Reviewer's report

Title: Case-control study of sudden infant death syndrome in Lithuania, 2002-2003

Version: 1 Date: 11 March 2005

Reviewer: Peter S Blair

Reviewer's report:

General
This is a retrospective case-control study of risk factors associated with SIDS infants, the data was collected from the parents in 2002-2003 but the study period (ie the time in which the events happened) was 1997-2000. This is an interesting and important study because many of the Eastern European countries have never promoted the practice of placing young infants in the prone position. The rates have always been low and are only now comparable to Western rates because of our intervention campaigns on sleeping position. The question therefore is can we learn anything else from East European infant care practices? Certainly there is some very interesting findings regarding socially deprived groups, infants wearing caps and the use of bassinets. Unfortunately the study design limits the interpretation of the data and further work is needed before we can answer this question.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1.) The parents of the SIDS infants were interviewed by researchers approximately 4 years after the event. The control infants were matched for date of birth and control parents contacted by post and sent a questionnaire about infant sleeping routines that happened 4 years ago. The authors have commented on the possible bias in the discussion but perhaps need to elaborate further, there have indeed been many retrospective studies where recall bias seemed minimal but few of these studies had such a long time lag between death and parental interview.

2) The authors also need to explain why they have matched the cases and controls by age and region but then not used a multivariate matched analysis. The matching needs to be taken into account using conditional logistic regression models.

3) The absence of a reference sleep for control infants makes it difficult to compare risk factors in the infant sleeping environment. Usual practice is often very different to what happens on a particular night. For instance, we have asked about routine bed-sharing and estimated that 6% of the control population bed-shared, yet when we asked what happened last night more than 20% of the controls bed-shared. Asking about usual practice makes parents over-categorise themselves. This is a weakness of the current analysis

4) Certain background characteristic variables seem to have been left out of the multivariate analysis such as the number of children in the family, any neonatal problems, multiple births, recent illness etc similarly with certain factors in the sleep environment such as sleeping position, bed-sharing, sleeping in a different room from the parents, the use of pacifiers, type of bedding etc. It is not clear if this information was not asked for or if it was simply non-significant. The multivariate analysis only presents those factors that remained significant.

The data needs to be re-analysed and presented differently but would be worth the effort. The study needs to play to its strength of presenting data from a different culture that has had different health messages for the last 50 years. The data that is therefore non-significant could be just as interesting as data that is significant. Instead of presenting a series of figures the authors need to present a detailed table of all the univariate findings (both significant and not significant). This should contain numbers and percentages for the cases and controls with the appropriate tests and be split into i)
background characteristics of the infants and families and ii) habitual practices in the sleeping environment. Data on what happened at the time of death is anecdotal because there is no comparable information with controls; this information should therefore be consigned to the discussion. The multivariate analysis (using conditional logistic regression for all factors significant in the univariate analysis) should also be split the same way, two models, one of background characteristics and one of usual sleep environment will be easier and more accurate to interpret, a third model joining these different types of factors would be the final phase of the analysis.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1.) The authors need to re-title the paper to reflect the study period
2.) In the Background introduction It sounds like the NZ and Australian rates have risen when in fact they have fallen quite dramatically, this sentence needs re-wording.
3) It is unclear from the exclusions how the total of 145 controls was finally arrived at. From the information provided 180 controls should have been available.
4) “Significantly more of the SIDS infants were found dead on hard mattresses (71.4%) than on intermediate mattress (28.6%) (p<0.05)”. What is actually being compared here, a chi-square test needs two groups but here we only have one.

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Discretionary Revisions (which the author can choose to ignore)
1) Some comment on the proportion of sudden unexpected deaths in infancy in Lithuania in which a post-mortem is conducted to reach the conclusion of SIDS could be made.
2) Similarly some comment on what instructions Lithuanian mothers are given regarding infant sleeping position and bed-sharing by Health Professionals or the Government would be helpful.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests