Organization and Effectiveness of Breast-Feeding Information in Prenatal Consultation Services in Two General Hospitals, Abidjan, Ivory Coast

Coulibaly Amed1, *, Aké-Tano Sassor Odile Purifine1, Traoré Youssouf1, Egnon Vivien Kouakou2, N’cho Simplice Dagnan1

1Public Health and Biostatistics Department, Training and Research Unit of Medical School University Félix Houphouët-Boigny (UFHB), Abidjan, Ivory Coast
2Laboratory of Nutrition and Pharmacology, Faculty of Biosciences, University Félix Houphouët-Boigny (UFHB), Abidjan, Ivory Coast

Email address: coulibalyamed_10@yahoo.fr (Coulibaly A.)
*Corresponding author

To cite this article:

Received: August 10, 2017; Accepted: August 16, 2017; Published: August 25, 2017

Abstract: In Côte d'Ivoire, women's inadequate knowledge of breastfeeding significantly hampers the good process of the practice. Prenatal consultations are meant to constitute a major resource for the acquisition of reliable information on breastfeeding. This study aimed at assessing the organization and effectiveness of prenatal breastfeeding information. Based on a descriptive and analytical study, it aimed at making an evaluation over a period of two months. A whole of 310 women and 42 health personnel took part of the study. The data collected concerned the availability of resources, the practical organization of information to breastfeeding, knowledge and practices, using individual questionnaires and observation grids. This survey allowed to register a low availability of material, documentary and trained staff about breastfeeding in hospitals. The practical organization of the information was marked by inadequate monitoring and evaluation of activities as well as a low level of knowledge attitudes and practices of staff on breastfeeding. Only 35.81% of the women received information on breastfeeding, including more than 50% on breastmilk substitutes in a group session. Women's knowledge about breastfeeding was low and just a few of them, noticeably 34.84% opted for exclusive breastfeeding. The performance score of women's information effectiveness on prenatal breastfeeding was 34.39% which was importantly under the required rate of 75%. The organizational deficit and ineffectiveness of prenatal breastfeeding information in the two general hospitals of Abidjan are a hindrance to the promotion and support of breastfeeding. Thus, more political and health authorities involvement is needed.

Keywords: Evaluation, Information, Prenatal, Breastfeeding, Côte d'Ivoire

1. Introduction

Prenatal information on breastfeeding leads parents to make a clear and thoughtful choice about the way to feed their children, the attitudes and practices to adopt after birth, and how to feed the newborn [1]. This intervention, which consists in giving women structured information on successful breastfeeding before birth giving, increased both the number of mothers who chose to breastfeed and those who do so during the first two months after childbirth. [2]. It includes one or more individual or group information sessions, through which practical techniques and problem solving have proved effective when provided by breastfeeding specialists or health professionals; Because the sources and the vectors of information are nowadays multiple, often incomplete, even erroneous [3].

In Côte d'Ivoire studies [4, 5] show insufficient knowledge of women on breastfeeding, a situation that considerably hampers its good practice regarding the rules for
breastfeeding and the ideal duration of exclusive breastfeeding. As a proof, only 12% of children are exclusively breastfed up to six months and 61.3% are not breastfed up to 24 months [6]. One of the main reasons for this lack of knowledge and practices is the low level of information for women [5, 7].

Knowing the important role played by prenatal information in the success of breastfeeding in general, and in exclusive breastfeeding in particular, the low rate of which remains to date the major problem for breastfeeding, it was important to evaluate its practical organization and its effectiveness in Côte d'Ivoire. This is more specifically in Abidjan, where several interventions to promote breastfeeding had been carried out by the National Nutrition Program within health facilities, particularly in general hospitals.

The objectives of this study were to describe the organization of the breastfeeding information activity and to determine its effectiveness in the services of prenatal consultation.

2. Material and Methods

2.1. Domain of Study

The study was conducted in the Autonomous District of Abidjan Côte d'Ivoire, precisely within the prenatal consultation services of two reference health facilities: (i) Houphouët Boigny General Hospital (HBGH), (ii) Abobo South General Hospital (ASGH).

2.2. Type of Study

It was a cross-sectional study with a descriptive and analytical purpose. Data collection took place over two (2) months from July 15 to September 15, 2015.

