activity (47.9%). They had enough knowledge (87.1%) but harmful in 26.5% of cases, adapted attitudes (95%) with answers of different certainties, and bad practices (60%). Knowledge did not influence attitudes ( $p > 0.2$ ). Knowledge and attitudes influenced practices ( $p < 0.05$ ). Women with insufficient knowledge were 4 times more likely to have poor practices (OR = 3.84; CI [1.06 - 13.9];  $p < 0.03$ ). **Conclusion:** An educational strategy on mothers' knowledge and attitudes towards breastfeeding would help improve their breastfeeding practices.

## Keywords

Breastfeeding, Knowledge, Attitudes, Practices, Brazzaville

## 1. Introduction

Breastfeeding is, according to the WHO, breastfeeding babies, whether taken directly or expressed [1]. Since August 1990, the Innocenti Declaration, instituted by WHO and UNICEF, has brought breastfeeding protection, encouragement and support to the world level [2]. To use a few words: “In order to ensure optimal health and nutrition for mothers and children around the world, every woman should be able to breastfeed exclusively and every infant should be fed exclusively in breast milk from birth to 4 to 6 months of age” [2].

According to UNICEF, only 38% of children under 6 months of age in the developing world are exclusively breastfed, and only 39% of infants aged 20 - 23 months benefit from this practice of continuous breastfeeding [3] [4]. In Congo, 97% of women initiate breastfeeding, and 33% exclusively maintain it at 6 months [5]. Considering the decline in indicators of breastfeeding in our country, this problem is still of interest. Early breastfeeding increased during the period 2005-2015 from 34.4% to 25% [6].

The positive health and economic impact of breastfeeding is known [7]. Also, achieving a solution to this problem would be one more step towards achieving the Sustainable Development Goals [4]. As a result, it seems necessary to understand mothers' experiences with breastfeeding, to serve as a lever on which to base strategies for promoting breastfeeding.

This is how this work sought to analyze the knowledge, attitudes and practices of mothers about breastfeeding at the University Hospital Center of Brazzaville.

## 2. Population and Methods

This was an analytical KAP study, conducted from February 1 to May 31, 2019, in the Gynecology-Obstetrics department of the Brazzaville University Hospital Center, including in a non-probabilistic manner, mothers coming for consultation for the follow-up of growth and/or for the vaccination of a child, and having initiated breastfeeding for at least 4 months. Excluded were mothers who started breastfeeding for more than 24 months (according to the maximum breastfeeding duration recommended by the WHO), and those who stopped breastfeeding because of prolonged hospitalization of the newborn.

A direct interview with the mothers was carried out, alongside consultations. Thirty-nine questions were asked, some having been translated into vernacular languages for better understanding. The questionnaire used for the interview had four components, the first of which related to the socio-demographic characteristics of mothers. The second part related to mothers' knowledge of breastfeeding (composition and storage of breast milk, colostrum and duration of breastfeeding). The third component dealt with the attitudes of mothers. It was about their perception, body representation, modesty, self-esteem vis-à-vis breastfeeding. The last part related to the practice of breastfeeding.

Apart from the global analysis based on the establishment of a score of correct answers, the knowledge was the subject of a partial analysis starting from the

postulate of Bruno de Finetti [8] [9] by choosing a degree of certainty or percentage chance among one of the following five: 10%, 25%, 50%, 80%, 100%. Each percentage has been assigned a response value. The distribution of these values allowed us to establish the distribution of position of the responses as well as the spectral graph. The level of knowledge was enough when the score for correct answers was greater than 50%.

As for attitudes, they were measured using the Lickert scale [10] which consists of one or more statements for which the interviewee expresses his degree of agreement or disagreement. The mothers were subjected to a predetermined scale of the type: strongly agree - agree - disagree - strongly disagree. The number of methods proposed was a function both desired precisions, but also of the presumed capacity of mothers to carry out fine discrimination. Each category received a score: 4 for “strongly agree”, 3 for “agree”, 2 for “disagree” and 1 for “strongly disagree”. For the items whose acceptance was contrary to the general attitude that we want to measure by means of this scale, the values were ordered in the other direction: 1 for “completely agree” and 4 for “strongly disagree”. Once a subject answered, the score was calculated on the scale by simply adding the points of each chosen modality. Attitudes were considered appropriate in the event of a score of correct answers greater than 50%.

Practices were measured by breastfeeding indicators [1], namely: early initiation of breastfeeding (1), continued breastfeeding at 12 months (2), exclusive breastfeeding (3) and predominant breastfeeding (4).

