Reviewer's report

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

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Reviewer: Josef Milerad

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General

This is to my knowledge the first report in English of Sudden Infant Death in Lithuania. Although the study design is a repeat of other investigations it is still of interest as a comparison with infant mortality in other parts of Europe.

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

Page 3
The SIDS mortality rate is a low 0.3 per 1000. In order to critically appraise this number the authors need to account for how infant deaths are classified in Lithuania. How many deaths are there in infants less than a one year of age? How is SIDS classified- is the diagnosis based on autopsy or clinical history or both? What is the autopsy rate?

Materials and methods

The mean age at death of SIDS victims and the corresponding age when the questionnaire was completed for the control infants need to be given. Also, give the sex distribution for both groups.

Page 4
Statistical analysis
In the introduction it is stated that this is a case control study but it is not apparent from the statistical analysis if a case control design was used. How many control infants where there for each case? Was analysis performed at group level or at case level?

Page 4 and 5
Sleeping environment
Related to clothing, was there any seasonal variation in SIDS death? Was the seasonal variation taken into account when comparing the clothing of SIDS infants and controls?
How was mattress firmness quantified and measured?

Page 6
Social environment
How was social deprivation defined? By household income, education, overcrowding or combination of factors?
A risk factor in previous studies has parity - risk of SIDS increase in subsequent siblings. Was parity part of the questionnaire?

Page 7
Parental lifestyle
Smoking habits are given as percentage of smoking households instead of proportion of smoking mothers. In all previous studies maternal smoking has been shown to carry a major risk while
parental paternal smoking is only a minor factor. The proportion of smoking mothers classified as light moderate or heavy smokers ought to be given.

Risk factor model
Sex, gestational age and birth weight were not found to be predictive factors in the multivariate model. This is in contrast to many other studies. Since data on sex ratio gestational age and birth weight are not given in the manuscript it is difficult to assess the validity of the model. Please provide information on these variables.

Figures and figure legends
Figure 2, which show the paternal age distribution provides little information since paternal age was not a risk factor. Seasonal variation of SIDS, or birth weights of SIDS and control infants would be of more interest.
Figure 3 shows parental education although these data are not mentioned in the result section. What is the rationale for showing paternal education - was this a risk factor? It is also not clear from the figures what is the relevant comparison. Is it comparing mothers and fathers in each group or comparisons between groups?

Page 8 and 9
Discussion
The appropriate focus of the discussion should be why risk factors in Lithuania seem to differ from those reported elsewhere. Is prone sleeping not a risk factor since no infants are put to sleep prone?
Was there any relation between heavy wrapping and housing conditions such as lack of central heating and low winter temperatures a cause for over wrapping?
Were single mothers a risk factor per se? How did they differ from the married ones? Where they younger? Was their economical situation more difficult? Did they have more children or in addition to being single than the married group?
Some explanations given appear purely speculative. Why should the risk of sleeping in basinets be due to re breathing of carbine dioxide?

Page 11 and 12
References
Although the study was performed between 1997 and 2000 the authors use references from the early nineties. More recent data on epidemiology are available. Textbook references and none-peer review journal are less suitable as references in this context. Also references from Lithuanian journal, which are not available to the reader, should not be used.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
All figures should be revised as what is the essential comparison. Figure 1 lack statistical explanation. There are also some minor spelling mistakes that need to be taken care of. The symbols “grater than” and “smaller than” should not be used in figures, as their meaning is not clear to the reader.

Discretionary Revisions (which the author can choose to ignore)

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

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

No competing interests