

The effects of postnatal separation on mother-infant interaction

Miranda Dodwell, NCT researcher, looks at the findings of a paper on the effects of separation at birth on mother-infant interaction.

A recent Russian study¹, which would not be considered ethical in the UK, provides startling evidence on the potential negative impact of early mother-baby separation. A randomised controlled experiment (or trial) was carried out involving 176 mother-infant pairs. The pairs were randomised as soon as the babies were born into four groups (see table 1 below), each with a different prescribed regime for physical contact, proximity and feeding.

At one extreme, the mothers had skin-to-skin contact during the first two hours, cared for their baby in their room and breastfed on demand. At the other extreme, the mother and baby were separated during the first two hours and then the baby was kept in a separate room, with the baby being brought to the mother for scheduled breastfeeds. Overall, this study had good randomisation and minimisation of bias. When the babies were one-year old, mother-baby interactions were observed.

Interaction at one year

There was significantly better mother-infant interaction at one year after birth for the pairs who were able to be together during the two hours after birth (groups I and II). There were measurable differences in interaction for mothers and babies who had been separated (groups III and IV), regardless of whether they had been reunited after two hours.

Mothers who had been able to hold their baby in the first two hours were more sensitive toward them, and their babies more content at one year. Being reunited after separation during the first two hours (group IV) did not seem to compensate for the period of separation.

The study also reported that mothers who were in close contact with their clothed baby immediately after birth interacted better with their baby a year later if the baby had breastfed during those two hours. It was suggested that suckling makes up for the lack of skin-to-skin contact. However, this aspect of the study was based on observational data and is therefore less reliable. The effects ascribed to early suckling could actually be due to differences in characteristics of the mothers who achieved early suckling, rather than the effect of early feeding itself.

Natural Behaviour

This demonstrates the importance of not disturbing the natural behaviour of mothers and babies in the hours immediately after birth, when institutional healthcare practices can have profound and long-lasting consequences. It suggests, for example, that taking a baby into special care for observation, particularly if the mother cannot stay in close proximity, is an intervention with unintended long-term psycho-social side effects. It also supports other research

findings which have indicated the importance of mothers and babies having undisturbed time together, and the value of skin-to-skin care and early breastfeeding.

Early contact

Other studies have shown that babies normally have high adrenaline levels after birth, so that they are energetic, alert, and ready to find the breast and start to feed soon after they are born.^{2,3} In women, the oxytocin released during labour and birth stimulates "mothering" feelings after birth; women look at their baby, generally want to hold them close and touch them.^{4,5} This, in turn, releases more oxytocin, especially if babies are held skin-to-skin. Pain-relieving hormones known as endorphins are released in the brain, encouraging a feeling of wellbeing and responsiveness to the baby. These hormones also increase the temperature of breast skin, which keeps the baby warm.⁴

Symbiotic Relationship

When the physiology of birth is undisturbed and close interaction is uninterrupted, the close presence and behaviour of both the mother and baby has an immediate response in the other. Understanding the extent to which there is a symbiotic relationship between the mother and newborn baby helps to demonstrate why separation might have a significant long-term effect.

Table 1: Mother-infant pairs

	First two hours	Subsequent hospital stay	Feeding
Group I	Skin to skin contact	In same room	Breastfed on demand
Group II	Clothed in mother's arms	In same room	Breastfed on demand
Group III	Separated	Separated	Scheduled breastfeeds
Group IV	Separated	In same room	Breastfed on demand (after first two hours)

References

- 1 Bystrova K, Ivanova V et al (2009), 'Early Contact versus Separation: Effects on Mother-Infant Interaction One Year Later', *Birth*, 36:2: 97-109
- 2 Porter, R. H. (2004). The biological significance of skin-to-skin contact and maternal odours. *Acta Paediatrica*, 93, 1560-1562.
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- 5 Winberg J. Mother and newborn baby: Mutual regulation of physiology and behavior - A selective review. *Dev Psychobiol* 2005; 47: 217-29.