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## **Infant sleep-related deaths: why do parents take risks?**

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Despite significant reductions in infant sleep-related deaths, they continue to be a leading cause of infant mortality and further reductions have proven difficult to achieve compared to the initial dramatic reductions brought about by Back to Sleep campaigns. Because nighttime caregiving behaviours and infant sleep environments involve a complex interplay between environmental, biological, and behavioural variables, designing effective interventions to improve sleep-related outcomes represents a significant public health challenge.

In a linked paper, Hayman and colleagues present data on infant suffocation deaths involving wedging or overlay in the sleep environment which occurred in New Zealand between 2002 and 2009. They examine the scenarios which resulted in sleep-related infant mortality and which may be used to refine existing paediatric recommendations. The authors claim that their data reinforce the need for “consistent, persistent” safe sleep messages which are disseminated widely. However, this type of authoritative health promotion has been critiqued and other models for delivering negotiated, individualistic messages are considered to be more effective where complex behaviours are involved.

With regard to infant sleep safety, message exposure and awareness of sleep-related risk factors represents only one possible reason why sleep-related risks to infants exist. Furthermore, a singular focus on message delivery inhibits the very types of conversations with health care providers that are necessary for parents to engage in contingency planning. In many cases, health care providers are not well prepared for conversations with parents who cannot or will not comply with recommended practices. Situations which require contingency planning and challenge parents to know how to transfer recommendations to different sleeping arrangements than the one for which the messages were intended include the very types of scenarios described by Hayman et al.—moving infants to alternate locations for nighttime feeding, being away from home, moving house, accommodating visitors, or providing a sleep location for multiple family members when separate sleeping surfaces are not available. Given the complex environmental, biological and behavioural circumstances which determine infant sleeping practices, reliance on message dissemination alone will have limited impact on continued reductions in infant sleep-related mortality.

In addition to lack of awareness of recommended safe sleep practices, there are several reasons why parents may create and/or tolerate varying degrees of risk in their infants' sleep environments. First, there may be limits to the capacity of parents to implement the recommendations. This can involve practical constraints caused by the physical or social environment preventing consistent implementation. [1] It can also stem from inflexibility inherent in the messages themselves, such that parents are not supported or empowered to adapt the recommendations to their own circumstances (such as how to prepare an infant sleep space when they are travelling) or how to navigate conflicts between the recommendations themselves (such as achieving breastfeeding which is a protective factor for SUDI, while avoiding a shared sleep surface, which promotes and supports breastfeeding). Individually-tailored conversations with health care providers increase parental capacity to implement recommendations; overreliance on simple messaging alone prevents these kinds of educational and coaching opportunities.

A second reason that parents may allow sleep-related risks to occur stems from a general incompatibility between individuals' cultural norms and lived experiences and the messages themselves. Such incompatibility may cause recommendations to be rejected or ignored, in whole or in part. For instance, South Asian mothers in the UK, who have very low rates of SIDS and SUDI, have reported finding safe sleep advice irrelevant as it focuses on risks such as smoking, alcohol consumption and sofa sleeping that pertain solely to white British mothers.[2] In other studies, parents have prioritised factors such as comfort, monitoring, bonding, and breastfeeding over recommendations against bedsharing, and have expressed disagreement with the dangers reportedly associated with bedsharing.[1] Parents are not often privy to odds ratios or relative risks, and risk factors are never contextualised in a way that helps them understand absolute risk. Likewise, they are rarely educated on which risk factors to prioritise or during which developmental stages specific risks are most hazardous. Thus, it is not surprising that they establish their own sets of priorities and culturally-informed approaches to providing care to infants.

Finally, parents may create and/or tolerate sleep-related risks in their infants' environments because of rarely acknowledged benefits associated with ignoring recommendations.[3] These real or perceived benefits may include decreased infant crying, reduced maternal involvement in nighttime feeds, and decreased disruption to maternal sleep. Because the costs associated with adhering to recommended safe sleep practices are rarely acknowledged, health care providers are often unprepared to help parents weigh the costs and benefits of different behaviours, or to help them ameliorate costs in ways that do not compromise infant safety. Failing to provide adequate preparation or education about how to negotiate the costs and benefits of different practices can have unintended negative consequences for infant safety outcomes. For instance, parents who adhere to recommendations not to share a bed with their infant may inadvertently fall asleep on a sofa or armchair during nighttime feeds, which is a far riskier practice than bedsharing on a mattress.[4]

Although the primary focus continues to be on message dissemination, two alternative approaches to improving infant sleep safety have emerged that provide more flexible and transferrable options for parents. These approaches acknowledge the broad array of reasons why

parents take risks with their infants, and are designed to engage with the complex social, biological, and physical environments within which infant sleep occurs.

The Infant Sleep Safety Tool consists of a colourful brochure to inform parents about the risks and benefits associated with different sleep environments, and to help parents assess their individual level of risk with regard to bedsharing. The goal is to facilitate conversations between provider and parent that might be otherwise difficult to initiate. Parents are encouraged to use the leaflet to re-evaluate their risk status as necessary, i.e. in response to changing personal and environmental circumstances. This opens the opportunity for discussion of how increased risks might be ameliorated and what barriers or trade-offs parents face in implementing safer sleeping arrangements. The tool has been implemented by community midwives in the UK and was shown to increase knowledge among parents, improve confidence of health care professionals to have conversations with parents, and was well-received by both groups.[5]

New guidelines recently disseminated by the UK National Institute for Health and Care Excellence advise that parents should be informed and empowered to make personal decisions about bedsharing and its association with SIDS. The guidelines acknowledge that there is no evidence of a causal relationship between cosleeping and SIDS, and that key factors that are associated with bedsharing and SIDS should be avoided in order to improve infant safety outcomes. The NICE guidelines establish new standards for recognising that parents and babies cosleep for a variety of important, personal, and compelling reasons, and that bedsharing can be deliberate or unplanned. Therefore, health care professionals are advised to discuss the risks and benefits with each family within the context of their own needs and circumstances. Rather than continuing to reinforce the need for “consistent, persistent” messaging, this new guidance is an important first step in creating opportunities for negotiated solutions that address the real reasons parents take risks.

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