

Factors associated with initiation and duration of breastfeeding in Greece

E. Antoniou¹, M. Daglas¹, G. Iatrakis¹, G. Kourounis², G. Greatsas³

¹Department of Midwifery, Technological Educational Institute of Athens (TEI), Athens

²Department of Obstetrics and Gynecology, University of Patra, Patra

³Department of Obstetrics and Gynecology, University of Athens, Aretaieion Hospital, Athens (Greece)

Summary

Aim: Our aim was to study factors affecting the initiation, progress and duration of breastfeeding in Greece.

Methods: We studied 938 infants born in 2001 in 17 maternity hospitals in Greece.

Results: The percentage of breastfeeding infants was 85.5%. The actual progress of breastfeeding was different from the one that the mothers intended to follow. Although the majority of women claimed in the beginning that they would breastfeed mainly for four to six months (23.2%) and 12-14 months (23.1%), the majority had discontinued breastfeeding by the fourth month (58.5%) and only 7.3% breastfed for more than one year. The initiation time of breastfeeding was positively influenced by natural delivery ($p = 0$) and pleasant delivery ($p = 0.397$). Smoking was negatively associated with the duration of breastfeeding ($p = 0$) and the infants of smokers breastfed mainly for one to two months (38.7%). Exclusive breastfeeding in the maternity hospital was positively associated with the mother's intention to refuse to use a mixed diet after being discharged ($p = 0$).

Conclusion: Greater support is needed so that women can implement their original intentions concerning the progress of breastfeeding.

Key words: Breastfeeding duration; Breastfeeding initiation; Breastfeeding practice.

Introduction

Breast feeding is one of the most important and natural rights of every woman, everywhere and at all times, through which the right of every child for sufficient and good nourishment as well as for a better level of health is secured. That is why the demand for the promotion and application of breast feeding has been profoundly expressed by the international organizations working for the child and the family.

Due to the supremacy of breast feeding, there are many studies dealing with the factors influencing its progress. The high educational level of the mother, her age [1-4], the hospital's policy (e.g., rooming-in) [5], the initiation time of breast feeding [6], the infant's weight at birth [7-9] and various other socio-economic factors seem to influence the frequency and duration of breastfeeding. In Greece, there are no clear statistical data on the progress of breast feeding. The aim of the present study was to study the initiation and duration of breast feeding in 2001 in Greece and to investigate the factors associated with it.

Material and Methods

On the whole, 938 infants born to 911 women (435 primiparous and 476 multiparous) were studied in Greek maternity hospitals from January to August 2001. Data were collected on the basis of a questionnaire during a personal interview on the second or third day postpartum. Afterwards, we were updated by phone about the precise duration of the infants' breast feeding. The sample of women chosen was random and came

from 17 maternal hospitals in Greece. The majority of women asked were Greek (79%) whereas the percentage of foreigners was 21%. The data were analyzed on the basis of the SPSS system (Statistical Package for Social Sciences). Comparisons between groups were performed by applying some nonparametric tests (e.g., chi-square test).

Results

At the maternity clinic, 52.9% of the 938 newborns were exclusively breastfed, 32.9% followed a mixed diet (maternal milk and formula) and 14.2% were given only formula milk (Table 1). There is a relation between the percentages of women breastfeeding and their nationalities ($p = 0.0021$), while some groups of infants, such as twins ($p = 0$) and premature infants ($p = 0$), seem to breastfeed to a smaller extent.

Table 1. — Percentage of exclusive breastfeeding, mixed diet and artificial diet in the different categories of infants.

	Exclusive breast feeding	Artificial diet	Mixed diet	p value
Total	52.9%	14.2%	32.9%	
Infants of Greek women	50.1%	15.7%	34.2%	$p = 0.0021$
Infants of women of other nationalities	63.5%	8.5%	28%	
Twins	16.7%	45.8%	37.5%	$p = 0^*$
Premature infants	16.1%	53.2%	30.7%	$p = 0^*$
Infants of total birth weight < 3 kg	50.4%	14.6%	35%	$p = 0.7689^*$
Infants with congenital malformations	0%	25%	75%	

* Studied in connection with the percentages of the total number of infants mixed.

