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**Breastfeeding practices in New Zealand during the first
year postpartum**

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Abstract

There is a lack of research observing breastfeeding (BF) practices in detail globally and in New Zealand (NZ). This longitudinal study examined BF patterns and the association between BF duration and frequency per day in NZ infants from the birth to 12 months old. A total of 61 self-selected women in the Manawatu region were recruited during the last stage of pregnancy. The average age was 32.1 ± 0.6 years.

BF practices were obtained by 24-hour recall noting all of the infant's activities through a telephone interview. The interviews were conducted at approximately 2 weeks after birth and then at 2 weekly intervals during the first three months, and then once per month until the infants first birthday.

Results show that the majority of infants during the first four weeks postpartum were fully BF (81% at two weeks & 82% at four weeks), 8% infants were mixed-fed and 10% had stopped BF by four weeks. At 16 weeks, 61% infants were fully BF, and 9% infants had been introduced to complementary foods (CF). At 24 weeks, most infants (93%) were no longer fully BF and 24% were receiving no breastmilk. At 48 weeks, 48% infants had stopped BF.

Regarding BF patterns, throughout the first 48 weeks postpartum there was a wide variation of BF frequency/day, the longest interval between BF and the length of BF sessions. For example, at two weeks fully BF infants were fed from 5-21 times/day (interquartile range (IQR): 8-10 times/day); at 48 weeks BF infants receiving CF had from 1-22 breastfeeds/day (IQR: 3-8.3 times/day). For the longest interval between BF, at two weeks for fully BF infants the longest interval ranged from 3-10 hours (IQR:4.3-5.5 hours), and at 48 weeks for BF infants receiving CF the longest interval

ranged from 3-24 hours (IQR:6.4-12.5 hours). The length of BF session, at two weeks ranged from 2-205 minutes/feed (IQR: 12-30 minutes) for fully BF infants, and at 48 weeks ranged from 4-85 minutes/feed (IQR: 5-15 minutes) for BF infants receiving CF.

At the majority of observations there was a significantly lower BF frequency/day and longer longest interval between breastfeeds for mixed-fed infants compared to infants who were fully BF ($p<0.05$). For instance, at four weeks, median BF frequency/day for mixed-fed infants was five times/day, and for fully breastfed infants ten times/day; at 16 weeks the median BF frequency, for mixed-fed infants was 6.5 times/day, and for fully breastfed infants 9.5 times. At four weeks, the median of the longest interval between breastfeeds for mixed-fed infants was 8.5 hours, and for fully breastfed infants five hours; at 16 weeks, for mixed-fed infants the median was 11.8 hours, and for fully breastfed infants 6.2 hours. There was generally no significant difference in the length of BF sessions between these two groups ($p>0.05$).

There was a significantly positive, but weak correlation between BF duration and BF frequency/day at two weeks ($p<0.01$; $r=0.352$) and four weeks ($p<0.01$; $r=0.404$), and between BF duration and BF frequency/day of fully BF infants at four weeks ($p<0.05$; $r=0.289$). There was no significant correlation between duration of BF/fully BF and maternal and infant characteristics, with the exception of parity (there was a positive association between parity of two or more and BF duration, $p<0.05$).

Case studies were made of four participants who were still breastfeeding their babies at 48 weeks and whose frequency of feeding in the first four weeks after birth was

outside of the often recommended 8-12 times/day. Results show that their BF practices varied widely between women during 48 weeks. BF frequency and the total length of BF sessions decreased over time. For two infants who had higher BF frequency in the first four weeks, BF frequency remained relatively high through the end of the first year. For another two infants who had lower BF frequency in the first four weeks, BF frequency remained relatively low through the end of the first year. For all cases, the total length of BF sessions per day did not generally fluctuate with the changes of BF frequency.

In conclusion, this longitudinal study supplies a detailed picture of BF practices by 24-hour recall. Results show that almost half infants had stopped BF by 48 weeks. There is a wide variation of BF practices associated with successful BF. Therefore, individuals' particularity should be considered when making suggestions to the mother. Overall, this thesis may contribute to the literature on BF practices in NZ.

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List of Abbreviations

BF	Breastfeeding
BFCI	The Baby Friendly Community Initiative
BFHI	The Baby Friendly Hospital Initiative
CF	Complementary foods
IQR	Interquartile range
NZ	New Zealand
NZBA	The New Zealand Breastfeeding Authority
WHO	World Health Organization