Success of Strategies for Combining Employment and Breastfeeding

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About this analysis:

Sample: 799 IFPS II mothers who concurrently engaged in paid work and breastfeeding. We deleted mothers who responded to the questionnaires when their infants were greatly different in age from the target age.

Questions: Mothers were asked if they were breastfeeding and if they also worked for pay on the questionnaires sent in months 2, 3, 5, 6, 7, 9, and 12. If they did so, they were asked what accommodations they used to combine the two activities. Mothers could mark all that apply.

Accommodations:
- a) I keep my baby with me while I work and breastfeed during the day
- b) I go to my baby and breastfeed during my work day
- c) My baby is brought to me to breastfeed during my work day
- d) I pump milk during my work day and save it for my baby to drink later
- e) I pump milk during my work day, but I do not save it for my baby to drink later
- f) I neither pump milk nor breastfeed during my work day.

Strategies:
From these, we constructed 4 mutually exclusive strategies:
1) Directly breastfeeding only (any of a – c and not d)
2) Pumping and directly feeding (at least 1 of a-c and d)
3) Pumping milk for consumption only (d)
4) Not providing milk for the baby during the work day (e or f)

Therefore, although mothers could check as many accommodations as applied, they were placed into only one strategy each month.

Outcomes:
- a) The difference in percentage of milk feeds that were breast milk between the month before and after return to work (breastfeeding intensity).
  For example, a child who received 8 breast milk feedings and 2 formula feedings in the last measurement prior to a mother’s return to work (80 percent of milk feeds were breast milk) and then received 6 breast milk feedings and 4 formula feedings in the measurement taken the first month after the mother returned to work (60 percent of the milk feeds were breast milk) would have a value calculated as 60 – 80 = -20, where negative numbers indicate a decrease in breastfeeding intensity after return to work.

- b) Duration of breastfeeding after return to work.
Main Findings:
1. The greatest percent of mothers (43%) pumped milk at work only.
2. The second most common strategy was feeding the baby directly from the breast only (31%).
3. Any strategy that removes milk from the breast during the work day is equally effective for maintaining breastfeeding intensity after return to work.
4. The 2 strategies that included directly feeding from the breast were associated with longer duration than pumping only, while the strategy of neither pumping nor breastfeeding during the work day was associated with the shortest duration.

Discussion:
1) These findings might be different among mothers participating in a workplace lactation program where formal support is available, but research comparing breastfeeding outcomes for different strategies within such a program has not been conducted. Research on mothers who participate in work site lactation programs and who only pump at work consistently shows they have long average duration of either breastfeeding or of concurrent behavior. This finding suggests that support for pumping at work can lead to breastfeeding outcomes similar to direct feeding. Because most employers do not have formal breastfeeding support programs, it is likely that most of the IFPS II mothers did not have the benefit of a breastfeeding support program at work, and therefore it is likely that our results are based on the experiences of mothers mostly outside of formal support programs.

2) Although direct breastfeeding at work is impossible in some jobs, there are enough different ways it can be managed that many jobs could make the strategy possible. Examples include on site or near site child care with breastfeeding breaks, telecommuting, keeping the baby at work with the mother, breastfeeding breaks in which the mother goes to the baby off site, and having the baby brought to the work site for feeding.

3) Establishing ways for mothers to directly feed their babies after they return to work is important in order to meet U.S. breastfeeding goals of total breastfeeding duration for at least 12 months.
Table 1 Description of Work Accommodations and Strategies for Concurrently Working for Pay and Breastfeeding, IFPS II (N=799)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage mean, or median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in % of milk feedings from breast milk in 1st month after return to work (mean)</td>
<td>-6.6</td>
</tr>
<tr>
<td>Breastfeeding duration in weeks after return to paid work (median)</td>
<td>25.6</td>
</tr>
<tr>
<td>Total breastfeeding duration in weeks (median)</td>
<td>38.7</td>
</tr>
<tr>
<td>Age of infant in weeks when mother returned to work (mean)</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Accommodations used in the 1st month after returned to work†

- Keeps the baby at work and breastfeeds during the work day: 31.8
- Goes to baby to breastfeed during the work day: 7.9
- Baby is brought to mother to breastfeed during the work day: 2.9
- Pumps milk and saves for baby: 52.7
- Pumps and discards milk: 0.6
- Neither pumps nor feeds baby during the work day: 15.9

Strategies used in the 1st month after returned to work

- Feed directly from the breast only: 31.3
- Pump and feed directly from the breast: 9.4
- Pump only: 43.4
- Neither pump nor feed directly during the work day: 15.9

Work characteristics

- Hours/week worked when 1st returned to work (mean): 24.8
- Prenatal household income from mom’s salary
  - None: 9.8
  - Less than half: 38.6
  - About half: 27.2
  - More than half: 24.4

†Mothers could choose multiple accommodations.

