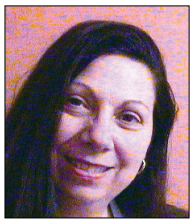
Maternal breastfeeding positions: *Have we got it right? (2)*



Suzanne Colson asks whether it is time to try new approaches such as biological nurturing in order to increase breastfeeding continuance rates in the UK

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Biological nurturing (BN), developed from observations of successful breastfeeding, describes the holding and cuddling that most mothers naturally want to do as soon as the baby is born. During the past 25 years, I have observed and supported thousands of mothers who appear to enjoy breastfeeding in a variety of acute and community settings (Colson 1985).

Employed as one of the research midwives on the Hawdon, DeRooy and Williams team (2002) examining patterns of metabolic adaptation for healthy, moderately preterm and term but small for gestational age infants, I used BN to support breastfeeding and formally articulated the strategy for an MSc dissertation in midwifery studies (Colson, 2000). Although this was a small exploratory study where comparisons were not possible, BN increased the duration of exclusive breastfeeding for this group of 'at risk' babies (Colson et al 2003).

In 2001, in conjunction with South Bank University, BN was introduced during a midwifery practice development project funded by the Department of Health and carried out in East Kent Hospitals NHS Trust (Dykes, 2004). This project resulted in a peer-reviewed nurturing booklet written for mothers (Colson 2001).

Biological nurturing is currently the subject of PhD research (Colson 2005). Underpinned by a mixed methods approach, both breast and bottle feeding mother/baby pairs have been videotaped. Unexpected findings include the description of a range of sustainable breastfeeding postures and positions that appear to increase early maternal breastfeeding enjoyment, supporting painfree and successful milk transfer. Full research results will be available next year.

BN has two components: a proactive mother-centred strategy emphasising baby-holding; and the midwifery assessment of maternal-infant wellbeing and milk transfer during feeding episodes.

Freedom of maternal posture

All mothers, regardless of feeding intention, are encouraged to make themselves as comfortable as possible from birth. This can be sitting upright, semi-reclined, side lying or flat lying. For my work, the word 'posture' always refers to the mother. For the mother, biological nurturing means finding a comfortable posture and offering her baby unrestricted access to the breast. This can be in as much skin-to-skin contact as desired. However, skin-to-skin contact is not a prerequisite to biological nurturing as exploratory research has suggested many mothers are reluctant to breastfeed without clothes or to undress their babies for a variety of reasons (Colson et al 2003).

Although healthy adults usually eat in upright postures, many lean back slightly. This may be a question of etiquette and, as noted previously, there does not appear to be any research data to justify the imposition of upright maternal sitting postures when feeding babies.

A BN maternal posture is defined as one that the mother says is comfortable, where there is no neck strain, shoulders are relaxed and all body parts are supported: it is pain-free, sustainable for a long period of time and thereby conducive to effective milk transfer. There are three basic assumptions underpinning BN postures contrasting them with the traditional upright postures paradigm reported previously (Inch et al 2003a):

1. Since all mothers' bodies are different, there is not one posture that will fit all needs
2. Mothers easily find the right posture for their own needs and comfort when routine suggestions are avoided
3. Comfortable, sustainable postures will change and evolve throughout the breastfeeding time span. Initially, they may change from feed to feed or daily.

Plenty of positions

In my work the word 'position' always refers to the baby. Biological nurturing positions are defined as those where the entire frontal aspect of the baby's body is in close juxtaposition with a maternal body contour, developing further the concept of 'tummy to mummy'. In that way, and because the areola is round, there is a potential of 360 baby positions as there are 360 degrees in a circle. Realistically, of course, there are only approximately 200 accessible baby positions.

Above: This mother in a semi-reclined posture, has large breasts that point downwards and outwards but that does not prevent her three-day old baby from self attaching in a full BN position (oblique lie)

Positioning at the breast has recently been defined as the relationship between the baby's body and the mother's, whereas attachment is the relationship between the baby's mouth and the mother's breast (Inch et al 2003b). Preliminary analysis of BN positions builds upon and further develops these definitions, bringing additional insights for the application of Woolridge's findings (1986a; 1986b). Central to the understanding of baby positions is the concept of 'lie'. I borrow the word from midwifery and obstetric antenatal fetal assessments and have redefined it to clarify BN positions in the postnatal context. The lie of biological nurturing is the longitudinal, transverse or oblique relationship between the long part of the mother and the long part of the baby.