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As we wanted to study the mothers' intentions at the maternity hospital regarding the duration of breast feeding, we recorded the periods that the mothers intended to breastfeed (Table 2). Therefore, the progress of breastfeeding was along the following guidelines: 23.2%, 23.1% and 22.2% of the infants had the intention to be breastfed for 4-6, 12-24 and 6-12 months, respectively. The data show that not only the information provided ($p = 0.0004$), but the nationality ($p = 0$) of the puerperae as well are both associated with the period they intended to breastfeed.

Table 3 records the data related to the actual period the women finally breastfed. We observed that the highest percentage (26%) breastfed for two to four months, whereas the percentage that finally breastfed for over a year is only 7.3%. The nationality of the puerperae ($p = 0.0032$), and whether they smoked ($p = 0$) or not, seems to be associ-

Table 2. — Women's intention regarding the duration of breastfeeding.

	Days: 5-10	Days: 10-30	Months: 1-2	Months: 2-4	Months: 4-6	Months: 6-12	Months: 12-24	p value
Total	0.8%	2.3%	9.5%	18.9%	23.2%	22.2%	23.1%	
Infants of Greek women	0.8%	2.7%	10.4%	22.8%	26.2%	20.4%	16.7%	$p = 0$
Infants of women of other nationalities	0.5%	1.2%	6.4%	5.3%	12.9%	28%	45.6%	
Twins	0%	15.4%	0%	23%	15.4%	23.1%	23.1%	$p = 0.935^*$
Premature infants	0%	0%	3.7%	22.2%	29.6%	22.2%	22.3%	$p = 0.851^*$
Infants of women informed about breastfeeding	0.3%	3%	7.2%	20.5%	28.7%	22.9%	17.4%	$p = 0.0004$
Infants of women not informed about breastfeeding	2.2%	1.2%	8.9%	16.6%	19.6%	31.6%		

* Studied in connection with the total number of infants.

Table 3. — Actual progress of breastfeeding in 2001.

	Days: 5-10	Days: 10-30	Months: 1-2	Months: 2-4	Months: 4-6	Months: 6-12	Months: 12-24	p value
Total	3%	11.1%	18.4%	26%	17.1%	17.1%	7.3%	
Infants of Greek women	3.5%	12.6%	18.1%	26.6%	17.6%	17.1%	4.5%	$p = 0$
Infants of women of other nationalities	0%	2.9%	20%	20%	14.3%	20%	22.8%	
Premature infants	0%	18.2%	27.2%	26.4%	9.1%	9.1%	0%	$p = 0.5713^*$
Infants of women informed about breastfeeding	2.8%	7.7%	19%	28.9%	19%	16.9%	5.7%	$p = 0.0004$
Infants of women not informed about breastfeeding	3.3%	16.3%	17.4%	21.7%	14.1%	17.4%	9.8%	
Infants of women smokers	6.4%	29%	38.7%	19.5%	3.2%	0%	3.2%	$p = 0$
Infants of non smoking women	2.5%	8.5%	15.6%	26.6%	19.6%	19.1%	8.1%	

* Studied in connection with the total number of infants.

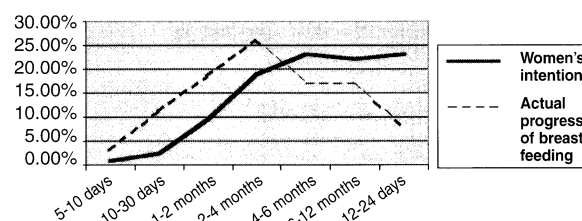


Figure 1. — Women's intention (%) and the actual progress of breastfeeding in 2001.

ated with the duration of breastfeeding. On the contrary, the information factors did not affect them ($p = 0.2616$).

As shown in Figure 1, the progress of breastfeeding in practice differs from that intended by the mothers. Therefore, while the majority of infants (68.5%) would theoretically breastfeed for more than four months, and more specifically for the periods 4-6 and 12-24 months, in practice, breastfeeding was discontinued by the fourth month for the majority of infants (58.5%) and the percentage of infants that were breastfed for more than a year was finally only 7.3% instead of 23.1% which was shown in the intentions.

