

Factors influencing the initiation and progress of breastfeeding in Greece

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Summary

Objective: The aim of this study was to investigate and assess the factors associated with the initiation, progress, and duration of breastfeeding in Greece.

Methods: We studied 1,010 infants born from 862 women from 1996 to 2000 in 17 hospitals. We followed the mothers for the period January–October 2001, while they were at the maternity hospitals to give birth to their next child.

Results: Statistical analysis of the data showed that factors positively associated with the duration of breast-feeding were the application of rooming-in ($p = 0.0001$), the initiation time of breast-feeding – mainly one to six hours after delivery ($p = 0.0004$), natural delivery ($p = 0$), pleasant delivery ($p = 0.0142$), the time the decision about breastfeeding was taken ($p = 0$), the fact that it was mainly a maternal decision and the mothers were not influenced by a specific person ($p = 0.0272$) and the fact that no mixed diet was administered ($p = 0$). Smoking was negatively associated with the duration of breastfeeding ($p = 0.0036$). Factors not associated with the duration of breastfeeding were: number of the mother's family members ($p = 0.1231$), whether the women themselves were breastfed as babies ($p = 0.03924$), some elements of their personality ($p = 0.3871$) as well as their beliefs concerning maternal milk ($p = 0.1922$).

Conclusions: From our results we have indications as to which factors are related or unrelated to the initiation and progress of breastfeeding in Greece.

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

Introduction

Although the development of food technology is significant, commercial preparations are still just an imitation of the natural product of maternal milk. In the last two decades, several international organizations, such as the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) have supported, protected and promoted breastfeeding for the first four to six months of a child's life [1]. Breastfeeding [2] following an increasing trend in industrial countries, with the Scandinavian countries [2–5] occupying first place (the Scandinavian policy of supporting and promoting breastfeeding is unique).

In Greece, there is a constantly increasing interest in breastfeeding, although there are still many problems, such as the lack of baby-friendly hospitals. The exact percentages of maternal breastfeeding have not been recorded but various studies regarding this issue show that there is some deviation from the data of Scandinavian countries [3–5]. The objective of the present study was to investigate and specify the factors associated with the initiation, progress and duration of breastfeeding in Greece in the period 1996–2000.

Methods

We studied 1,010 infants who were born to 862 women in the period 1996–2000 in Greece. The data were selected after a personal interview with the women on the basis of a questionnaire from January to October 2001 when they were admitted to the maternity hospital for the birth of the next child. We visited 17 hospitals in total. The sample of women was randomized. Table 1 shows the percentage of infants (newborns) per year in the sample. On the whole, 82% of the women were Greek and 18% foreigners. The data were statistically analyzed using the SPSS system (Statistical Package for Social Sciences). Comparisons between groups were performed by applying some nonparametric tests (e.g., chi square test of independence).

Results

Newborns were divided in two groups (Table 1): group 1 included the babies who breastfed for over six months and group 2 those who breastfed less than six months. We also studied the various factors and maternal characteristics of the two groups which may have influenced their decision on the duration of breastfeeding. These factors were the application of rooming-in during their stay at the maternity hospital, the initiation time of breastfeeding, smoking, the mode of delivery and the labor experience, the time that the decision to breastfeed was taken, and the people influencing the women about breastfeeding as well as the mother's decision to provide a mixed diet after being discharged from the maternity hospital. On the con-

Table 1. — *Characteristics of women who breastfed less or more than six months.*

		Less than 6 months	More than 6 months	p value
Implementation of rooming-in:	Yes	45.3%	65.1%	0.0001
	No	54.7%	34.9%	
Initiation of breastfeeding:	Immediately (within the 1st hour)	4.3%	9.7%	0.0004
	1-6 hrs postpartum	30.7%	46.9%	
	6-24 hrs postpartum	37.4%	26.2%	
	24-48 hrs postpartum	19.3%	11.7%	
	Over 48 hrs postpartum	8.3%	5.5%	
Infants of women smokers:	Yes	15.2%	5.4%	0.0036
	No	84.8%	94.6%	
Delivery:	Natural	71.3%	86.6%	0
	Cesarean	28.7%	13.4%	
Many-member parental family of the mother:	Yes	55.7%	65.1%	0.1231
	No	44.3%	34.9%	
Women breastfed as infants:	Yes	80.6%	85.1%	0.3924
	No	19.4%	14.9%	
The decision to breastfeed:	Before adolescence	29.6%	35.2%	0
	Adolescence	3.7%	7.4%	
	Adulthood	8.6%	11.1%	
	Pregnancy	37.7%	26.8%	
	Before delivery	3.4%	10.2%	0
	After delivery	17%	9.3%	
Influenced by:	Parents	14.6%	26.1%	
	Friends	3.2%	3.3%	
	Doctor	6.8%	9.8%	0
	Midwife	12.6%	10.5%	
	Husband	6%	4.6%	
	No one	56.8%	45.7%	
Provided mixed diet during breastfeeding:	Yes	38.4%	8.7%	0
	No	61.6%	91.3%	
Women's personality:	Optimistic	48.3%	45.5%	0.3871
	Pessimistic	2.4%	5%	
	Stressful	33.7%	28.7%	
	Self-confident	13.2%	15.8%	
	Not Self-confident	2.4%	5%	
Attitude about maternal milk:	Better	60.7%	52.5%	0.1922
	More Economical	18.0%	21.5%	
	Easier Procedure	21.3%	26.0%	
Delivery:	Easy delivery	49.5%	61.9%	0.0142
	Labored delivery	50.5%	38.1%	