2.3. Population Concerned

The subjects of the study were recruited from the women attending the prenatal consultation services of the health facilities and the staff of these services.

The inclusion criteria for women were to have conducted at least 4 prenatal consultations in one of the hospitals selected for the study and to have given oral consent. For staff, these criteria were to be involved in the breastfeeding information activity and to have given oral consent.

As for the criteria for non-inclusion, women were provided with another source of information independent of that of hospitals (breastfeeding preparation courses given by an NGO or any other organization not related to Hospitals) and for staff to be absent throughout the period of the investigation.

2.4. Sampling and Sample Size

It was an exhaustive sample for health staff, and for women it was a sample whose size was based on the standard formula: \( N = z^2 \times p \times (1-p) / d^2 \)

- n: Minimum sample size for obtaining significant results for an event and a fixed level of risk
- z: Confidence level (the typical value of the 95% confidence level will be 1.96)
- p: Probability of achieving the event
- d: Margin of error (generally set at 5%)

Taking into account the proportion of women who have benefited from the 4th prenatal consultation (CPN4), which is 72% in the health region of Abidjan 2 [8] and sets a 95% confidence level and a margin of error of 5%, we have: \( n = 1.962 \times 0.72 \times (1-0.72) / 0.05^2 \) \( n = 310 \)

This workforce was allocated among hospitals, taking into account the weight of each hospital by the frequency of CPN4. This average was 200 per month with reference to the statistics of each health facility. So we had as sample size for each hospital \( n / 2 = 155 \) women.

The recruitment of women was gradual in order after they completed prenatal consultation until the required sample size was reached.

2.5. Data Collection

It was done by two couples of health workers (male and female) previously trained and not belonging to the health facilities concerned by the study.

Each couple on their site used as a support for the collection two observation schedules of the personnel in information session to the breastfeeding and three questionnaires (a questionnaire sent to the head of the service, another to the staff and finally one to the women). The questionnaires were developed on the basis of the evaluation questionnaire used in the Baby Friendly Hospital Initiative (BFHI) on the questionnaire on breastfeeding information [9]. This basic questionnaire was revised and adapted to our context taking into account our limited intervention domain for the prenatal consultations services. In addition, elements of World Health Organization recommendation [10; 11; 12; 13] relating to professional organization and practice have been added. These include issues related to the availability of resources, knowledge and attitudes of health personnel and the practical conduct of the breastfeeding information activity.

The data collection techniques used were direct observation (one individual observation for all the personnel and 4 observations of group session) and individual interview.

The variables studied were the availability of resources, the practical conduct of prenatal information on breastfeeding, and knowledge about breastfeeding.

2.6. Analysis of Data

The assessment of the level of performance was made by calculating the means. Each item studied included a number of elements whose presence or accuracy of the response resulted in a score of 5 and its absence or inaccuracy of the response by a score of 0. The level of performance was obtained by making the sum of the scores of 5 divided by the
The performance level was set at 80% for all other items or variables except those relating to information received and knowledge of women on breastfeeding. The latter had a performance level of 70%, all this in accordance with the recommendations on the evaluation of the success conditions of breastfeeding under BFHI [14].

Thus, in terms of practical organization, criteria for availability of resources, organization of sessions, and knowledge of attitude and practice of information by staff, they were considered to be effective for a specific issue when at least 80% of items had been fair or at least 80% of staff had responded correctly.

In terms of effectiveness, the criteria of non-information of women about breast-milk substitutes, the choice of exclusive breastfeeding, were performant for a specific question when 80% of Sample had responded correctly. Women's information on breastfeeding as well as their knowledge was effective for a specific case when 70% of the sample had responded correctly. Total efficacy was obtained when the mean score of the criteria was ≥ 75%.

The data were entered and analyzed statistically on the Excel and EPI INFO software respectively. The descriptive analysis consisted in calculating averages and proportions. The Chi test was used to compare proportions. The significance level of the statistical tests used was set at 5%.