Understanding the concept of postnatal lie can often be useful to encourage early breastfeeding for mothers undergoing caesarean section. In the first postnatal hours, many mothers are afraid that any body contact with the baby near the recent ►

Above: This mother's body is fully supported in a full BN semi-flat lying posture while her baby latches in a full BN position (longitudinal lie)

Above: During active milk transfer, mother's hands-free BN posture appears to enable instinctual stroking behaviours

surgical site will be painful; babies are often given bottle feeds while mothers are recovering. Expanding the circumference of the theoretical breastcircle to its outermost limits, mothers in comfortable semi-reclined or flat-lying BN postures can either use an over-the-shoulder position with baby in an oblique lie or try a transverse lie with the baby's body draped across her upper torso. Trying different lies often helps a worried mother to breastfeed almost immediately, thus avoiding any direct friction with her fresh wound.

It is worthwhile examining instinctive baby postnatal lie when there are common breastfeeding problems: for example, latch refusal, characterised by the baby 'fighting' the breast. Following slight modifications from traditional breastfeeding postures/positions to full BN, newborns often instinctively assume a postnatal lie on the mother's body that mirrors the antenatal lie. After a nesting-type pause, babies often self attach.

Mothers, once comfortable, are encouraged to lie their babies prone, in the close BN frontal juxtaposition previously described, for as long, as often and in as much skin-to-skin contact as desired. Again, as with maternal postures, there are basic assumptions underpinning BN baby positions, contrasting them with the traditional paradigm reported previously (Inch et al 2003a):

These include fixed ideas about:

- *The position of the baby's face.* During BN the face will certainly be near the breasts, but there is no need to line up nipple to nose or to elicit a mouth gape or routinely aim the nipple at the bottom lip. Likewise, when mothers are in semi-reclined or flat-lying postures, many babies spontaneously lead in with the chin, exhibiting searching behaviours enabling them to self attach from any angle, even while asleep. It is often the baby who latches (not the mother).
- *Swaddling*. This appears to hinder close body apposition and many innate movements.
- *The use of pillows*. These are rarely needed to support the baby as mothers often spontaneously lie back in semi-reclined or flat-lying postures where their bodies take the full weight of the baby. In this way mothers often have their hands free while breastfeeding. Pillows, however, often support the mother's body (arms, legs, back, neck).
- *Breast holding*. Some mothers want to hold their breasts, while others do not. The need to hold can change daily, even from feed to feed. Mothers are the best people to decide this and routine instruction about holding their breasts, still or otherwise, may inhibit their instinctual behaviours.
- *Nutritional needs and the place of the baby during the first 24 hours*. Most healthy term infants are born well-fed (Colson 2002). There is a physiological argument to be made focusing attention upon increasing the time of baby holding in BN postures/positions, the priority being maternal/neonatal comfort and enjoyment rather than teaching 'correct and efficient hands-off breastfeeding techniques' during the first 24 hours.

The health professional's role

During episodes of BN, many mothers and babies appear to display instinctive reciprocal feeding behaviours; midwives and other breastfeeding supporters are educated to recognise them, to learn how and when to stimulate them and to promote an environment conducive to successful milk transfer. Specifically, the midwifery focus is how to assess BN lie, neonatal awake/sleep behavioural states and milk transfer. This assessment is underpinned by nutritional physiology and a neurobehavioural theoretical framework which has inspired the concept of hormonal complexion.

Introducing hormonal complexion

Hormonal complexion is an umbrella term I am introducing to summarise the probable behavioural and mechanical effects of oxytocin (OT) and prolactin. For example, research findings suggest an association between high maternal OT pulsatility on the second postnatal day and an increase in breastfeeding duration (Nissen et al 1996).

There is also an increasing body of scientific research, mostly from animal studies, suggesting social, sexual and maternal behavioural effects – such as nesting and grooming – associated with the release of central OT. This has prompted some researchers to qualify OT as the tending, befriending, anti-stress or love hormone (Pedersen 1992, 2004; Herbert 1994; Boccia and Pedersen 2002). Although my study did not aim to examine OT pulsatility, the preceding observations, taken together with BN research video clips, introduce a compelling visual argument for the assessment of hormonal complexion as a strategy to support breastfeeding.

Along with nutritional physiology, the concept of hormonal complexion underpins BN and offers a strong theoretical framework to build upon and further develop "the anatomy of infant suckling" (Woolridge 1986a). Traditionally, it has been thought that teaching mothers positioning and attachment (P and A) skills was the way to apply Woolridge's (1986a; 1986b) pioneering research findings concerning the organisation and physiology of

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neonatal suckling (Renfrew et al 2005).

How effective is routine teaching of P and A?

