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The time use of infants

Are the days of breastfed infants different to not–breastfed infants?

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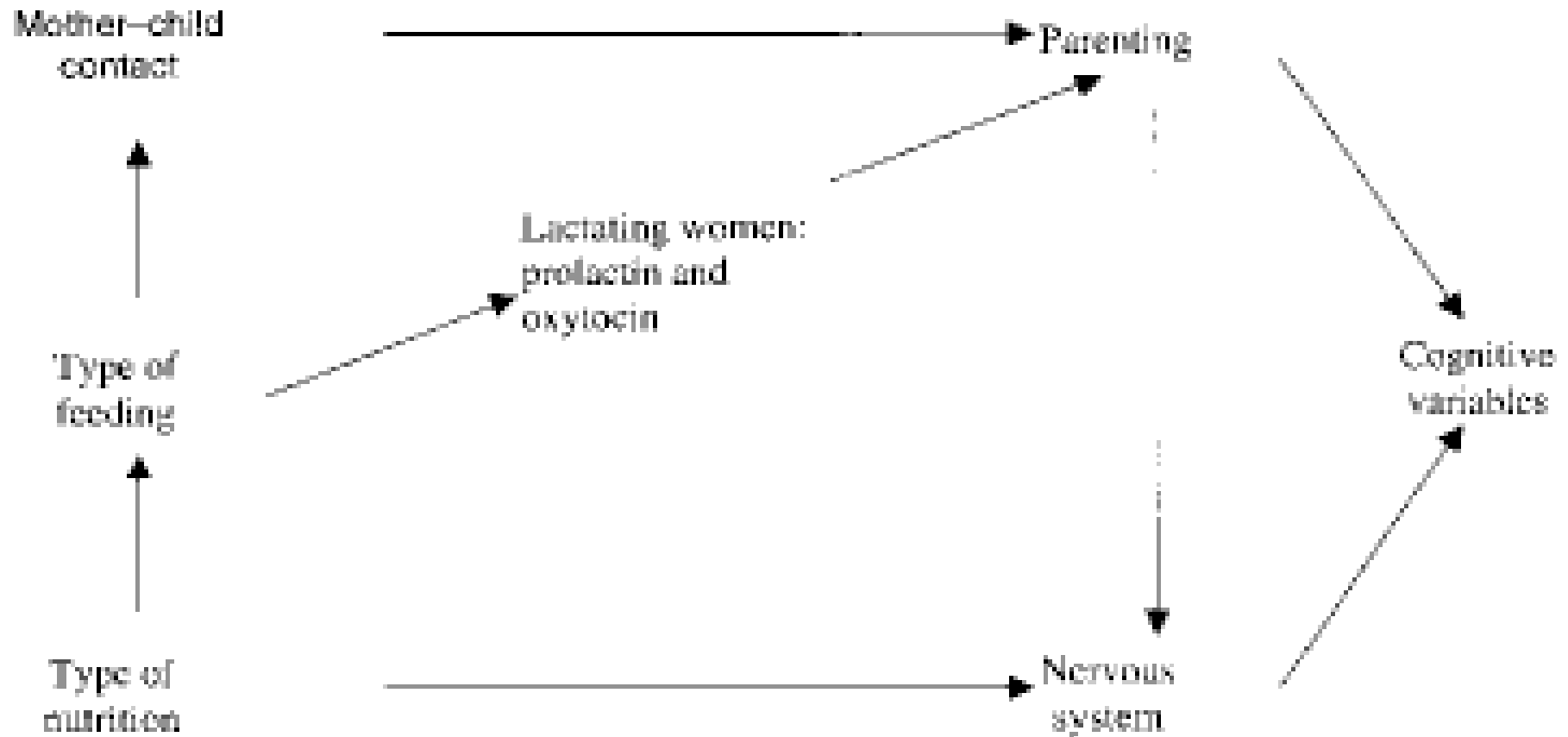
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Background - breastfeeding

- Health authority recommendations for 6 months exclusive breastfeeding
- Evidence re cognitive development advantage of children who were breastfed as infants
- Potential mechanisms remain poorly understood



Pathways from nutrition to cognitive development



Burgaard 2003



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Background - infants' time use

- Theories of child development stress the way infants spend their time matters to their development
 - ◆ eg attachment theory, and time spent with caregivers
- Analyses of children's time use also show associations with children's outcomes
 - ◆ eg time spent watching television
 - ◆ parental time with children



