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**Bed Sharing and
Sudden Infant Death Syndrome:
Physiology, Epidemiology and
Public Health Perspectives**

PULSUS

Where should we go from here? With SIDS becoming (thankfully) less common, it is increasingly difficult to study it epidemiologically. Longitudinal cohort studies would have to enroll thousands of families to achieve adequate statistical power to detect differences in outcomes relative to bed sharing and other sleep practices. We are primarily left, as we have been historically, with case-control studies. These need to be ongoing, with collaboration to enable adequate pooling of data from diverse populations. Those who are most at risk are usually those who are the hardest to enrol in research studies. Thus, we must include on our study teams representatives from these groups to aid in study design, development and implementation to optimize participation, and to ensure that we are asking the right questions and collecting the right data. Detailed information must be collected to gain a full understanding of the practices that occurred before the infant's death, and similar data need to be collected for appropriately matched control infants. We need to clearly

define bed sharing and determine what constitutes bed sharing for comparative purposes. For example, if a mother brings her baby to bed to nurse or comfort when she is awake, and then returns the infant to his or her crib or bassinet, is that bed sharing? Identifying the 'usual' practice can be difficult for many families because sleep arrangements may change from day to day.

We also need to look squarely at the issue of risk assessment on an individual basis, as well as on a population-wide basis. Analytical methods and algorithms need to be developed to investigate the feasibility of using individual risk profiles and advice. For example, we advise all adults to exercise, not smoke and eat a nutritious diet. However, for those with an elevated risk of heart disease (eg, positive family history or hypertension), physicians are much more aggressive in stressing these messages. Future research should help to determine whether similar approaches are needed to help to eliminate SIDS and other sudden infant deaths.

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4. Assessing trade-offs between potential benefits and risks of increased nighttime contact between mothers and infants

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Most studies of SIDS and SIDS risk factors occur after the fact, and most studies, especially epidemiological case-control studies, remain removed from the ongoing (overall) living context within which infant caregiving practices develop, risks are mediated, and infants either live or die. In many ways, most case-control studies continue to conceptualize and treat bed sharing as a simple, stereotypical abstraction, devoid not only of real babies with varying needs and temperaments, but of real mothers who vary in their desires, circumstances and capacities to create safe environments for their infants.

Case-control studies have never measured nor included motivational and relational factors. Yet, there are many reasons to predict that the extent to which we find a way to capture and properly define these factors will determine whether there will ever be consensus among scientists as to what constitutes an accurate and complete bed sharing study, as well as what comprises an acceptable public health recommendation compatible with infant and parent emotions, needs and experiences. When all is said and done, one inalterable fact remains: nothing a baby needs, or can or cannot do, makes sense except in light of his or her mother's body.

Prospective, comparative and holistic longitudinal studies, such as our ongoing study described in chapter 12 (pages 39A to 41A), have a chance to identify and statistically decompose some of the factors we mentioned above. Because our study focuses on 'at-risk' teens, our particular sample may reveal that among at least some young mothers, too many specific risk factors – including deficiencies in attachment – converge, thus making bed sharing unsafe. If so, noncontact cosleeping (mother and baby sleeping on separate surfaces but still within sensory range) should, by all means, prove preferable for increasing the time available for mother and infant to bond, and improving attachment in a safe way. Other ways to facilitate safe body contact between mothers and infants that enhance attachment, and thus increase the chances of infant survival, may be considered. For example, among Hispanic and black mothers from a low-income population, Anisfeld et al (1) investigated the effects of increased physical contact, as achieved through the regular use of a soft infant carrier, on the infant-mother relationship. They found that the experimental intervention significantly increased the mothers' responsiveness to their infants' vocalizations when the children were three-and-a-half months old, and further promoted the establishment

of secure attachment at 13 months. The hypothesis guiding this research proposed that the extended physical closeness may have made it possible for mothers to learn and properly respond to their infants' needs.