The background

Although 69 per cent of mothers in the UK initiate breastfeeding, 21 per cent stop during the first two postnatal weeks (Hamlyn et al 2002). The most common reasons mothers give for this early unintended breastfeeding cessation are insufficient milk and sore nipples or breasts. These statistics largely justify the development of an early, consistent, cost-effective intervention to restore confidence in the physiology of milk production and to reduce the incidence of painful breastfeeding. Based on a recent authoritative professional consensus in England, obtained from 516 respondents, the routine teaching of P and A "using a predominantly hands off approach" has recently been recommended as the high impact solution (Dyson et al 2005: 30). But what does the research evidence say?

The research

Until 2001, there were no randomised controlled trials (RCTs) examining the impact of routine standardised teaching of P and A upon breastfeeding rates. Since then, two trials have called this practice into question. Attempting to replicate results showing positive effect from a small observational study, Forster et al (2004) randomly allocated 981 mothers to one of three groups to examine the effects of teaching standardised P and A as one of two mid-pregnancy interventions. No significant differences were found with respect to breastfeeding initiation or duration between the experimental mothers in either group and the controls.

In the other RCT, Henderson et al (2001) hypothesised that a short (30 minutes), early (first 24 hours following birth), verbal (hands-off) postnatal intervention teaching P and A would increase breastfeeding duration rates. Designed with sufficient power to show positive but not negative effect, 159 mothers were randomised to either an experimental group receiving the intervention or a control group receiving standard postnatal breastfeeding support (ie, teaching P and A by actively attaching the baby to the breast for the mother).

Surprisingly, results indicated a downward trend in breastfeeding duration rates in the intervention group, despite fewer sore nipples reported on days two and three. Experimental mothers were less satisfied with breastfeeding on four counts expressing:

1. dissatisfaction with ease of breastfeeding
2. less confidence in their feeding ability
3. scepticism that breastfeeding calmed an upset infant, and perhaps most strikingly,
4. fewer experimental mothers thought that their baby enjoyed breastfeeding.

In discussing these disappointing results, it was noted that many mothers find taught breastfeeding skills hard to achieve; the researchers could not rule out the possibility that routine 'hands-off' teaching of P and A was responsible for the lower breastfeeding rates in the experimental group.

A major limitation to the study was the possible confounding effects resulting from the researcher both delivering and assessing the effects of the intervention (Renfrew et al 2005). However, it could be argued that this limitation made these findings all the more surprising, considering that the hypothesis to which the researcher was committed, and had every opportunity to bias, proved to be ineffective.

The BN perspective does not challenge that positioning and attachment are integral to successful breastfeeding. However, in view of low, static breastfeeding duration rates in the UK for the past 20 years, it could be argued that there are gaps in the theoretical knowledge base. Once identified, they may lead us to reconsider both the nature and the timing of breastfeeding support. For example, perhaps it would be more effective if teaching of P and A was done in response to maternal request or to observed nipple sucking, rather than on a routine basis. Righard and Alade (1992) examined the effectiveness of correcting observed nipple sucking at hospital discharge (4-6 postnatal days). At four months, mothers whose babies had a faulty, uncorrected technique at hospital discharge had significantly more breastfeeding problems and earlier breastfeeding cessation. Although this small study had some confounding factors (such as the use of dummies), it may serve to increase understanding about what can happen when health professionals fail to respond appropriately to observed problems.

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Developing a professional approach

Biological nurturing builds upon and further develops a similar professional approach. Using counselling skills, midwives promote maternal/infant comfort and hormonal pulsatility; midwives are taught to assess hormonal complexion and milk transfer, discreetly, so that mothers do not feel observed; changes in maternal/neonatal postures/positions are only proposed when there are problems. In that way BN introduces new ways of thinking about breastfeeding that empower mothers to find their own ways.

Based upon observations of mothers who appear to enjoy breastfeeding, my research findings suggest that there are unexplored physiological perspectives supporting successful breastfeeding. Biological nurturing is more than nipple to nose and tummy to mummy, it is more than upright or side lying postures and cradle, cross-cradle and clutch or rugby holds, it is more than a correct sucking technique. BN is a two-person, whole-body experience introducing research evidence proposing many baby positions in three postnatal lies and a range of effective, comfortable, sustainable, pain-free maternal postures.

During the past 20 years, the low breastfeeding continuance rates in the UK have resisted national and international public health initiatives to promote and support breastfeeding (Renfrew et al 2005). Is it time to acknowledge some theoretical gaps in breastfeeding practices?

Videotapes illustrating research evidence to support practice will be available next year. ►

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Biological nurturing is more than nipple to nose or tummy to mummy, it is more than upright or side-lying postures... It is a two-person, whole body experience

Biological nurturing modules at Canterbury Christ Church University are planned for October 2006 in the context of Continuing Professional Development (CPD). **TPM**

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ABOVE: This mother, whose baby was born vaginally in a frank breech presentation, was taught P and A soon after birth. The baby fed well but the mother developed sore nipples.