### 3. Results

#### 3.1. Organization of Breastfeeding Information

Resource availability was limited. Information and communication tools such as video, picture box and message repertory were not found in any of the hospitals despite these health facilities had a staff trained in breastfeeding. However, only the ASGH had enough trained staff and insufficient personnel involved in breastfeeding information activities. Availability of breastfeeding counselor and resource materials was nil. Implementation of breastfeeding information activities was planned in advance, however we could notice a lack of regular monitoring and evaluation of activities. Group information sessions were held in addition to individual sessions in hospitals. The women’s nearby was not invited to take part in the information sessions. The performance scores for the availability of resources and the conduct of activities on breastfeeding information were respectively 31.58% in the HBGH and 42.10% in the ASGH (Table 1).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>HBGH</th>
<th>ASGH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Availability of resources</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Video on breastfeeding</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Posters</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Prospectus</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Repertory of messages</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Image box</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Documents on breastfeeding</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1. Availability of resources and conduct of activity of information on breastfeeding in hospitals.

Overall knowledge of breastfeeding staff in both hospitals was 33.33% well below the 80% level (Figure 1).

Concerning attitudes and practices, few personnel were looking for a possible contraindication to breastfeeding with women. During the group session, the staff had good attitudes and practices regarding women’s response, use of an accessible level of language, facilitation of exchanges and the use of information tools during the session. These practices had performance scores varying between 100 and 87.5% (Table 2).

<table>
<thead>
<tr>
<th>Acts of attitudes and practices</th>
<th>Score</th>
<th>Performance threshold (80%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel asks questions about</td>
<td></td>
<td></td>
</tr>
<tr>
<td>women and their entourage view</td>
<td>17.86%</td>
<td>Not Achieved</td>
</tr>
</tbody>
</table>

Table 2. Performance score of personnel acts of attitudes and practices.
3.2. Effectiveness of Breastfeeding Information

There was a statistically significant link between information and structure, as well as between information and the age of women. Women attending the ASGH were more informed about breastfeeding than those attending the HBGH. These women were informed about breastfeeding as they became older (Table 3).

<table>
<thead>
<tr>
<th>Acts of attitudes and practices</th>
<th>Score</th>
<th>performance threshold (80%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>breastfeeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel proposes to women other sources of information and recourse</td>
<td>17,86%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel examines women’s breasts</td>
<td>28,57%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel notes in a document the session of information</td>
<td>14,29%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on the practice of breastfeeding</td>
<td>25,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on the advantages of breastfeeding</td>
<td>57,14%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on exclusive breastfeeding</td>
<td>50,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers clear messages on breastfeeding</td>
<td>57,14%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel look for contraindications on breastfeeding</td>
<td>3,57%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel uses techniques of listening and learning</td>
<td>17,86%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Group session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel uses at least an information tool</td>
<td>87,50%</td>
<td>Achieved</td>
</tr>
<tr>
<td>Personnel proposes other sources of information and recourse</td>
<td>0,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel answers women’s questions</td>
<td>100,00%</td>
<td>Achieved</td>
</tr>
<tr>
<td>Personnel uses an accessible language with women</td>
<td>100,00%</td>
<td>Achieved</td>
</tr>
<tr>
<td>Personnel makes exchanges easier between women</td>
<td>100,00%</td>
<td>Achieved</td>
</tr>
<tr>
<td>Personnel delivers clear and revised messages</td>
<td>50,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel refers at a moment to substitutes of breast milk</td>
<td>25,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on the practice of breastfeeding</td>
<td>0,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on exclusive breastfeeding</td>
<td>25,00%</td>
<td>Not Achieved</td>
</tr>
<tr>
<td>Personnel delivers messages on the advantages of breastfeeding</td>
<td>50,00%</td>
<td>Not Achieved</td>
</tr>
</tbody>
</table>

Each of the performance scores of the different items of information on breastfeeding (35.81%), information not received on breastmilk substitutes in group sessions (41.44%), women’s knowledge on breastfeeding (25.48%) and the choice of exclusive breastfeeding by women (34.84%) was under the required rate. The overall efficacy score was 34.39% well below 75% (Table 4).