trary, factors that did not seem to influence mothers on the duration of breastfeeding were the number of members of the mother's family, whether the mother was breastfed herself, elements of the mother's personality as well as her opinion about maternal milk and breastfeeding.

Considering the positive effect of breastfeeding within an hour after delivery, we studied the initiation time of breastfeeding and whether it depended on specific factors or not (Table 2). The majority of infants started breastfeeding within the first one to six hours of life. The data show that the initiation time of breastfeeding was associated both with how women experienced the whole process of delivery ($p = 0.0002$), and the mode of delivery ($p = 0$).

Table 2. — *Data on the initiation time of breastfeeding.*

	Immediately (within the 1 st hour)	1-6 hrs post- partum	6-24 hrs post- partum	24-48 hrs post- partum	Over 48 hrs post- partum	p value
Total	7%	35.2%	33.3%	16.9%	7.6%	$p = 0.0002$
Easy delivery	7.4%	40.9%	29.9%	12.9%	8.9%	
Tiring delivery	5.2%	25.8%	32.3%	26.2%	10.5%	$p = 0$
Natural delivery	8.6%	41.2%	31.3%	13.8%	5.1%	
Cesarean delivery	0.9%	18.6%	38.1%	27.1%	15.3%	

The decision of Greek mothers to breastfeed or not as well as their decision about the duration of breastfeeding ($p = 0$) (Table 3) was associated with the period of time that they decided for the first time to breastfeed. It is obvious that the majority of women (30.4%) who decided after delivery to breastfeed finally did not do it, whereas 35.7% of the women who had decided beforehand that they would breastfeed did so for more than a year.

The reasons that mothers decided to stop breastfeeding were mainly that they claimed to not have enough milk (44.6%), personal reasons (13.4%) and the fact that they had to go back to work (12.4%). There were other less frequently mentioned reasons like tiredness from breastfeeding, smoking and maternal illness. Of the women that breastfeed 12.4% smoked during this period, while the remaining 87.6% did not smoke at all.

Table 4 shows data regarding the duration of breastfeeding in this specific period. Maternal nationality ($p = 0$) as well as exclusive breastfeeding or mixed diet ($p = 0$) seemed to influence and to be associated with the duration of the breastfeeding.

Table 3. — *Duration of breastfeeding and time of decision about breastfeeding.*

	5-10 days	10-30 days	1-2 months	2-4 months	4-6 months	6-12 months	12-24 months	No breast- feeding
<i>Time of decision:</i>								
Before adolescence	4.8%	7.3%	14.5%	30.6%	12.9%	11.3%	10.5%	8.1%
Adolescence	0%	3.6%	14.3%	14.3%	10.7%	21.4%	35.7%	0%
Adulthood	0%	10%	22.5%	15%	17.5%	25%	2.5%	7.5%
During pregnancy	2.5%	11%	15.5%	23.5%	16.5%	14.5%	1%	15.5%
Before delivery	0%	9.7%	16.1%	12.9%	3.2%	22.6%	16.1%	19.4%
After delivery	3.3%	11.9%	15.2%	21.7%	9.8%	4.4%	3.3%	30.4%

(p value = 0).

Table 4. — *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	3.1%	9.9%	18.3%	25.2%	14.6%	18.2%	10.7%	$p = 0$
Infants of Greek women	3.4%	11.1%	19.3%	26.8%	15.9%	16.3%	7.2%	
Infants of women of other nationalities	1.3%	2.7%	12.2%	16.2%	6.8%	29.7%	31.1%	$p = 0.0241^*$
Twins	0%	33.3%	0%	33.3%	16.7%	16.7%	0%	
Premature infants	0%	11.1%	16.7%	38.9%	11.1%	22.2%	0%	$p = 0.0936^*$
Infants with birthweight < 3	2.9%	6.5%	19.6%	29%	17.4%	18.1%	6.5%	
Exclusive breastfeeding	1.1%	7.5%	13.8%	22.1%	17.7%	22.9%	14.9%	$p = 0$
Mixed breastfeeding	6.7%	16%	28%	34%	7.3%	7.3%	0.7%	
Women smokers	7.1%	16.1%	21.2%	28.3%	8.1%	10.1%	9.1%	$p = 0.0266^*$

*Studied in connection with the total number of infants.

