Parent-Infant Bed-Sharing Behavior

Effects of Feeding Type and Presence of Father

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An evolutionarily informed perspective on parent-infant sleep contact challenges recommendations regarding appropriate parent-infant sleep practices based on large epidemiological studies. In this study regularly bed-sharing parents and infants participated in an in-home video study of bed-sharing behavior. Ten formula-feeding and ten breast-feeding families were filmed for 3 nights (adjustment, dyadic, and triadic nights) for 8 hours per night. For breast-fed infants, mother-infant orientation, sleep position, frequency of feeding, arousal, and synchronous arousal were all consistent with previous sleep-lab studies of mother-infant bed-sharing behavior, but significant differences were found between formula and breast-fed infants. While breast-feeding mothers shared a bed with their infants in a characteristic manner that provided several safety benefits, formula-feeding mothers shared a bed in a more variable manner with consequences for infant safety. Paternal bed-sharing behavior introduced further variability. Epidemiological case-control studies examining bed-sharing risks and benefits do not normally control for behavioral variables that an evolutionary viewpoint would deem crucial. This study demonstrates how parental behavior affects the bed-sharing experience and indicates that cases and controls in epidemiological studies should be matched for behavioral, as well as sociodemographic, variables.

KEY WORDS: Bed-sharing; Breast-feeding; Formula-feeding; Infant sleep; Mother-infant behavior

An anthropological perspective on infant sleep biology, including the evolutionary underpinnings and developmental benefits of mother-infant co-sleeping, has been described in numerous publications by McKenna and colleagues (McKenna, Mosko et al. 1990; McKenna, Thoman et al. 1993; McKenna et al. 2001; Mosko et al. 1997c) and those of several other biological anthropologists (Ball 2002, 2003;...
Ball et al. 1999, 2000; Hrdy 1999; Small 1992, 1998; Trevathan and McKenna 1994). The behavioral and polysomnographic studies reported by McKenna, Mosko, and colleagues throughout the 1990s supported the logical conclusion derived from physiological, evolutionary, historical, psychological and cross-cultural data that sleeping in close proximity to its mother ought to be in an infant’s best interests.

A range of studies has demonstrated the benefits of prolonged intimate interaction (skin-to-skin contact, known as “kangaroo care”) between mother and infant in the immediate postnatal period, helping infants recover rapidly from birth-related fatigue (Ludington-Hoe et al. 1999), encouraging spontaneous breast-feeding (Gomez Papi et al. 1998), promoting continued breast-feeding (De Chateau and Wiberg 1977), helping newborns preserve energy and accelerating metabolic adaptation, and thus increasing the well-being of the newborn infant (Christensson et al. 1992). Skin-to-skin contact is also associated with a significant increase in maternal oxytocin levels (Matthiesen 2001; Nissen et al. 1995) with significance for uterine contraction, milk ejection, and mother-infant interaction, and with less maternal anxiety and more efficient participation of mothers in caring for their newborn infants (Vial-Courmont 2000). These studies demonstrate the physiological importance of mother-infant physical contact on infant development and mother-infant well-being and draw attention to the evolved, interactive nature of the postpartum period. Mother-infant sleep contact over the first few months of life is a logical extension of postpartum skin-to-skin or kangaroo care and has consequences for the development of infant sleep biology and maternal feeding physiology (Ball 2003; McKenna and McDade 2005).

In Euro-American society, co-sleeping is often synonymous with bed-sharing—in other words, parent(s) and infant sharing an adult bed for sleep—although co-sleeping refers to a broader phenomenon of mother-infant sleep contact involving physical presence and sensory interchange but does not necessitate sleeping on a “Western”-style bed, or even on the same sleep surface (McKenna and Mosko 2001). Bed-sharing as practiced in the UK and US is therefore one form of mother-infant co-sleeping—and one that has attracted much controversy, being implicated in both accidental infant deaths and SIDS in various controlled and uncontrolled studies of sudden and unexpected infant deaths (Byard 1994; Carpenter et al. 2004; Drago and Dannenberg 1999; Mitchell and Scragg 1993; Nakamura, Wind et al. 1999). So although close mother-infant contact at night appears to be evolutionarily and physiologically adaptive, it has been argued that Western bedding and sleeping arrangements may not be. Uncontrolled studies (such as those based on the data from the US Consumer Product Safety Commission; e.g., Drago and Dannenberg 1999; Nakamura, Wind et al. 1999) tell us little about the relative risks and benefits of various sleeping arrangements for infants. Case-control studies (e.g., Blair et al. 1999; Carpenter et al. 2004; Tappin et al. 2005) are expected to be more rigorous, however to date case-control studies examining SIDS and infant sleep safety have produced conflicting results regarding bed-sharing, and almost all such studies have failed to match cases and controls on the basis of behavioral variables such as feed-