<table>
<thead>
<tr>
<th>Items</th>
<th>Score</th>
<th>ASGH</th>
<th>HBGH</th>
<th>Threshold</th>
<th>Appreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information of women on breastfeeding information not received in group session on the substitutes of breast milk</td>
<td>50,79%</td>
<td>29,17%</td>
<td>41,44%</td>
<td>80%</td>
<td>not efficient</td>
</tr>
<tr>
<td>Knowledge of women on breastfeeding</td>
<td>22,50%</td>
<td>28,39%</td>
<td>25,48%</td>
<td>70%</td>
<td>not efficient</td>
</tr>
<tr>
<td>Women having chosen exclusive breastfeeding</td>
<td>39,35%</td>
<td>30,32%</td>
<td>34,84%</td>
<td>80%</td>
<td>not efficient</td>
</tr>
<tr>
<td>Total</td>
<td>38,32%</td>
<td>29,71%</td>
<td>34,39%</td>
<td>75%</td>
<td>not efficient</td>
</tr>
</tbody>
</table>

4. Discussion

The results of our study are undoubtedly influenced by a memory bias due to the target of women in CPN4. These women were interviewed on information they had received in previous consultations many months before. This situation allows an important part to the oblivion with a repercussion on the accuracy of their answers.

Furthermore, the collection of data on the availability of resources and the conduct of activities based solely on the information provided by those responsible for the services
without other sources of verification could be overestimated or underestimated by Practical organization of breastfeeding information activities.

Despite these limitations, this study was able to appreciate the progress and performance of prenatal information in investigative hospitals.

4.1. Organization of Breastfeeding Information

4.1.1. Availability of Resources

Prenatal information to breastfeeding requires tools and communication media necessary for an adequate transmission of messages in its implementation. The availability and use of this equipment gives the healthcare staff confidence in the performance of their duties and to women confidence in the information they receive.

Concerning the prenatal consultations services of the two hospitals, the deficit in information materials was noteworthy as no video; picture box and repertory of messages relating to breastfeeding were available. Only posters and flyers were found. With regard to the availability of books, protocol, training and national directive documents, it was totally non-existent in both health facilities. This low availability of documentary resources has also been observed in health centers in Burkina Faso [15]. However, a study conducted at the Hospitalo-University of Cherbrook in Canada revealed that one of the factors considered favorable for breastfeeding is the availability of educational materials [16]. This lack of equipment is clearly a factor hampering the implementation of the information activity.

The availability of human resources involved in breastfeeding information activities in HBGH was sufficient compared to that of the ASGH. Concerning the first mentioned structure, arrangements had been made for an increase in the number of staff (midwives and nursing assistants) in order to cope with an increasing demand for prenatal services as a whole. This increase is therefore not specific to a need to reinforce the information to breastfeeding but it is nevertheless favorable.

As for the availability of trained breastfeeding staff, it was more in favor of the ASGH. However, none of the health facilities included breastfeeding counselors.

This situation obviously constitutes a handicap for these hospitals because the contribution of the staff is in all respects favorable to the rise of the breastfeeding [16].

4.1.2. Conduct of Information Activities

All health facilities said they planned information activities before they were implemented. However, none of them provided regular supervision of its staff. According to WHO, "maternity administrators and administrative staff should supervise the establishment of guidelines within their institutions..." [11]. The knowledge gradient imposed by supervision would be in our context, a major obstacle to staff follow-up because very often the managers would have an insufficient level of knowledge compared to the personnel in charge of the execution of the activity.

One of the positive points in the conduct of information activities was the organization of individual sessions during the prenatal and group counseling sessions at least twice a week by the surveyed health facilities. However, for group session it was about session on several health topics. This situation allows little time for staff to approach and develop breastfeeding issues. In addition, the structures did not associate women's entourage with the information sessions. However, breastfeeding information must be accessible to fathers, ascendants, descendants and even maternal assistants [3], since for example; mothers would be ten times more likely to start breastfeeding if their spouse favored it [17].

4.1.3. Knowledge of Health Personnel

The issue of training health personnel to improve their breastfeeding knowledge and practices is a priority for WHO, so that it reports it to point 3 of the ten conditions for success in breastfeeding [11].

A previous study carried out in 1985, which is still evident, showed a rough knowledge of the health workforce on breastfeeding [18].

The hospitals we surveyed did not evade the rule because the knowledge of staff on breastfeeding was generally insufficient with a performance of about 35%. A Swedish writer reported poor knowledge and lack of interest in breastfeeding in his study in 2003. [19] This is clearly an obstacle to the dissemination of information on breastfeeding in health facilities and beyond to the promotion and support of breastfeeding.

