

## Murky Definitions, Missing Data Prevent Meaningful Conclusions

“Sleep Environment Risks for Younger and Older Infants” (Colvin et al, *Pediatrics* 2014-0401) fails to add any useful information to the sudden infant death syndrome (SIDS)/infant mortality dialogue. Like many other articles on sleep-related risks, this article lacks clear, unambiguous definitions of critical variables, omits significant documented risk factors, and conflates SIDS and other unrelated forms of infant death, drawing conclusions that the data do not support.

Specifically: (1) The bed-partner could be human or animal, drunk or sober, smoker or not, adult or child, caring mother or inattentive other. An infant sleeping with an inebriated uncle is different from an infant sleeping next to his sober breastfeeding mother. (2) “Adult bed” included adult bed, water-bed, adult mattress, bunk bed, child’s bed, sofa bed, and air mattress. (We can only presume that sofas and recliners are included. They are common shared-sleep choices, especially for mothers who have been told their bed is unsafe.) An infant sleeping on a soft sofa cushion next to that inebriated uncle is different from an infant sleeping with his breastfeeding mother in a firm, uncluttered bed. The categories “adult bed” and “person” (defined as “sleeping on the chest or in the arms of another person”) were combined as 1 category, though one is inanimate and of varying safety, and the other is animate and of varying safety. (3) Infant feeding method is never mentioned, despite the fact that formula-feeding is a risk factor for SIDS and affects the mother’s behavior during bed-sharing. (4) The words “smoking” and “smoke” do not appear in the article, yet smoking during pregnancy and in an infant’s household is a significant risk for SIDS. The authors

acknowledge that “because there is no comparison group, risk cannot be determined.” Without a control group, actual risk cannot be calculated. (5) SIDS and smothering are conflated. Most SIDS risks have nothing to do with sleep location, whereas smothering and suffocation are entirely location-related. The distinction is especially important when bed-sharing is discussed. SIDS is linked to physiologic problems; suffocation results from environmental problems. (6) Bed-sharing is cited as “the predominant risk factor for younger infants” without reference to other significant risk factors or data from comparison groups. (7) The study refers to “sudden infant death syndrome and other sleep-related causes of infant mortality” but focuses almost exclusively on the “other sleep-related causes.” The combining of safe and unsafe situations in single categories is distressing but not new. The studies on which this article relies (the Ohio child death review for example<sup>1</sup>) tend to do the same, a shortcoming that the authors acknowledge but accept. The conflation of SIDS and suffocation issues is also distressing but not new. The current review, like many before it, fails to provide adequate guidance to health care professionals and is potentially damaging to families making decisions without full information about their options.

Linda J. Smith, MPH, IBCLC  
La Leche League International

Diane Wiessinger,  
Diana West,  
and Teresa Pittman

## REFERENCE

1. Presentation by Tessie Pollack, Ohio Department of Health to Ohio Collaborative to Prevent Infant Mortality, March 2014. Available at: [www.odh.ohio.gov/~media/ODH/ASSETS/Files/cfhs/Infant%20Mortality/collaborative/presentations/3-11-14/Tessie%20Safe%20Sleep%20presentation%20for%20CPIM%203%2011%202014.ashx](http://www.odh.ohio.gov/~media/ODH/ASSETS/Files/cfhs/Infant%20Mortality/collaborative/presentations/3-11-14/Tessie%20Safe%20Sleep%20presentation%20for%20CPIM%203%2011%202014.ashx)

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## Study on Sleep Location Flawed, Inconclusive

The article by Colvin et al, “Sleep Environment Risks for Younger and Older Infants,” incorrectly concludes that bed-sharing is the top risk factor for sleep-related deaths.

The authors fail to include any of the other major known risk factors for these deaths in their analysis besides sleep location and position. By far the other leading risk factors for sudden infant death syndrome (SIDS) are maternal smoking,<sup>1</sup> infants sleeping unattended,<sup>1</sup> and formula feeding.<sup>2</sup> The risk of infant death from bed-sharing is strongly potentiated by maternal prenatal and/or postnatal smoking.<sup>3</sup> The use of alcohol and sedating substances by parents/caregivers poses the greatest risk of suffocation death<sup>3</sup> but was not included in the study. The smoking variable was actually available in the authors’ data set, and their failure to use it is inexplicable and concerning, because it would have likely significantly altered their results.

The authors also failed to distinguish adult beds from far riskier types of sleeping surfaces, although the literature clearly reveals that most accidental smothering/entrapment deaths involve sofas, recliners, or chairs.<sup>3</sup>

Because the authors did not use a control group, or population statistics regarding the prevalence of all factors stratified by age and smoking status at a minimum, it is impossible to draw any conclusions about the cause of sleep-related deaths from their study. Furthermore, 25% of the infants in this study actually died in cribs.

Increasing evidence reveals that one of the major risk factors for SIDS is infant formula feeding, but infant feeding was not reported in this article. A 2010 cost analysis links formula feeding to 911 excess infant deaths per year, 447 of which are from SIDS.<sup>4</sup> The best,

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