By studying the initiation time of breastfeeding (Table 4) as well as whether this time is influenced by some factors or not, we noted that the kind of delivery ($p = 0$) as well as the way that women characterise ($p = 0.0397$) are associated with the initiation of breastfeeding.

On discharge from the maternity hospital, some of the breastfeeding women will ask for a prescription for formula milk in order to either start or continue a mixed diet. The data of Table 5 show that this intention of the puerperae is associated with how informed they are ($p = 0.0009$), their nationality ($p = 0$), as well as whether they breastfeed exclusively or provide a mixed diet at the maternity hospital ($p = 0$).

From the total of women, 17.8% smoked during the present pregnancy, as opposed to 82.2%. Smoking is related to the nationality of women. Greek women ($p = 0.0003$) smoke more than their foreign counterparts during their pregnancy. The percentage of women smokers during breastfeeding is 12.6% as opposed to 87.4% of those that do not. There is also in this case a relation between smoking and the nationality of puerperae ($p = 0.0015$). Greek puerperae smoke more during breastfeeding ($p = 0.0015$).

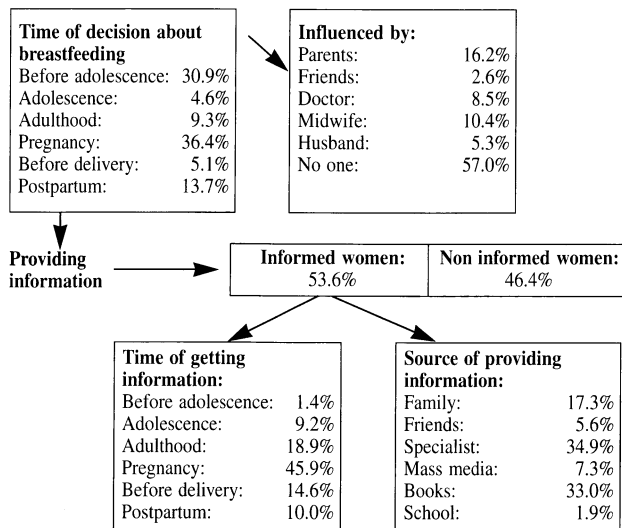
Table 4. — Data on the initiation time of breastfeeding.

	Immediately (within the 1 st hour)	1-6 hrs postpartum	6-24 hrs postpartum	24-48 hrs postpartum	Over 48 hrs postpartum	p value
Total	4.6%	30.2%	39.9%	16.4%	8.9%	
Easy delivery	5.9%	32.3%	38%	16.7%	7.1%	$p = 0.0397$
Labour delivery	4.5%	23.6%	44.6%	16.2%	11.1%	
Natural delivery	7.1%	33.8%	42.2%	13%	3.9%	$p = 0$
Caesarean delivery	1.7%	17.5%	38.9%	23.1%	18.8%	

Table 5. — Data on women intending to give or not complementary feeding after being discharged from maternity hospitals.

	Will give complementary feeding	Will not give complementary feeding	p value
Total	35.6%	64.4%	
Greek women	39.7%	60.3%	
Other nationalities	20.9%	79.1%	p = 0
Women informed about breastfeeding	43.4%	56.6%	p = 0.0009
Women not informed about breastfeeding	31.5%	68.5%	
Women exclusively breastfeeding while at maternity hospital	23.8%	76.2%	p = 0
Women giving complementary feeding while at maternity hospital	55.7%	44.3%	

Table 6. — Data about the provision of information and the time of making the decision to breastfeed.



The three main factors which influenced mothers positively about breastfeeding are: the fact that maternal milk contains all the proper ingredients (13.7%) as well as the antibodies for the child's health (12.7%) and that breastfeeding helps to create a better relationship between them and their infants (10.8%). The main reasons for which women wanted to bottle feed: the fact that their newly born child was admitted to a neonatal intensive care unit (17%), the fact that the woman was experiencing problems with her nipples (15%), and smoking (11.1%).