1)  $P = \text{ratio of the number of mothers who started breastfeeding in the last 24 months and who breastfed H1 of life on the number of mothers who started breastfeeding in the last 24 months.}$

2)  $P = \text{ratio of the number of mothers who started breastfeeding 12 to 15 months ago and who gave breast milk the day before the survey on the number of mothers who started breastfeeding 12 to 15 months ago.}$

3)  $P = \text{ratio of the number of mothers who started breastfeeding at most 5 months for whom breastfeeding was exclusive the day before the survey on the number of mothers who started breastfeeding at most 5 months.}$

4)  $P = \text{ratio of the number of mothers who started breastfeeding at most 5 months for whom breastfeeding was predominant the previous day the survey on the number of mothers who started breastfeeding at most 5 months .}$

#### **Data Analyst**

The EPI-INFO 7 software was used for data analysis. Pearson’s chi2 and Fischer’s exact test were used to compare the percentages. The Odds Ratio with its 95% confidence interval, not including the value 1, was calculated to assess the association between two variables. The p-value of the probability was considered significant for a value less than 5%.

### **3. Results**

One hundred and forty mothers were questioned. Their socio-demographic and reproductive characteristics are shown in **Table 1**.

**Table 1.** Sociodemographic and reproductive characteristics of mothers.

	<b>n</b>	<b>%</b>
<b>Age (years)</b>	30 [26 - 35]	
<b>Median (q1 - q3)</b>		
[16 - 25]	26	18.5
[25 - 35[	81	57.9
[35 - 44]	33	23.6
<b>Parity</b>		
1	54	38.5
≥2	86	61.5
<b>In a relationship with</b>	110	78.6
<b>Education level</b>		
Primary	3	2.1
Secondary	39	27.9
Higher	98	70.0
<b>Gainful activity</b>	67	52.1
<b>Health personnel following pregnancy</b>		
Midwife	61	43.6
Obstetrician	72	51.4
General practitioner	7	5.0
<b>Childbirth mode</b>		
Vaginal route	107	76.4
Caesarean section	33	23.6
<b>Breastfeeding experience</b>	78	55.7

The overall level of knowledge was enough for 87.1% (n = 122) of the mothers and insufficient for 12.9% (n = 18) of them. The related responses are shown in **Table 2**.

The partial analysis of the level of knowledge by the postulate of Bruno De Finetti revealed the following certainties:

- 46.7% of knowledge is correct with 100% certainty;
- 60.0% of knowledge is usable;
- 13.4% of knowledge is unusable;
- 26.5% of knowledge is harmful;
- 22.9% of knowledge is false with 100% certainty;
- 6.9% of knowledge corresponds to recognized ignorance.

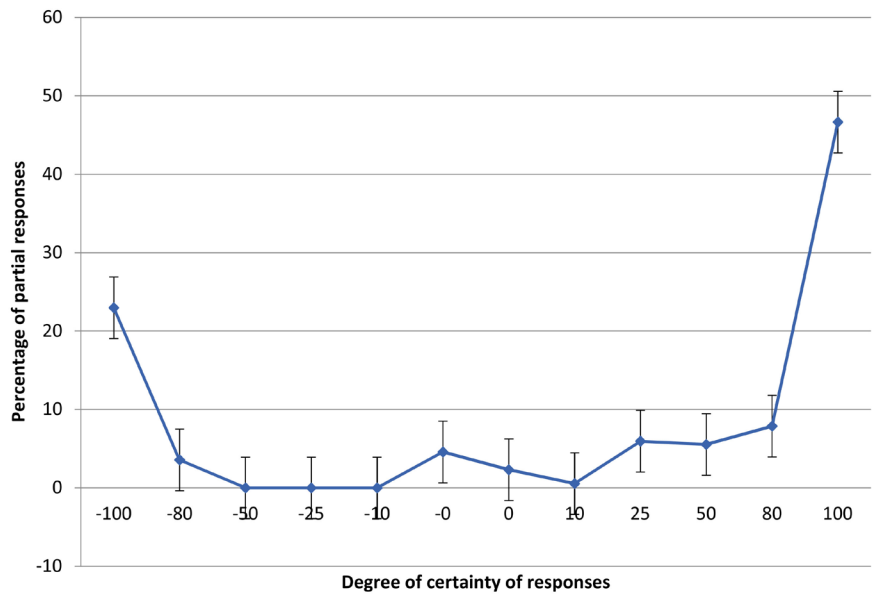
**Figure 1** represents the graphical spectrum of partial responses according to the postulate of Bruno De Finetti.

