

Educating Fathers to Improve Breastfeeding Rates and Paternal-Infant Attachment

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Objectives: To determine the effect of breastfeeding education provided to fathers on breastfeeding rates and paternal-infant attachment. **Methods:** 117 couples with their infants with the inclusion criteria: knowledge of reading, writing and speaking Turkish; living in the Turkish Republic of North Cyprus until their infants were six months old; and infants having no health problems preventing the early initiation of breastfeeding. Participants were divided into 3 groups (2 experimental and 1 control). Breastfeeding education was provided to the mothers (20 min/d) in the first group ($n=38$) and to the mothers and fathers in the second group ($n=39$) (20 min/d/parent) until they were discharged from the hospital. This education was supplemented by a training booklet. The parents and their infants were followed until the infants were six months old. Exclusive breastfeeding rates and Paternal-Infant Attachment Scale scores at six months were main outcome measures. **Results:** Exclusive breastfeeding rates (56.4%, 33.3% and 12.8%; $P<0.001$) and mean (SD) Paternal-Infant Attachment Scale scores [89.51(7.05), 82.37 (12.80) and 73.38 (18.67); $P<0.001$] were highest in the group where education was provided to both mother and father. **Conclusions:** Providing breastfeeding education to fathers increases exclusive breastfeeding rates and strengthens paternal attachment.

Keywords: Attachment, Breastfeeding, Education, Father.

It is believed that only 39% of infants worldwide receive exclusive breastfeeding (EBF) [1]. The rate of the infants who are fed with EBF in Turkey between the 4th and the 5th months is 21.9% [2], which is less than the target rate of 25.5% to be achieved by 2020 [2]. International data [3-7] show that fathers can make a difference in the rate of infants' exclusive breastfeeding. They, however, need information about the breastfeeding process in order to make a difference. However, there is no research on this subject in the Turkish Republic of North Cyprus (TRNC).

Attachment is defined as "a strong and continuous emotional bond that develops between the baby and the caretaker, which shows itself with relating and missing behaviour, and becomes clear in stressful situations" [8]. Although it has been proven that EBF affects maternal-infant attachment positively [9-12], there are no national or international studies about the effects of EBF education on paternal-infant attachment.

This study was done to determine the effect of breastfeeding education provided to the fathers on the rate of EBF and paternal-infant attachment.

METHODS

This experimental study was conducted at the Doctor

Burhan Nalbantoglu State Hospital (DBNSH) Maternity Service in Nicosia, between January 2012 and June 2013.

Parents with knowledge of reading, writing and speaking Turkish, living in the Turkish Republic of North Cyprus (TRNC) until their infants were six months old, and infants having no health problems preventing the early initiation of breastfeeding were included in the study after informed parental consent. Parents who had the possibility of leaving the TRNC during the study, changed health care institutions for postnatal check-ups, and infants who were not able to breastfeed at an early stage were not included in the study.

A total of 117 families were included. The eligible families were divided into 3 groups (matched on basis of parity and working status): 39 in the control group (no intervention), 39 in the first experimental group (only mothers had EBF education), and 39 in the second experimental group (both mothers and fathers had EBF education). EBF education was provided to the mothers (20 min/d) in the first experimental group, and to the mothers and fathers (20 min/d for each parent) in the second experimental group; while there was no intervention for the mothers or the fathers in the control group. Moreover, education manuals for mothers (28

pages) and fathers (20 pages), prepared by the researchers, were provided for all the parents.

Technical processes were demonstrated by using a milking pump, milk collecting bags, feeding cup, chairs and stools, pillow, and massage oil. The education began in the mother's hospital room on the day she came for delivery and continued till discharge (standard staying duration of 3 d). The fathers' education was done during the visiting hours. One of the researchers (EÖ) provided education to all the participants.

The infants' feeding types were checked before their first, second, fourth and sixth month check-ups. Interviews were terminated at the sixth month. The primary outcome measure of the study was the rate of EBF. The rate of the infants ($n=117$) who were breastfed, without any other liquid or food, from the day that they were born until the 179th day was determined as the EBF rate. The secondary outcome measure was the situation of the paternal-infant attachment. The Paternal-Infant Attachment Scale (PIAS) was used to measure the strength of the bond between the father and infant [13]. The PIAS is a scale with 19 items, with every item graded between 1 and 5 points. High scores show that the attachment is strong. The validity and reliability study of the scale for Turkish society has been previously reported [14]. The gathered score average from PIAS was near the score of 19 (minimum value) showed a weak attachment; however, when it was near the score of 95 (the maximum value), this showed a strong attachment.

The study protocol was approved by the Near East University Medical Faculty Scientific Research Ethical Committee. Chi-squared test was used for the categorical variables and the groups' average scale points were compared by using ANOVA. A P value of <0.05 was

considered as statistically significant.