Maternal nationality played an important role (Table 5) and the number of infants who breastfed or followed a formula diet ($p = 0.0014$) was also influenced by the cases of premature babies and infants with congenital malformations.

Table 5. — Percentages of exclusive breastfeeding, mixed diet and formula diet in the different categories of infants.

	Exclusive breastfeeding	Formula diet	Mixed diet	p value
Total	60.8%	15.5%	23.7%	
Infants of Greek women	58%	16.3%	25.7%	$p = 0.0014$
Infants of women of other nationalities	78.2%	10.3%	11.5%	
Twins	50%	0%	50%	$p = 0^*$
Premature infants	31%	38%	31%	$p = 0.008^*$
Infants with birth weight < 3 kg	61.9%	16.1%	22%	$p = 0.7312^*$
Infants with congenital malformations	25%	25%	50%	$p = 0^*$

*Studied in connection with the total number of infants.

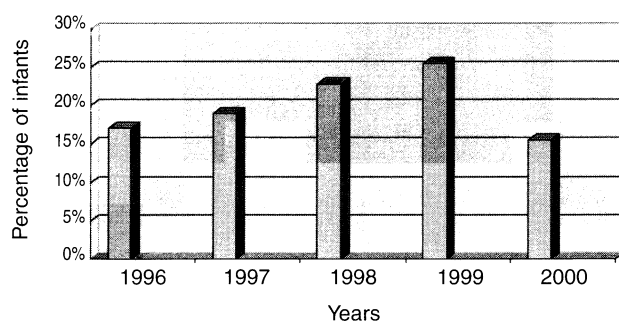


Figure 1. — Percentage of infants studied per year.

Discussion

The present study aimed to investigate the factors associated with the initiation, progress and duration of breastfeeding in Greece for the period 1996-2000. The data on breastfeeding in our country are not sufficient. In various studies, the percentage of breastfeeding in Greece is either low (78.7%) [6] or high (90%) [7]. The above-mentioned data are similar to the ones of countries such as Italy [8], but appear to be lower than the data of Scandinavian countries [9]. For non-European countries, such as Canada [10] and the United States [11], the percentage is 69% and 59%, respectively. The percentage of infants in Greece who continue breastfeeding up to the sixth month is sometimes 13.2% and sometimes 20.5%. It is approximately the same as the U.S.A. [12], while it is lower than the percentages of the United Kingdom [13], Denmark [5] and New Zealand [14].

Reviewing the characteristics of infants who breastfed less or more than six months in our study, it appears that the following factors had a positive effect on the period

of time that the mothers breastfed: rooming-in (as in another study) [15], the initiation time of breastfeeding (as reported in another study) [16] – mainly within one to six hours after delivery, natural and easy delivery, the time the women decided to breastfeed, the fact that it was mainly their own decision and that they were not influenced by a specific person, and the fact that the women did not administer a mixed diet after being discharged from the maternity hospital. Smoking was negatively associated with the duration of breastfeeding. The factors, that did not appear to influence women to breastfeed were number of maternal family members, whether the mother was breastfed as an infant (although other studies consider this factor to be determining) [17], certain elements of the mother's personality and mother's opinion concerning breastfeeding and maternal milk.

The data revealed that the percentage and duration of maternal breastfeeding in Greece were influenced by maternal nationality (foreigners breastfeed more) and exclusive breastfeeding during the whole duration of breastfeeding, as also reported in other studies [7, 18]. The use of formula as a complementary diet hindered the continuation and duration of breastfeeding. Smoking during breastfeeding appeared to negatively influence the continuation of breastfeeding was shown in other studies as well [19, 20]. A natural and easy delivery appeared to be positively associated with the initiation of breastfeeding in contrast to cesarean delivery and labored delivery [21]. Moreover, the period that the Greek women decided for the first time to breastfeed was associated with the duration of breastfeeding or with whether the women finally breastfed. A large percentage of women who decided on breastfeeding postpartum did not do so in the end. On the contrary, those that made the decision beforehand usually breastfed for a long period of time (12-24 months).

From the results of our study, based on a specific group of women-infants (Greek population), we have indications as to which factors are related or not to the initiation and progress of breastfeeding in Greece. However, as this progress depends on various factors, research should be continued in Greece and programs which support breastfeeding should be based mainly on the proposals which have been officially submitted by the different organizations dealing with the child and the family, such as UNICEF and the WHO.

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