Ainsworth et al (2) argued that a necessary precondition for sensitive maternal responding is exposure to the child's signals, such as that which occurs during sustained maternal proximity. Other developmental studies (3-6) provide support for the possible link between maternal insensitivity and insecure attachment, and other problems or delays on the part of the infant.

The question concerning the trade-offs between potential benefits and risks of increased nighttime contact between mothers and infants is not a trivial one, especially considering that many mothers have a limited opportunity for contact during the day and, hence, for attaching to their infants.

In a previous project (7), mothers' ethnographic narratives about their infants' sleeping and feeding arrangements provided a fascinating range of insights into what kinds of informational campaigns may best be applied to 'at-risk' populations to reduce the risk of SIDS and to promote healthy infant development.

If paediatric recommendations are to be successful and, indeed, correct, and if evidence-based medicine is to be adopted, the cultural belief systems, outcome variability and emotional inclinations of those for whom the recommendations are intended must all be considered, along with whether the recommendations are possible to follow within the particular home settings for which they are intended (8). Determining how and why various forms of nighttime caregiving patterns, including bed sharing, lead in some subgroups to reduced SIDS or unexpected deaths (9), while among other groups, they appear to increase SIDS or asphyxial deaths (10) are some of the questions that have not been addressed.

Before a singular recommendation against any and all forms of bed sharing is put forth, it is critical to think first about the powerful biological forces at work that underlie and motivate various forms of cosleeping behaviour. For example, it is important to consider that sleeping next to one's infant, and the reasons why it occurs universally, is in no way similar to the practice of placing infants prone to sleep. It would be a significant mistake to assume that recommendations against any and all bed sharing will be as successful as were international campaigns against infants sleeping prone. First of all, there is no professional consensus on this issue (bed sharing), and many of us will be arguing publicly against the legitimacy of an unqualified recommendation.

However, more importantly, mother-infant cosleeping with breastfeeding (even if and where beds are involved) remains biologically appropriate, if not predictable. Nighttime parental care involving diverse forms of cosleeping with nighttime breastfeeding was designed by evolution. In other words, cosleeping with breastfeeding is not a recent cultural invention as is infants sleeping prone, in cribs by themselves. As an integrated, time-tested adaptive system, mother-infant cosleeping with breastfeeding continues to be facilitated and supported by maternal biological proclivities by the fact that breastfeeding works best when cosleeping, which is reinforced by positive behavioural and physiological infant responses.

Beds, blankets, pillows, maternal smoking, drugs, couches, sofas, mattresses and dangerous adjacent furniture, as well as deleterious social conditions, obviously did not 'evolve' to protect infants throughout the night and, thus, can sabotage otherwise healthy cosleeping behaviours. The mother-infant relationship, however, including her

nighttime proximity, breast milk and sensory stimulation, most certainly did evolve to protect infants. There is a world of difference between the inherently protective role that mothers play overwhelmingly when sleeping next to their infants and the various social or physical conditions (safe and unsafe) within which mothers and infants do so. It is a difference that we cannot afford to disregard.

As a father, biological anthropologist and SIDS scientist, I support the idea that professionals need to share their knowledge and offer their best advice. I continue to object, however, to what I consider to be limited and sometimes incomplete case-control studies that inaccurately generalize that the bed-sharing environment is hazardous. I cannot find convincing evidence to ban bed sharing due to the studies' serious methodological limitations, misclassified variables and variables not considered.

Reflecting once again on my role as both a father and a SIDS scientist, my view continues to be that while it is inappropriate to recommend bed sharing – and, on many occasions, appropriate to recommend against it – a simple, singular recommendation against any and all bed sharing is highly inappropriate. Such a recommendation may lead to the elimination of safety information from hospitals and health institutions for parents who choose to bed share. It may also lead to denial, across all circumstances, of an experience for which parental bodies were designed: to sleep in contact with their babies.

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