The harmful knowledge related to colostrum (quality and role), feedings (daily frequency and storage of breast milk) and the benefits of breastfeeding.

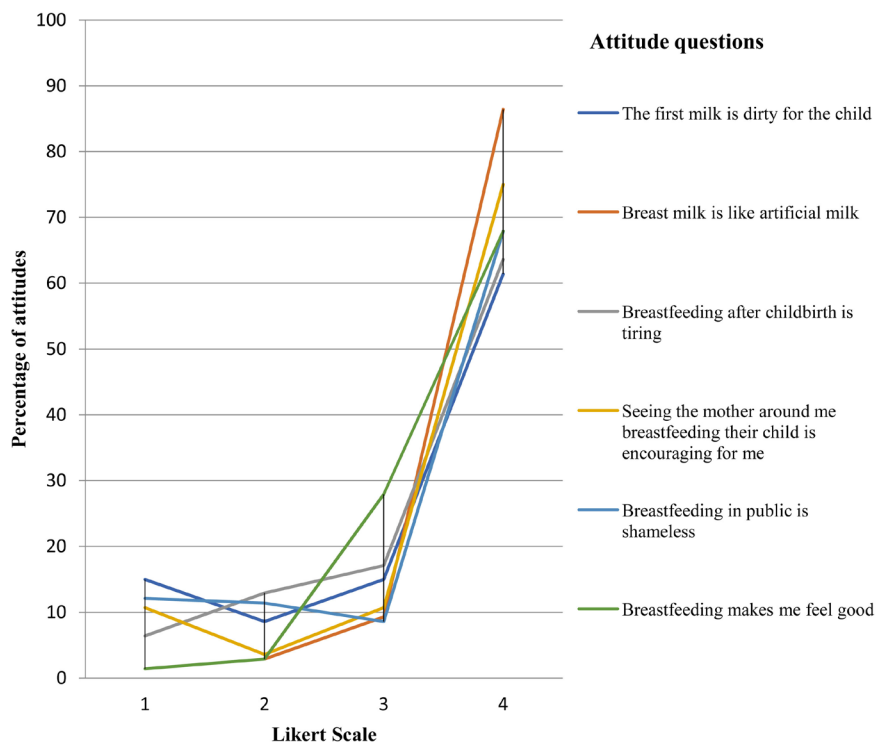
**Table 2.** Mothers' knowledge of breastfeeding.

	n	%
<b>Composition of breast milk</b>		
<i>Water, sugar, fat, vitamins</i>	79	56.4
<i>Water</i>	8	5.7
<i>Water, sugar, protein</i>	19	13.6
<i>Do not know</i>	34	24.3
<b>The first milk is rich for the baby</b>	103	73.6
<b>The first milk protects child against infections</b>	113	80.7
<b>Minimum number of feeds in 24 hours</b>		
<i>3 feedings</i>	13	9.3
<i>As much as he wants</i>	100	71.4
<i>6 feedings</i>	16	11.4
<i>Do not know</i>	11	7.9
<b>Recommended time for exclusive breastfeeding (months)</b>		
<4	3	2.1
4 - 6	88	62.9
>6	30	21.4
<i>Do not know</i>	19	13.6
<b>Shelf life of mature milk at room temperature (20°C)</b>		
<i>Less than an hour (h)</i>	27	19.3
<i>During 6 h</i>	11	7.9
<i>Between 6 and 24 h</i>	2	1.4
<i>It does not keep</i>	44	31.4
<i>Do not know</i>	56	40.0
<b>Mature milk can be stored for 8 days in the refrigerator</b>	43	30.7
<b>Benefit of breast milk</b>		
<i>Strengthening the mother/child bond/good child growth/economic</i>	122	93.6
<i>Allows you to get pregnant quickly</i>	1	0.7
<i>Keeps the child awake</i>	8	5.7
<b>Breastfeeding protects mom from breast cancer</b>	43	30.7
<b>Sources of breastfeeding information</b>		
Health worker	53	37.9
Community	41	29.3
Media	46	32.8

Attitudes were adapted in 95% (n = 133) of the mothers and inappropriate in the remaining 5%. When they were adapted, positive attitudes were noted in most cases for the various questions asked, as illustrated in **Figure 2**.



