

# The Promotion of Bonding through Breastfeeding



By Antje Kraeuter

**Bonding** is talked about all the time. At the beginning of his life, every person needs a secure bond to those closest to him. Our newborns are not only very helpless but also still very immature upon birth. Despite this, though, they have been, since the dawn of man, gifted with a great competence which is deeply anchored in biology and must be recognized independent of cultural differences. This competence is, namely, an ability with signals to take care of themselves and bind themselves to their caretaker, when one knows how to really read them. They show these bonding behaviors when they look for their carer, call for her, hold themselves to her, follow after her, and protest against separation.

Practice and research agree: sensitivity to these signals is important—to perceive the signals of the infants, to interpret them correctly, and to answer them quickly and correctly. Only then will the relationship between mother and child lead to a proper attachment pattern and only then can babies, for example, be fully breastfed in the truest sense of the word: physical needs of nourishment go hand in hand with psychological needs for security and contact with the person who is trusted most and whom the infant has already come to know in the womb: the mother.

Humans are social organisms and in a biological sense not loners. They watch for the signals from others, develop so-called “mirror neurons” in their minds, which help to recognize the intentions of others, whether friend or foe, and also serve to help to be able to put themselves in another person’s shoes. In addition to that, they build very early in their development a bond to other people which helps to direct their development from childhood and youth to adulthood. If the caretakers are responsible and loving, then the child will from the beginning of life feel secure and valuable and be able to learn a so-called secure “attachment pattern”. Fears and aggressions emerge less often when the babies do not fear being left alone or not being heard. And they are able to learn more easily since they remain open to every new experience. Fear and insecurity would prevent the development and full unfolding of their intelligence during the learning process. With unreliable attention payed to the signals of the child, such as screaming, an improper attachment pattern could be developed.

Should the caretaker show unreliability in this respect or simply abrasiveness or absence, then many different unsure attachment patterns will arise, with all the disadvantages associated with development both physical and mental. The response to stress can be, from the beginning on, unfavorably shaped, and cortisol, the mirror of stress hormones in the body, is potentially elevated when the little ones often feel helpless. This can in turn restrict the learning abilities and weaken the immune system.

Developing bonds to the most important people in the child's life is hormonally supported and begins even before the birth of the child, during **pregnancy**, when the mother delights more and more in the child and when there is less exposure to relational stress with other people.

## **Oxytocin**

Oxytocin, a peptid present in all mammals with multifaceted functions, plays a significant role in the bonding behavior of the child.

Oxytocin is produced in the hypothalamus, the steering and regulating organ of the brain, and relayed on through neurons to the pituitary gland, and released into the bloodstream through the posterior pituitary in order to help the peripheral organs to be successful in their functions, like, for example, the production of milk in the breast or the causation of contractions in the uterus. In these cases it is released in pulses.

But there is also a second effect of this hormone: it works as a neurotransmitter in the brain, there constantly and without pause, triggered through touch, heat, and food, primarily by the baby's contact with the nipple and the skin of the breast of the mother. This tactile stimulation in the breast region is profoundly important for the release of oxytocin in the mother. The nerve endings in the nipple have connections to the part of the brain called the locus coeruleus, and through this connection and the hormone prolactin, tension, fear, and possible aggression from the mother all decline.

*In animal studies from Uvnas-Moberg (2003), among others, it was shown that through oxytocin, the perception of pain could be lowered and the vagus nerve, which acts as a calming force, activated. With the offspring, curiosity, digestion, and the accumulation of weight were all strengthened. Nourishment was also better utilized. Pulse and blood pressure sank substantially, and wounds healed better. Moberg examined the workings of skin-to-skin contact between mother and child and established that the skin temperature of the nursing baby rose through this contact, especially in the feet.*

## **Birth and Nursing**

During a spontaneous birth, great levels of oxytocin are released, through which the contractions of childbirth are initiated. At the same time, the body's own opiates, endorphins, are released, and work as pain reducers. In a planned Cesarean section without contractions, this oxytocin release is not present, and bonding cannot be hormonally supported until nursing is finally achieved. Also, epidural anaesthesia (PDA) interferes with the balance of the hormones and less oxytocin and endorphins are released. The consequences are often a secondary Cesarean section and less oxytocin in both the mother and child.

Also, **eye contact** directly after birth in the still dark eyes of the newborn (large pupils due to the stress of the birth and the hormone noradrenaline) can help cultivate with the mother a sense of love and bonding. This peptide hormone is also released again in the

body of the mother, but only if it is dark and the stress is reduced enough, so that the baby, in the first minutes of getting to know its mother, can open its eyes. Through this eye opening and the first touching of skin with the baby, the mother binds herself to the child. She is very much supported by hormones in her bonding to her child.

With a nonnatural birth, a further chance for a hormonal support for a secure mother-child bond is through breastfeeding. **Body contact and breastfeeding** count, according to *Spangler (2001)*, as a management of care that is expected by the child as a result of phylogenetic human heritage. Nursing is on the surface recognized as a bonding paradigm, but there are only isolated psychological examinations in this area available (*Baumgartner, 1983; Wiesenfeld et al., 1985; Anderson, Johnstone und Remley, 1999*). Past studies on bonding have been made to a large extent without reference to breastfeeding.

*Odent (2000)* calls oxytocin the love hormone, since studies have shown that, besides estrogen, it is important for prompting motherly behavior in mammals, and he cites *Pedersen und Prange (1979)* (see also *Pedersen und Prange (1987)*). From animal studies, *Thoman, Wetzel und Levine (1968, quoted from Lawrence, 1985)* conclude that breastfeeding demonstrates a system of buffering. During the breastfeeding period, women are protected to an extent from fluctuations of loneliness. Breastfeeding promotes interaction on all levels (*Panksepp, 1992; Haug-Schnabel, 1993*) and possibly has the greatest influence on promoting bonding in infancy, also through the fact that separating the mother from the child is practically impossible.

Breastfeeding takes place almost twice as often as bottle feeding within 24 hours. The explanation for this lies in the composition of the milk, which contains among all mammals the lowest calorie content. In addition to that, human milk is especially easy to digest due to the enzymes that come with it.

Since breastfeeding is an ideal and synchronic interaction and communication (*Haugh-Schnabel, 1993*), gives a feeling of wellbeing because it comes with natural opiates, eye contact, and hormones which induce motherly behavior (*Modney und Hatton, 1994*), warms and satisfies the child according to its feeding needs, and stimulates large sensory and motor areas of the brain it is generally regarded as a bonding paradigm and must be recognized as a component of bond-promoting interaction. With the nursing of the child at the breast of the mother, large amounts of oxytocin are released in the mother and in the child.

*Already Wiesenfeld et al. (1985), as well as Heinrichs et al. (2001) and Heinrichs, Neumann und Ehlert (2002) could show that breastfeeding and the oxytocin release that was came with it led to nursing mothers reacting less sensitively to stress. Thus they possibly had a larger capacity for focusing motherly attention.*

During breastfeeding oxytocin is also released in the infant, as well as during skin-to-skin contact. This influences the training of bonding sites in the brain, also. A 30 minute touch can release much oxytocin in both mother and child.

In addition to this, more prolactin is released, and not only are fear and aggressiveness reduced, but a need for closeness and social interactions grows. The caring behavior and positive social memories increase along with serenity.

Following these feelings of happiness and love, many more children are born in the end, and during their upbringing, the stress will be balanced by enjoyable experiences and memories.

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