Table 2 Percent and Number of Mothers who Changed to Each Strategy by First Strategy Used, IFPS II

<table>
<thead>
<tr>
<th>First strategy used</th>
<th>Percent (and number) that later used this strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feed directly</td>
</tr>
<tr>
<td>Feed directly from breast only (n=250)</td>
<td>NA (n=250)</td>
</tr>
<tr>
<td>Pump and feed directly (n=75)</td>
<td>34.7 (n=26)</td>
</tr>
<tr>
<td>Pump only (n=346)</td>
<td>4.1 (n=14)</td>
</tr>
<tr>
<td>Neither pump nor feed directly during the work day (n=128)</td>
<td>9.4 (n=12)</td>
</tr>
</tbody>
</table>
Table 3 Breastfeeding Outcomes by Different Strategies for Combining Breastfeeding and Work, IFPS II

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Change in % of milk feedings that are breast milk Mean (n)*</th>
<th>Duration of breastfeeding after return to work (weeks) Median (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First strategy used</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed directly only</td>
<td>† -3.3 (185)</td>
<td>31.4 (250)</td>
</tr>
<tr>
<td>Pump and feed directly</td>
<td>† -5.5 (59)</td>
<td>32.4 (75)</td>
</tr>
<tr>
<td>Pump only</td>
<td>† -4.4 (287)</td>
<td>26.3 (346)</td>
</tr>
<tr>
<td>Neither pump nor feed</td>
<td>† -20.9 (92)</td>
<td>14.3 (128)</td>
</tr>
<tr>
<td>during the work day</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Mothers who did not provide feeding data in the month before and the month after they returned to work were deleted from the intensity change analysis.
†Significantly different, ANOVA, p<.0001, total n=623.
‡No tests of significance of differences were conducted for the medians.
Table 4  Percent Change in Milk Feeds that are Breast Milk After Returning to Paid Work, IFPS II – Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Strategy Used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed baby directly</td>
<td>11.66</td>
<td>2.39</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Pump and feed directly</td>
<td>10.31</td>
<td>2.92</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Pump only</td>
<td>13.72</td>
<td>2.17</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Neither pump nor feed directly during day</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

Note: There is no statistically significant difference in the change in breastfeeding intensity among the 3 strategies that involve providing breast milk for the baby during the work day.

Variables controlled:
1) Age of infant when the mother returned to work
2) Work characteristics
   - Hours per week worked when first returned to work
   - % Household income from mother – prenatal
   - Workplace support for breastfeeding – postnatal
3) Mother characteristics
   - Cigarettes smoked/day – prenatal
   - Mother was ever breastfed as baby
   - Parity by past breastfeeding experience
   - # friends/relatives who breastfed
   - Embarrassment breastfeeding in public
4) Attitudes toward breastfeeding prenatally
   - Agree breastfeeding is best way to feed a baby
   - Disagree that formula as good as breastfeeding
   - Agree babies should be exclusively breastfed for 6 m
   - Agree breastfed babies less likely to be obese
   - Prenatal exclusive breastfeeding goal
5) Demographic characteristics
   - Mother’s age
   - Household income
   - Education
   - Race
   - Marital status
Table 5  Duration of breastfeeding after return to work, IFPS II – marginal effects from a censored regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Marginal effect*</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Strategy Used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump only</td>
<td>- 7.11</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Pump and feed directly</td>
<td>- 2.94</td>
<td>0.31</td>
</tr>
<tr>
<td>Neither pump nor feed during day</td>
<td>-11.77</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Feed baby directly</td>
<td>Ref</td>
<td>Ref</td>
</tr>
</tbody>
</table>

* The marginal effect is the change in duration of breastfeeding after return to work in weeks if the category replaces the reference category.

Variables controlled: Same as for Table 4 except “prenatal any breastfeeding goal” replaced “prenatal exclusive breastfeeding goal.”