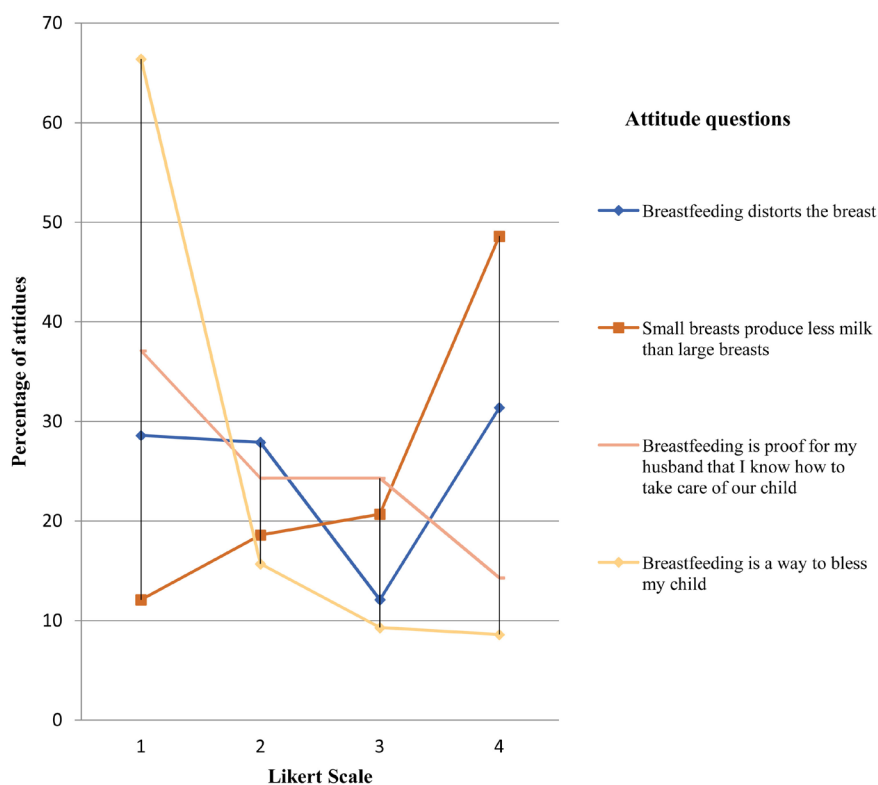
**Figure 1.** Certainty of mother's knowledge according to Bruno De Finetti's postulate.



**Figure 2.** Adapted attitudes of mothers toward breastfeeding.

In the case of inappropriate attitudes, the mothers' certainties regarding the questions asked differed depending on the question (**Figure 3**). Breastfeeding has been a definite blessing in most mothers with an unsuitable attitude. Conversely, most mothers were uncertain as to the production of breast milk according to the size of the breast.

The practice of breastfeeding by mothers is shown in **Table 3**.



**Figure 3.** Unsuitable attitudes of mothers toward breastfeeding.

**Table 3.** Breastfeeding practice.

	<b>n</b>	<b>%</b>
<b>Use the colostrum</b>	123	87.9
<b>Number of feedings in 24 hours</b>		
<i>On demand</i>	88	62.9
<i>More than 10 times</i>	6	4.3
<i>Less than 6 times</i>	24	17.1
<b>Nature of breastfeeding substitute</b>		
<i>Water</i>	58	41.4
<i>Tisane</i>	2	1.4
<i>Porridge</i>	16	11.4
<i>Mother's milk</i>	108	77.1
<b>Duration of breastfeeding (months)</b>		
<6	33	23.6
6 to 24	107	76.4
<b>Breastfeeding in progress</b>	84	60.0
<b>Exclusive breastfeeding [0 - 6 months]</b>		
Yes	5	15.2
No <sup>(1)</sup>	28	84.8

<sup>(1)</sup>Mothers who did not breastfeed the day before the interview (n = 6).

The breastfeeding indicators were:

- The proportion of early initiation to breastfeeding: 6.4%;
- The proportion of continuing breastfeeding at 1 year: 33.3%;
- The proportion of exclusive breastfeeding: 15.2%;
- The predominant proportion of breastfeeding: 66.7%.

Good practices were noted in 40% of mothers against 60% for bad practices.

Knowledge did not influence attitudes (**Table 4**).

Knowledge and attitudes have influenced practices (**Table 5**).

#### 4. Discussion

Due to the decline of the event in relation to childbirth, it has been noted in some mothers that it is difficult to remember as to breastmilk substitutes before six months, thus constituting a memory bias.