4.1.4. Attitudes and Practices of Health Personnel

The performance scores for the execution of acts in individual sessions did not reach the required threshold for any act. The lowest performance was related to the search for possible contraindications to breastfeeding. This inadequacy in staff attitudes and practices is also highlighted by a study in Germany [20] which showed that among women, who had, on average, 12 follow-up visits, 83% of the medical staff had never dealt with breastfeeding and 81% had never looked at breastfeeding. This poor performance of medical staff's attitudes and practices could be corrected through regular supervision.

In the group session, actions concerning the response to women, the use of an accessible level of language, facilitation of exchanges and the use of information tools during the session recorded good performance. This is due to the fact that these acts are not specific to breastfeeding and that they are used to convey any other health message. As evidence, acts directly related to breastfeeding have a level of performance oscillating between 0 and 50%. No messages about breastfeeding practices were disseminated during the group sessions, whereas our targets were women who had come to CPN4, meaning at the end of their pregnancy. Thus, there was a need to inform them about the practical behavior of Breastfeeding as confirmed by some authors [21].

In addition, only 50% of staff delivered messages about the benefits of breastfeeding and only 50% gave clear and appropriate messages to women. This is because group sessions are usually led by nursing aides who have a low
level of knowledge compared to the rest of the staff as confirmed by our results, and this without assistance from the midwives. In this context, it would be almost impossible to obtain women's support for breastfeeding and its good practices if the benefits of breastfeeding are not sufficiently conveyed and explained.

4.2. Effectiveness of Breastfeeding Information

One indicator of the effectiveness of women's information on breastfeeding is the proportion of women who received the information. This proportion was higher in the ASGH compared to that of HBGH. This is clearly linked to the fact that the ASGH is the one with sufficient trained breastfeeding staff and also the one that disposes the minimum amount of information material, namely posters and flyers.

The reception of information by women was influenced by age. The older women were the most knowledgeable about breastfeeding. This could be explained by the fact that staff would be prejudiced about the effective implementation of messages received by young mothers. This fact led them to talk less about breastfeeding.

As part of the Baby Friendly Hospital Initiative, which is currently the best approach for promoting breastfeeding in health facilities, it is recommended that information on breastmilk substitutes be provided individually and not in group to future parents who wish to do so [14]. In our hospitals compliance with this recommendation is evaluated as a whole at only 41.44%. Failure to comply with this provision was more noticeable at HBGH, where insufficient staff training was most evident.

The overall assessment of the receipt of breastfeeding information among women was generally insufficient (35.81%). A study on the evaluation of the promotion of breastfeeding in Côte d'Ivoire confirms this finding at the national level [5]. This result in view of the evaluation criteria is considered as a lack of performance. This situation could be the result of the convergence of several factors, in particular the inadequate training of health personnel, their lack of interest in breastfeeding activities and the unavailability of equipment.

The performance score for women's knowledge of breastfeeding in general was 25.48%. This score is well below the recommended threshold of 70% and is equated with a lack of performance. A study carried out in Tunisia on exclusive breastfeeding found a significant proportion of women (50%) with an inadequacy on this topic [22].

The low proportion of women with a low level of knowledge has certainly influenced the choice of exclusive breastfeeding practices in our study (only 34.84%). Such a performance score can in no way contribute to the achievement of the results of the Baby-Friendly Hospital Initiative, where it is recommended an out-of-hospital practice rate of 75% [23]. It would have required the expression of a will that is superior to that which could be considered reality, this in the view that the abandonment of the decision of exclusive practice of breastfeeding by some mothers for various reasons and their last prenatal consultations and their delivery should not affect the final result of 75% of practice.

The performance scores obtained in evaluating the effectiveness of breastfeeding information in each health facility were below the required performance threshold, thus reflecting a lack of performance. This deficiency in prenatal information activities was also observed at the UHC in Angers [24]. The need to revitalize this activity is imperative to the success of breastfeeding in our hospitals.

5. Conclusion

In view of poor breastfeeding practices characterized by low rates of exclusive breastfeeding at the national level and due to lack of knowledge of mothers, this study on breastfeeding information asked about performance of the latter in the prenatal consultation services of two general hospitals in Côte d'Ivoire.

Results show a significant organizational deficit and an ineffectiveness of prenatal information in achieving its outcomes.

Strengthening political commitments through the adoption of legislation to promote and support breastfeeding, and health commitments to meet the recommendations and regulatory guidelines will undoubtedly boost the prenatal information activity to breastfeeding.

References


