

Breastfeeding Premature Infants Depend Considerably on Maternal Milk Supply



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Background:

Premature infants are at a greater risk of not being breastfed. The aim of the study was to explore which factors influenced premature breastfeeding when discharged from neonatal care.

Local practice according to "The Milky Way":

From the first day, skin-to-skin contact is established and the mother is informed about regular pumping. Parents have free access to their infant all day and night. The infant is tube fed, early breastfeeding is encouraged, the tube feeding will gradually decrease when the infant breastfeeds more, bottle feeding is avoided except when exclusively breastfeeding is given up by the mother.

Method:

91 mothers, who wished to breastfeed their 108 premature infants, participated in the study at the Neonatal Intensive Care Unit at Hvidovre Hospital in Denmark from August 2004 to July 2005.

The infants' median gestational age (GA) was 32 weeks and 6 days (range 28+2–36+4), median birth weight 1804 gram (range 879 – 2770 gram), and 34 infants were twins.

Characteristics of the mothers: mean age 30 years, 34% had previous breastfeeding experience, 46% had higher levels of education, 20% had no education, 18% smoked, 19% were of other backgrounds than Nordic. The Milk Bank at the hospital measured the mother's milk volume every day. The mothers answered a questionnaire the first week after delivery and another when the infants were discharged to home.



Results:

Of the 108 infants, 69% were exclusively breastfed directly at and from the breast at discharge, 11% were both breastfed and bottle-fed, and 19% were exclusively bottle-fed. 5 of the bottle fed infants were fed exclusively own mothers milk. In total 74% of the infants were exclusively breastfed or exclusively fed expressed mothers milk. There was no difference in GA among the three groups, but more "small for date"-infants (SGA-infants) were bottle-fed. Characteristics of mothers who did not breastfeed at the infants' discharge: They had significant lesser milk ($p < 0,0005$), more mothers never got sufficient milk volume to meet the needs of the infants ($p < 0,0005$), they pumped fewer times a day ($p 0,0005$), more smoked ($p 0,01$), fewer had higher levels of education ($p 0,05$). However, there were no differences in age, previous breastfeeding experience or ethnic background. Significantly more mothers, who had used a nipple shield, did not breastfeed at the infants' discharge ($p 0,002$). Indication for the use of a nipple shield is not registered. Significantly fewer twins were exclusively breastfed at discharge compared to singletons ($p 0,014$).

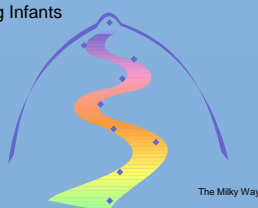
Conclusion:

This study found insufficient milk supply as the most common reason for premature infants not being breastfed when discharged to home. The problem arose early while the infants were being tube fed. Significantly fewer SGA-infants, twins and infants who had used nipple shield were breastfed at discharge.

Implications:

Daily awareness on the mother's milk volume is essential. If the milk volume is diminishing, intervention must begin immediately. More support should be given to mothers with twins and mothers with no higher education.

The "Knowledge Centre for Breastfeeding Infants with Special Needs" is very interested in establishing an international research network in breastfeeding infants with special needs for mutual inspiration and experience exchange. Please contact Ragnhild Maastrup at the conference or by e-mail.



Median data	Total 108 infants	Exclusively Breastfed 69%	Partially Breastfed 11%	Exclusively Bottle fed 19%
GA, weeks + days	32+6	33+2	32+6	32+6
Birth weight, grams	1742	1875 **	1658	1565 **
Singletons	n 74	77%	9%	14%
Twins	n 34	53%	15%	32%
Full oral feeding at PMA, weeks	36+5	36+5	37+0	37+0
Full oral feeding: weight, grams	2456	2486	2640	2437
Use of nipple shield	40%	28% *	83% *	57% *
Mother's milk supply: % of infant's daily need	111%	127% **	87% *	46% **
Mothers who have never enough milk	37%	24% **	42% *	81% **
Numbers of daily pumpings	4,7	4,9 *	4,1 *	3,7 *
Mother smokes	18%	8% *	40%	47% *
Higher education	46%	56% *	30%	13% *

*= $p < 0,05$ **= $p < 0,0005$, GA= gestational age, PMA= postmenstrual age

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