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Original Article

Breastfeeding determinants in Cyprus: A cross-sectional study

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ABSTRACT

Aim: To identify the determinants of breastfeeding initiation, duration and exclusivity in Cyprus.
Methods: A cross-sectional study was conducted that included 128 mothers of infants aged 6–18 months. Data was collected using a questionnaire. A chi-square test and multivariate logistic regression were performed for statistical analysis.
Results: The only factor associated with breastfeeding initiation was care in the Neonatal Intensive Care Unit. In-hospital formula supplementation and use of a pacifier were negatively associated with breastfeeding duration, whereas previous breastfeeding experience for more than one month and father's tertiary educational level were positively associated. In-hospital formula supplementation and free formula samples were negatively associated, and father's tertiary educational level was positively associated with breastfeeding exclusivity.
Conclusions: Although breastfeeding initiation rates were high, breastfeeding duration was far from the international recommendations. The role of the healthcare professionals and the father could be important for breastfeeding outcomes.

Background

Studies have demonstrated the advantages of breastfeeding for the health of the infant, with short-term benefits such as the protection against acute illnesses (American Academy of Pediatrics, 2012) and long-term effects concerning the incidence of chronic diseases (Horta and Victora, 2014). The advantages for the health of the breastfeeding mother are also important (American Academy of Pediatrics, 2012). These benefits impact the community and the economy (Bartick, 2011).

International organisations, like the World Health Organization (WHO) and UNICEF (United Nations Children's Fund) (2003), have developed strategies and issued practise guidelines regarding the protection, promotion and support of breastfeeding. A number of studies have been conducted worldwide to identify factors associated with breastfeeding initiation, duration and exclusivity, which can be different between countries. According to the literature from the last two decades, in developed countries, a mother is more likely to breastfeed if she is older, married and of higher educational and socio-economic levels (Scott and Binns, 1999). The mother's employment can be an obstacle to breastfeeding (Dennis, 2002), which can be moderated by the duration of maternity leave (Skafida, 2012) and a breastfeeding friendly work environment (Whalen and Cramton, 2010). The perception of insufficient milk usually resulting from breastfeeding mismanagement (Thulier and Mercer, 2009), infant health problems (Thulier and Mercer, 2009), nipple problems (Vogel et al., 1999), breastfeeding difficulties (DiGirolamo et al., 2005), obesity of the mother (Turcksin et al., 2014) and smoking (Amir and Donath, 2002), have been negatively associated with breastfeeding. Health care practises that are included in the ten steps to successful breastfeeding and the "baby-friendly hospital initiative", are associated with increased breastfeeding duration and exclusivity (Martens, 2012). Researchers have also studied psychosocial factors, like self-efficacy (Blyth et al., 2002; Semenic et al., 2008), breastfeeding intention (Donath and Amir, 2003; Bai et al., 2010), breastfeeding attitudes (Scott et al., 2004) and support in the family environment (Scott et al., 2001) and by health professionals (Renfrew et al., 2012a), which can be modified by interventions. Interventions can affect

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breastfeeding initiation (Dyson et al., 2005) and duration (de Oliveira et al., 2001).

There is no information on breastfeeding determinants in Cyprus. The aim of this study was to identify the determinants of breastfeeding initiation, duration and exclusivity in Cyprus.

Methods

Study design

A quantitative cross-sectional study took place between 4 March 2014 and 15 April 2014 in Nicosia, Cyprus. The data was collected from mothers who visited healthcare centres for mothers and babies in the urban area of Nicosia to vaccinate their babies.

Data collection

Data was collected by personal interview using a questionnaire. The interview approach was chosen, as it was considered to be more practical and less time consuming for the mothers, who had to take care of their babies at the same time. Also the questions were better understood by mothers that did not speak Greek as a first language. The questionnaire was pilot tested first with 30 mothers and, since no corrections were made, the data was included in the study. The personal interviews were all conducted by the same person. The mean duration of the interview was 5–10 min. In general, the mothers were willing and interested in participating in the study.

Questionnaire

The questionnaire that was used was developed for the National Survey for Breastfeeding Frequency and Determinants (Gaki et al., 2009), which was conducted by the Institute of Child Health in Greece from 2007 to 2008. The questionnaire was adjusted for use in the present study, by deleting questions that were not applicable to Cyprus. No translation was needed. It included three groups of questions that covered (a) perinatal information, (b) infant feeding and (c) demographic and socio-economic factors. There were 37 questions of which 18 required a yes or no answer, 17 were multiple choice questions and two questions were about the age of the mother and baby.

Ethics

All mothers were informed of the purpose of the study and provided verbal informed consent before participation. The study was approved by the Cyprus Ministry of Health, after obtaining approval by the Cyprus National Bioethics Committee and the Office of the Commissioner for Personal Data Protection. Permission to use the questionnaire was given by the creators.

Study sample

Inclusion criteria

In the study, the participants were 128 Greek-speaking mothers of infants aged 6–18 months visiting the healthcare centres during the study period.

Sampling procedure

There are seven healthcare centres for mothers and babies in the urban area of Nicosia. As there was no data available on all infants aged 6–18 months that lived in the urban area of Nicosia, random sampling could not be applied; thus, a convenience sample was used in the study (Etikan et al., 2016). To reduce systematic error, the number of completed questionnaires from each centre was proportional to the number of children enlisted in the centre during the previous year, therefore ensuring that the sample was more representative of the population. All the mothers visiting the

Table 1
Sample characteristics (n=128).

Study variables	N (%)
Mother's age	
18–28	13 (10.2)
29–30	53 (41.4)
31–34	44 (34.4)
>34	18 (14.1)
Cypriot mother	
Yes	76 (59.4)
No	52 (40.6)
Mother married/living with father	
Yes	125 (97.7)
No	3 (2.3)
Mother's educational level	
Secondary	52 (40.6)
Tertiary	76 (59.4)
Father's educational level	
Secondary	66 (51.6)
Tertiary	62 (48.4)
Yearly family income (Euro)	
0–19,500	50 (39.1)
19,501–28,0000	30 (23.4)
28,001–36,3000	20 (15.6)
>36,301	28 (21.9)
Mother employed	
Yes	100 (78.1)
No	28 (21.9)
Maternity leave	
Yes	91 (91)
No	9 (9)
Twin pregnancy	
Yes	8 (6.3)
No	120 (93.8)
Infant gender	
Male	69 (50.7)
Female	67 (49.3)
Maternity unit	
Private	51 (39.8)
Public	77 (60.2)
Type of delivery	
Cesarean	62 (48.4)
Vaginal	66 (51.6)
Birth weight<2500 gr.	
Yes	17 (13.3)
No	111 (86.7)
Pregnancy age	
Preterm	19 (14.8)
Term	109 (85.2)
NICU	
Yes	18 (14.1)
No	110 (85.9)
Rooming-in	
Yes	69 (53.9)
No	59 (46.1)
Breastfeeding initiation in the 1st hour	
Yes	47 (39.5)
No	72 (60.3)
In-hospital formula supplementation	
Yes	82 (64.1)
No	46 (35.9)
Formula prescription	
Yes	8 (6.3)
No	120 (93.8)
Free formula sample	
Yes	39 (30.5)
No	89 (69.5)
Support by health professionals	
Yes	86 (72.3)
No	33 (27.7)
Support in the family environment	
Yes	61 (51.3)
No	58 (48.7)
Antenatal breastfeeding intention	
Yes	115 (89.8)
No	13 (10.2)

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