ABOVE: Changing to a flat lying BN posture, with baby in a transverse lie, the baby's legs relaxed; after a characteristic nesting pause, the baby self attached enabling pain-free feeds.

REFERENCES

Boccia ML and Pedersen CA (2002). 'Brief vs long maternal separations in infancy:contrasting relationships with adult maternal behaviour and lactation levels of aggression and anxiety'. *Psychoneuroendocrinology*, 26 (7): 657-72.

Colson S (1985). 'Reflexions et propos sur les rencontres du vendredi soir'. pp30-33 In *Association des Usagers de la Maternite de Pithiviers (ed.)* Histoires de Naissance, Paris: EPI.

Colson S (2000). 'Biological suckling facilitates exclusive breastfeeding from birth a pilot study of 12 vulnerable infants'. Dissertation submitted as course requirement of MSc in Midwifery Studies, London: South Bank University, June 2000.

Colson S (2001). *Mother/Baby Experiences of Nurturing*. Department of Health-funded breastfeeding project available from J. Dufur 4 Corunna Close Hythe Kent CT21 5EA.

Colson S (2002). 'Womb to world – adaptation from foetus to neonate from a metabolic perspective'. *Midwifery Today* online: www.midwiferytoday.com/articles/womb.asp

Colson S. DeRooy L and Hawdon J. (2003). 'Biological Nurturing increases duration of breastfeeding for a vulnerable cohort'. *MIDIRS Midwifery Digest*, 13 (1): 92-97.

Colson S (2005). 'The mechanisms of biological nurturing'. PhD thesis in progress. Canterbury Christ Church University.

De Rooy L and Hawdon JM (2002). 'Nutritional factors that affect the postnatal metabolic adaptation of full-term small and large for gestational age infants'. *Pediatrics*, 109 (3): www.jpediatrics.org/cgi/content/full/109/3/e42

Dykes F (2004). *Infant Feeding Initiatives: A Report: Evaluations of the breastfeeding practice projects 1999-2002*, Department of Health online: www.doh.gov.uk/infant feeding

Dyson L, Renfrew M, McFadden A et al (2005). 'Effective action briefing on the initiation and duration of breastfeeding'. Effective action recommendations, Mother and Infant Research Unit Department of Health Sciences, The University of York (Draft for consultation).

Forster D, McLachlan H, Lumley J et al (2004). 'Two mid-pregnancy interventions to increase the initiation and duration of breastfeeding: a randomized controlled trial'. Birth, 31 (3): 176-182.

Hamlyn B, Brooker S, Oleinikova K and Wands S. (2002). *Infant Feeding 2000*, London: TSO.

Henderson A, Stamp G and Pincombe J (2001). 'Postpartum positioning and attachment education for increasing breastfeeding: a randomized trial'. Birth, 28 (4):236-242.

Herbert J (1994). 'Oxytocin and sexual behaviour'. *BMJ*, 309: 891-2.

Inch S, Law S and Wallace L (2003a). 'Hands off! The Breastfeeding Best Start Project (1)'. *The Practising Midwife*, 6 (10): 17-19.

Inch S, Law S and Wallace L (2003b). 'Confusion surrounding breastfeeding terms "positioning" and "attachment"'. *BJM*, 11 (3): 148.

Nissen E, Uvnas-Moberg K, Svensson K et al (1996). 'Different patterns of oxytocin, prolactin but not cortisol release during breastfeeding in women delivered by Caesarean section or by the vaginal route'. *Early Hum Dev*, 45: 103-118.

Pedersen CA (1992). 'Preface in oxytocin in maternal, sexual and social behaviours'. *Ann NY Acad Sci*, 652: ppix-xi.

Pedersen CA (2004).' Biological aspects of social bonding and the roots of human violence' *Ann NY Acad Sci,* 1036: 106-27.

Renfrew MJ, Dyson L, Wallace L et al (2005). *The Effectiveness of Public Health Interventions to Promote the Duration of Breastfeeding Systematic Review,* London: National Institute for Health and Clinical Excellence (NICE).

Righard L and Alade MO (1992). 'Sucking technique and its effect on success of breastfeeding'. *Birth*, 19 (4):185-9.

Woolridge MW (1986a). 'The "anatomy" of infant sucking'. *Midwifery*, 2:164-171.

Woolridge MW (1986b). 'Aetiology of sore nipples', *Midwifery*, 2: 172-76.