Data: LSAC Infant cohort, Wave 1 (2004)

- Aged aged 3 to 18 months at interview (we limit to 3 to 14 months)
- The focus is the time use diary (TUD)
 - ◆ Parents completed a diary for one weekday and one weekend (on pre-specified dates) for the infant
 - ◆ Each 24 hour day is divided into 15-minute intervals, from 4am to 4am
 - ◆ Parents mark infants' activities and contexts against pre-coded lists
 - ◆ Diaries were excluded if they had too much missing data, and only those children with 2 valid diaries were included. Final N=2,878



Infants' contexts (all infants)

Who with	Mean minutes per day (SD)
With mother	487 (177)
but not father	293 (165)
With father	228 (154)
but not mother	33 (59)
With grandparents or other adult relatives	73 (117)
In child care	12 (52)

Means calculated over all children including those who spent no time in a context



Infants' activities (all infants)

Activity	Mean minutes per day (SD)
Sleeping, napping	821 (107)
Awake in bed/cot	48 (53)
Bathe/nappy change, dress, hair care	93 (44)
Breastfeeding	52 (78)
Other eating, drinking or feeding	134 (63)
Held, cuddled, comforted, soothed	138 (120)
Crying/upset	45 (52)

Activity	Mean minutes per day (SD)
Destroy things, create mess	21 (50)
Crawl, climb, swing arms/legs	129 (128)
Read a story, talked/sung to	88 (127)
Colour/draw, look at book, puzzles	8 (24)
Watch TV, video or DVD	36 (56)
Organised activities, playgroup	10 (38)
Other play, other activities	148 (114)



Analyses

- Using multivariate analyses (OLS) duration in each context and each activity, analysed by :
 - Whether still breastfeeding
 - ◆ Derived from the interview. 43% of infants were breastfeeding at the time of the time use diary.
 - Other variables
 - ◆ Child's age, sex, health status
 - ◆ Mother's education, employment status (full-time, part-time), Indigenous status, birthplace, smoked in pregnancy
 - ◆ Family type; father's employment status; parental income



Results: Infants' contexts by whether still breastfed

- No significant differences for time:
 - ◆ with grandparents, with other adult relatives or in childcare.
- Breastfed infants spend more time, on average:
 - ◆ With their mother (57 minutes per day)
 - Time with mother is largely time alone with mother (45 out of the 57 minutes extra for breastfed children).
 - ◆ With their father (15 minutes per day)
 - This difference father corresponds more to time that mother and father are together (12 out of the 15 minutes of extra father-time for breastfed children the mother is there also).



Results: Infants' activities by whether still breastfed

- **Breastfed infants on average, spend more time:**
 - ◆ being held, cuddled or soothed (32 minutes more per day)
 - ◆ being read, talked or sung to (27 minutes more per day)
 - ◆ crying / upset (5 minutes more per day)
- **Breastfed infants spend less time:**
 - ◆ other eating, drinking or being fed (54 minutes less per day)
 - ◆ sleeping or napping (40 minutes less per day)
 - ◆ watching TV (9 minutes less per day)
- **No significant differences found for:**
 - ◆ personal care activities, “destroy things, create mess”, “crawl, climb, swing arms/legs”, “colour, draw, looks at book, puzzles”, “organised activities/playgroup” or “other play”.



Results - activities and background variables

- Very significant differences in time use by age group of child for most activities
- Almost no differences by sex of child
- Firstborn children read, talked or sung to more, and spend more time doing various play-type activities
- Children of older mothers are read, talked or sung to more
- Children of more highly educated mother are read, talked or sung to more and watch less TV



Conclusion

- This study shows that the time use of infants who are still breastfed is different from that of non-breastfeeding infants of comparable age and other relevant characteristics.
- These findings have implications for how children develop.
- Time use analysis can provide important information on possible pathways to development for infants and young children.



References

- The full version of this paper is available:
 - ◆ **Baxter, J. & Smith, J. Breastfeeding and infants' time use. Australian Institute of Family Studies Research Paper No.43, June 2009** <http://www.aifs.gov.au/institute/pubs/rp43/rp43.html>
- Other references:
 - ◆ National Health and Medical Research Council. (2003). Dietary guidelines for children and adolescents in Australia incorporating the infant feeding guidelines for health workers. Canberra: National Health and Medical Research Council.
 - ◆ World Health Assembly. (2001). Infant and young child nutrition (Resolution 54.2). Geneva: World Health Assembly.