RESULTS

The baseline characteristics of the study population are provided in **Table I**.

At the second week, the groups showed similarities in their EBF rates which however started to decrease after the second week. From first to sixth month, there were significant differences between the groups (**Table II**). The EBF rates were higher at 6 months when the mother and father were both educated about EBF.

According to the general point averages according to group of the PIAS, there was a significant statistical difference between the groups (**Table III**). The PIAS average point of the group in the second experimental group was higher than in the other groups ($P<0.001$) and nearest to top point (95). Even though the fathers were not provided EBF education in first experimental group, the fathers' points in this group were higher than the average value of 79. This shows that the mothers' education also had a positive effect on the fathers' points.

DISCUSSION

We found that the EBF rates at six months were the highest in the group where both parents received breastfeeding education. It is known that the EBF rate is 39% around the world, and that it is 21.9% in Turkey (between the 4th and 5th month) [1,2]. In our research, only the EBF rates of infants in the second experimental group reached the worldwide rate.

Wolfberg, *et al.* [12] found that when fathers are educated about EBF and infant care, the rates of starting and continuing EBF during the first six months are higher. Pisacane, *et al.* [10] found that when fathers were

TABLE I BASELINE CHARACTERISTICS OF THE STUDY POPULATION (N=117)

	First Experimental Group (n=39)	Second Experimental Group (n=39)	Control Group (n=39)	Total (n=117)
Mother's age (25-30) y	15 (38.9)	16 (41.0)	15 (38.5)	46 (39.3)
*Elementary level education (Mother)	19 (48.7)	16 (41.0)	25 (64.1)	60 (51.3)
Primiparous mother	20 (51.3)	21 (53.8)	19 (48.7)	60 (49.6)
Mother unemployed	19 (48.7)	20 (51.3)	20 (51.3)	59 (50.4)
*Father's age (25-30) y	16 (41.0)	19 (48.7)	14 (35.9)	49 (41.9)
*Elementary level education (Father)	21 (53.8)	20 (51.3)	19 (48.7)	60 (51.3)
Father supporting household	23 (71.9)	29 (76.3)	20 (74.1)	72 (74.2)
Middle income family	26 (66.7)	26 (66.7)	27 (69.2)	79 (67.5)
Girl child	26 (66.7)	24 (61.5)	22 (56.4)	72 (61.5)

*Elementary school and lower degree; All values in number (%).

WHAT THIS STUDY ADDS?

- Providing breastfeeding education to both parents increases exclusive breastfeeding rates.
- Providing breastfeeding education to the fathers strengthens paternal-infant attachment.

TABLE II CHANGES IN THE INFANT'S EXCLUSIVE BREASTFEEDING RATES OVER TIME

	Group I (n=39) n(%)	Group II (n=39) n(%)	Controls (n=39) n(%)	Total (n=117) n(%)
I week	59.0	69.2	51.3	59.8
II week	87.2	84.6	69.2	80.3
I month*	82.1	87.2	33.3	67.5
II month*	69.2	76.9	30.8	59.0
IV month#	51.3	69.2	25.6	48.7
VI month*	33.3	56.4	12.8	34.2

Group I: First Experimental Group, Group II: Second Experimental Group, Control :Control Group; *P<0.001; #P=0.001

TABLE III PATERNAL – INFANT ATTACHMENT SCALE POINTS IN THE GROUPS

Paternal Attachment Scale Points	Group I n=39	Group II n=39	Control n=39
Whole groups*	82.3 (12.8)	89.5 (7.1)	73.3 (18.7)
Exclusively breastfed#	84.6 (8.4)	89.7 (7.2)	65.9 (27.5)
Mix fed	81.8 (11.6)	88.6 (8.0)	75.9 (16.5)
Formula fed	80.1 (19.6)	90.8 (4.3)	72.5 (18.7)

*P<0.001; #P=0.001; All values in mean (SD).

educated, EBF rates increased at the sixth month. Susin and Guigliani [11] showed that EBF rates were higher in the group in which both the mothers and the fathers were educated about EBF, than in the groups in which there was no education and in which only the mothers were educated. Tohotoa, *et al.* [9] showed that mothers whose husbands received breastfeeding education before the birth, and breastfeeding education and support after the birth, liked breastfeeding the most and they were supported the most by their husbands.

In this research, it was observed that parental attachment was also more powerful in the second experimental group. Magill, *et al.* [15] determined that by teaching the fathers about the care and communication with the infants, the father-infant attachment becomes stronger.

We conclude that providing breastfeeding education to fathers during the postpartum period increases EBF rates significantly and strengthens paternal attachment. Further research should include the antenatal period also.

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