Reviewer's report

Title: The Impact of Fathers' Physical and Psychosocial Work Conditions on Attempted and Completed Suicide Among their Children

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Reviewer: Cameron Stark

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The Impact of Fathers’ Physical and Psychosocial Work Conditions on Attempted and Completed Suicide Among their Children

This is an interesting study which addresses an important research question, and which is clearly relevant to the interpretation of recent research findings. The authors have used an appropriate method, and worked carefully to identify job exposure characteristics retrospectively. There are, however, some areas that require more consideration in the description of the study, and in its discussion.

Linkage studies. Probability linkage methods are a pragmatic way of accumulating large cohorts in an efficient manner. As with all probability methods, linkage errors do occur. There can also be problems with name changes, particularly in women. The authors should state how reliable the linkage methods they use have been found to be in this database, and comment on any limitations that may arise from this. [Major compulsory revision]

Migration: Migration is a problem is assessing risk. For example, if a control had migrated from the area, they cannot have a hospital admission for self-harm, and so may affect the comparison. Similarly, a death in a different area may not be identified. The authors should state how they dealt with migration, for example by a field in the dataset that indicates movement out of the area. If it is not possible to know if a person has migrated, then it would be sensible to quantify the maximum impact migration could have on the findings, for example by using local migration statistics to estimate the maximum proportion of the cohort who would be likely to have moved away. [Major compulsory revision]

Paternal mental illness: The study hinges on childhood experience and impact on later life. Given that most of the study period is before 1985, the method used to assess parental mental illness may be important. The study seems to depend on hospital records (psychiatric hospital admission? It was not clear if community treatment triggered a record) from 1985 onwards. If a parent had a mental illness prior to 1985, this would presumably not be recorded, meaning that incomplete risk information on this would be available for much of the cohort. If this is not the case, then it would be important to clarify this. It should also be clear if primary care treatment, or community treatment, would be identified in the database used.

The implication of this is that one possible explanation of the findings is inadequate adjustment for parental mental illness. There is probably no way of avoiding this possibility, but it would be appropriate to include acknowledgment of this in the discussion. [Major compulsory revision]

Combining self-harm and completed suicide: suicide in children is uncommon, but self-harm much more frequent. It was sensible to include consideration of self-harm as well as suicide. It was less clear that it was appropriate to combine them in to one outcome in some parts of the study. There is no doubt that people who are admitted to hospital after self-harm are more likely to subsequently die
by suicide, but the proportion who go on to do so is small.

The authors should include discussion of their decision to combine these outcomes, and note any implications they feel arise from this decision. It may be that it was done because of reasons of statistical power. If this was the case, and there is no major theoretical reason underlying the combining of these events, then it would be best to omit the combined analysis. If it was done for appropriate theoretical reasons, then these should be described and justified. [Major compulsory revision]

Information on socio-economic status: this seemed to be based on occupational classification alone. The finding of higher odds ratios in apparently more affluent groups is not one that would be common in Europe. The authors should justify the use of occupation rather than, for example, income adjusted to current prices, and describe how their finding fits with previous work in North America. This would help to put in context for readers in other parts of the world. [Discretionary revision]

Changes over time: the discussion suggests that the conditions for parents and children may have changed in these communities over the time period studied. The numbers are such that there is probably no way of examining this, but it would be appropriate to at least acknowledge that combined results for a long time period may conceal differences in different parts of the period. [Discretionary revision]

Other comments. This is an interesting study, and should be published if the issues can be addresses appropriately. It is important that its limitations, as well as its strengths, are clear, however. The main possible issues are the combining of suicide and self-harm, and the possibility that there are underlying reasons for changes in parental employment that are not identified in the factors available to the researchers (for example, unidentified parental or maternal mental illness). Discussing these further, justifying the choices, and framing the conclusions appropriately in their light would be likely to increase further the value of the work to other researchers and policy makers who would then be better able to assess the findings.

Advice on paper: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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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.