Midwifery 30 (2014) e177–e187

Contents lists available at ScienceDirect

Midwifery

journal homepage: www.elsevier.com/midw

Holding the baby: Early mother–infant contact after childbirth and outcomes

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ARTICLE INFO

Article history:
Received 13 November 2013
Received in revised form
15 January 2014
Accepted 14 February 2014

Keywords:
Mother–infant contact
Skin-to-skin
Birth
Breastfeeding

ABSTRACT

Aim: to describe the timing, type and duration of initial infant contact and associated demographic and clinical factors in addition to investigating the impact of early contact on breastfeeding and maternal health and well being after birth.
Method: data from a recent population survey of women birthing in Queensland, Australia were used to describe the nature of the first hold and associated demographic characteristics. Initial comparisons, with subsequent adjustment for type of birthing facility and mode of childbirth, were used to assess associations between timing, type and duration of initial contact and outcomes. Further analyses were conducted to investigate a dose–response relationship between duration of first contact and outcomes.
Findings: women who had an unassisted vaginal birth held their infant sooner, and for longer than women who had an assisted vaginal birth or caesarean and were more satisfied with their early contact. Multivariate models showed a number of demographic and clinical interventions contributing to timing, duration and type of first contact with type of birthing facility (public/private), area of residence, and assisted birth as prominent factors. For women who had a vaginal birth; early, skin-to-skin, and longer duration of initial contact were associated with high rates of breastfeeding initiation and breastfeeding at discharge, but not breastfeeding at 13 weeks. Some aspects of early contact were associated with improved maternal well being. However, these associations were not found for women who had a caesarean birth. With longer durations of first contact, a dose–response effect was found for breastfeeding.
Conclusion: results of the study provide a description of current practice in Queensland, Australia and factors impacting on early contact. For vaginal births, findings add to the evidence in support of early skin-to-skin contact for an extended period. It is suggested that all research in this area should consider the effects of early contact separately for women having vaginal and caesarean births.
Implications for practice: care providers should consider extending the period of early contact in routine care following vaginal birth and explore the way in which women having a caesarean birth might be better supported in benefitting from early contact with their infant.

Introduction

Meeting your infant for the first time face to face is a unique event that women and their partners remember and value with enormous salience. Early mother–infant contact and holding provides an opportunity to start relationship-building, though for many women the emotional attachment will have begun before birth (Laxton-Kane and Slade, 2002; Van den Bergh and Simons, 2009).

Separation of mother and infants following childbirth occurs in the context of serious illness or health problems for mothers and infants necessitating admission to intensive care or a neonatal unit. It can also occur on a shorter time frame as a consequence of interventions during labour and birth such as a caesarean section or repair following perineal trauma.

Early separation may also happen as a consequence of accepted practices which differ between countries and cultures, where for example swaddling is a common practice (Bystrova et al., 2009). In many facilities newborns are placed on the mothers' abdomen by the accoucher immediately following birth. Infants are then stimulated by being dried off, with a dry towel placed over them to keep them warm. Routine removal of the infant from the mother

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http://dx.doi.org/10.1016/j.midw.2014.02.003
0266-6138 © 2014 Published by Elsevier Ltd.

occurs as an infant is taken for weighing, measuring, administration of vitamin K, dressing and wrapping before returning to the mother or father. Recent guidelines promoting changes in this routinised care in Queensland (Queensland Maternity and Neonatal Clinical Guidelines, 2010) follow global recommendations for early skin and nipple contact to promote breastfeeding (WHO, 1998; WHO and UNICEF, 2009).

A recent systematic review presented evidence for significant positive benefits of skin-to-skin contact and holding in the minutes and hours after childbirth for successful and continued breastfeeding (Moore et al., 2012). However, limitations of the 34 selected RCT studies of studies carried out from 1976 to 2009 included methodological quality, variations in the way that skin-to-skin care was implemented and the outcomes measured. A need for data on timing of initiation and duration of early contact was emphasised as was consideration of a possible dose–response relationship between the duration of early contact and the establishment of breastfeeding. Further, the review primarily focused on RCT's which included only vaginally delivered infants and did not present findings separately for vaginal or CS delivered infants. 'Separation' referred to mothers not experiencing intimate and continuous contact with their infant specifically in relation to skin-to-skin contact involving the placing of the naked infant prone on the mother's bare chest, though this was immediate in some studies and delayed to some extent in others (Moore et al., 2012). In high and middle income countries most new mothers room in with their infants (Public Health Agency of Canada, 2009; Brodribb et al., 2013; Declercq et al., 2013), though this was not always so (Anderson, 1989). However, such new mothers may have less in the way of this type of contact immediately following birth than that reported in some low income countries (Bornstein, 1991; Trevathen, 2011).