The data in Table 6 refer to the information provided regarding breastfeeding, the time that the women decided to breastfeed and the people who influenced them. From the total of women, only 21.3% and 14.9% were familiar with the maternal milk bank and the personal maternal milk bank, respectively.

Discussion

The study of the mothers' intentions and of the actual progress of breastfeeding in 2001 in Greece shows that 85.8% of the newly born infants were breastfed (52.9% exclusively breastfed and 32.9% with a mixed diet) at the maternity hospital. According to the different studies carried out in Greece, the above percentage sometimes appears lower and sometimes higher [10, 11]. In countries such as Spain [12] and Germany, the percentages of breast feeding are similar to these of the present study, whereas in the Scandinavian countries [13], the percentages differ and appear to be much higher due to the promotion and supporting policy of breastfeeding. The breastfeeding percentage in these countries is 99%. In other countries, such as the USA [14] and Australia [15], the breastfeeding percentage reaches 59.7% and 83.8%, respectively.

When studying the mothers' intentions to breastfeed, the percentage of infants being breastfed for more than four months appears to be high (68.5%). However, this percentage does not correspond to reality because, eventually, the highest percentage of infants (58.5%) was breastfed only up to the fourth month, while the percentage of infants that were breastfed for more than a year was in practice 7.3% and not 23.1%, as indicated by the intention of the mothers.

The nationality of the mothers is associated both with their intention to breastfeed as well as the actual duration of breastfeeding. The percentage of infants of foreign mothers breastfeeding for more than a year is quite high in relation to the one of the Greek mothers. Moreover, smoking ($p = 0$) seems to influence the progress of breastfeeding negatively. Therefore, the majority of infants of smoking mothers breastfeed mainly for one to two months (38.7%), whereas those who breastfeed for more than six months reach only 3.2%. Other studies also prove that smoking is a hindrance as far as the continuation of breastfeeding is concerned [8, 16].

The issue of providing information to the puerperae seems to be positively associated with their intentions as to the duration of breast feeding ($p = 0.0004$). On the other hand, it is irrelevant to the actual duration of breastfeeding ($p = 0.2616$). Both the nationality of the mothers (foreign mothers mainly) ($p = 0$) and exclusive breastfeeding ($p = 0$) at the maternity hospital seem to be positively related to the intention of the mother not to start a mixed diet after being discharged from the maternity hospital. This latter issue is also associated with the mothers being informed ($p = 0.0009$). Many studies have been carried out regarding the information provided and the educational level of the women in relation to the progress and duration of breastfeeding [17, 18]. As we know how important it is to start breastfeeding within the first hour postpartum, we see that both natural delivery ($p = 0$) as well as a pleasant one ($p = 0.0397$) influence the initiation of breastfeeding positively [19] and the majority of infants start breastfeeding within one to six hours postpartum.

The data show that the majority of women first decided to breastfeed during their pregnancy (as shown in a similar study) [20], they claim to be informed and not influenced by a specific person as opposed to other studies in which the doctor is shown to play a decisive role in the woman's decision to breast feed or not. The majority of knowledgeable women were informed by a specialist mainly during pregnancy.

In general terms, the progress of breastfeeding in Greece is considered satisfactory, as shown in the present study, as far as the general percentage of breastfeeding infants is concerned. Nevertheless, it is at a disadvantage regarding the actual duration of breastfeeding as the majority of infants (38.5%) stop breastfeeding by the fourth month in contrast with the intention of the mothers, an important percentage of whom had claimed that they would continue breastfeeding after the first year. We must therefore provide solutions to the problems which influenced women and stopped them from following through with their original intentions concerning breastfeeding (such as for example the return of the mother to work, the lack of maternal milk banks and the ignorance concerning personal maternal milk banks, etc.). Only in this way will we create standards and the desired duration of breastfeeding similar to the ones of the Scandinavian countries, which are a model for imitation in this field.

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Address reprint requests to:
E. ANTONIOU, M.D.
50 Kodrigtonos Str. 11251
Athens (Greece)