However, like Bahemuka in Rwanda [11] and Altamimi [12] in Jordan, knowledge was considered sufficient for the majority of mothers. Conversely, Laamiri [13] and Ben Slama [14], respectively in Morocco and Tunisia, reported an insufficient level of knowledge in a population of mothers who are mostly out of school and come from rural areas. Also, in these Maghreb series, the nurses were sensitized in more than half of the cases by the parents against 15.6% by a health worker. This is in sharp contrast to the observations made in the Rwandan series [11] and ours, in which the role of the health worker has been preponderant in raising mothers' awareness of breastfeeding. As a result, the level of

**Table 4.** Influence of knowledge on attitudes.

	Attitudes				p
	Unsuitable		Adapted		
	On	%	On	%	
<b>Knowledge</b>					<b>0.2</b>
Insufficient	2	11.1	16	88.9	
Enough or Sufficient	5	4.1	117	95.9	

**Table 5.** Influence of knowledge and attitude on practices.

	Practices				OR	IC (95%)	p
	Bad		Good				
	n	%	n	%			
<b>Knowledge</b>					<b>3.8</b>	<b>1.1 - 13.9</b>	<b>0.03</b>
Insufficient	15	83	3	16.7			
Enough or Sufficient	69	56.6	53	43.4			
<b>Attitudes</b>							<b>0.04</b>
Unsuitable	7	100	0	0			
Adapted	77	57.9	56	42.1			



education and the intervention of a health staff would seem to favor the mothers' knowledge on this subject. Despite an enough level of knowledge, in almost a quarter of the cases, mothers had harmful knowledge about colostrum, breastfeeding and the benefits of breast milk. These three breastfeeding components would, among other things, constitute substantial elements upon which good breastfeeding practice would be based.

On the other hand, the practices are said to depend on mothers' perceptions, representations, beliefs and emotions about breastfeeding. This is how attitudes, adapted for almost all mothers, have influenced breastfeeding practices. The attitudes and practices of mothers towards breastfeeding are significantly linked, as also reported by Altamimi [12]. Nevertheless, 5% of mothers presented discomfort with their body representation and the appreciation of their role in breastfeeding. It therefore seems essential to explain to mothers that breastfeeding hardly harms their femininity. According to Blyth [15], psychosocial skills have a strong impact on the initiation and duration of breastfeeding. The enhancement of the maternal role should result from the effectiveness of the feeding and not from the gaze of a third party or from the fact of transmitting a blessing. Also, on this subject, for Forster [16], self-efficacy is linked to prolonged breastfeeding. Although 95% of the mothers had adapted attitudes, some of them nevertheless presented a manifest uncertainty in their responses, thus making them vulnerable to a possible switch to inappropriate attitudes. This, especially since the community in African society would exert a significant influence.

Despite their enough level of knowledge and their adapted attitudes, mothers generally presented a bad practice of breastfeeding, for example substituting breast milk at least once before six months. Similarly, Sepou [17] in the Central African Republic, studying the value of breastfeeding in urban and semi-urban areas, made the same observation, thus demonstrating a poor knowledge of the virtues of breast milk. Furthermore, like many authors [10] [12] [13] [18], almost all the mothers started breastfeeding although belatedly, and few of them practiced it exclusively and continued in the duration in accordance with WHO recommendations. When we know that practices depend on attitudes, which are dependent on knowledge; the discrepancy observed between the knowledge, attitudes and practices of the mothers interviewed regarding breastfeeding, prompted in-depth reflection. On the one hand, it could be that the knowledge deemed globally enough was not certain enough to have a positive impact on practices. On the other hand, there are multifactorial determinants such as anthropology, which influence the practices of mothers.

The early initiation of breastfeeding in our African maternities [17] [18] remains far below 25% of the world average [4] [5] with reasons that can be both structural and organizational. In fact, after vaginal delivery, mothers generally spend the two hours of immediate postpartum monitoring on the delivery table whose ergonomics are not very conducive to breastfeeding. To this would be added the absence of breastfeeding assistance at this precise moment and some-

times a poor compartmentalization of these rooms which does not respect the mothers' privacy. Babakazo [19] in the Democratic Republic of Congo, for example, reported higher initiation proportions in maternity hospitals labeled "Baby Friendly Hospitals", where these proportions remain above the national average.

## 5. Conclusion

Overall, with an adequate level of knowledge and the appropriate attitudes, the mothers presented strong disparities in certainty in the responses. Their practices have been bad, influenced as much by inappropriate attitudes as by ignorance and harmful knowledge. Therefore, an educational strategy based on measures that reinforce mothers' knowledge and attitudes towards breastfeeding would contribute to improving their practices.

## Conflicts of Interest

All the authors do not have any possible conflicts of interest.

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