For fullterm infants there are immediate benefits: being skin-to-skin with mother stabilises the newborn's respiration and oxygenation, reduces hypoglycemia, maintains an optimal temperature and increases the quiet alert state (Moore et al., 2012). However, much of the research on this type of contact concerns the effect of 'kangaroo mother care' which goes on beyond the immediate period following birth, on infants born preterm or low birth weight (Worku and Kassie, 2005) with benefits in terms of infant feeding and weight gain and reductions in adverse outcomes such as length of neonatal stay, infection and hypothermia (Conde-Agudelo et al., 2011). For such vulnerable infants exposure to this type of care occurs over a number of days, managed by neonatal nurses and may even involve fathers in providing physical contact and care. In contrast, the skin-to-skin trials with mothers and newborn fullterm infants focused on shorter exposures to this mode of care (Moore et al., 2012).

Healthy fullterm infants have a repertoire of innate behaviours which occur following birth (Brazelton and Nugent, 2011; Widstrom et al., 2011) with grasping, crawling, rooting and sucking contributing to effective contact and breastfeeding where there are appropriate opportunities for doing so. Maternal behaviours at this time include looking, touching with fingers tips and palmar surface, gaze and holding as described in iconic studies of early maternal interactions with the newborn shortly after birth (Klaus et al., 1972; De Chateau and Wiberg, 1977a). In this context both infants and mothers are learning about each other using multiple modalities including smell and behaving in a way that is underpinned by biological evolution and the kind of adaptive behaviour developed in mammals, particularly the primates where mothers supply warmth, nourishment and active caregiving (Jolly, 1985; Trevathen, 2011). Although there has been much debate about the idea and consequences of a sensitive period after childbirth during which women become attached to their newborn infant (De Chateau and Wiberg, 1977b; Klaus and Kennell, 1982; Eyer, 1994), the quality of the evidence has been relatively poor in relation to psychosocial and behavioural outcomes other than those associated with breastfeeding (Moore et al., 2012).

The aims of the present study were to describe the timing, duration and type of contact immediately post birth in human mothers who have recently given birth to healthy fullterm infants in Queensland, Australia and to investigate the ways in which early contact impacts on breastfeeding and maternal well being.

Method

Data collection

This study involved secondary analysis of data collected in a population survey of women who gave birth in Queensland, Australia between October 2011 and January 2012 (Prosser et al., 2013). All women identified as having given birth, excluding those who had a stillbirth or neonatal death, were mailed a survey package by the *Queensland Registry of Births, Deaths and Marriages* between three and four months after birth. The survey could be returned by mail, completed online or over the phone with a trained female interviewer. Women were sent an introductory postcard two weeks before the survey package, a reminder and no further copy of the questionnaire.

Respondents

The final survey sample comprised 5840 women who had a live singleton or multiple birth with a response rate of 30.4%. Compared to the total population of Queensland birthing women in 2010 (Queensland Health, 2012), the respondent sample over-represented women who were primiparous and birthed in a private facility and under-represented women younger than 20 and those identifying as Aboriginal and/or Torres Strait Islander. The sample was largely representative in terms of mode of birth, previous caesarean, plurality of pregnancy, infant gestational age and birth weight (Prosser et al., 2013).

Women were excluded from the present study if their infant was reported to have been cared for in a neonatal unit or they themselves were admitted to intensive care during or after labour/birth as with previous studies on this topic (Moore et al., 2012) and those with missing data for the variables of interest. The final study sample consisted of 4574 women.

Survey instrument

The questionnaire included details about the infant, pregnancy, labour and birth, postnatal care, reproductive history, and demographics and was developed building on national surveys of women's experience of maternity care in the UK and North America (Declercq et al., 2007; Redshaw et al., 2007; Dzakpasu et al., 2008).

Measures

Maternal age, type of birthing facility, obstetric history, education and area of residence were self-reported by women or derived using other information provided. Accessibility and Remoteness Index of Australia (ARIA) scores were derived from suburb/town and postcodes. From ARIA scores the Australian Bureau of Statistics (ABS) Australian Standard Geographical Classification (ABS, 2010) groupings were used to define participants' location as major city, inner regional, outer regional, remote, or very remote. Similarly postcodes were used to assign Socio-Economic Indexes for Areas' (SEIFA) Economic Resources Index (ER) quintiles, derived from census variables related to resources in each area including