

Reviewer's report

Title: Depression and termination of pregnancy (induced abortion) in a national cohort of young Australian women: the confounding effect of women's experience of violence

Version: 1 **Date:** 8 October 2007

Reviewer: David Fergusson

Reviewer's report:

General

This paper uses data gathered over the course of a large longitudinal study of Australian young women to examine the linkages between depression and termination of pregnancy. The authors find evidence of an association between termination and depression but argue that this can be explained by confounding factors (notably exposure to partner violence and social disadvantage.). However, I found the paper to have a number of limitations that made the results far less clear cut than claimed by the authors. These problems include:

1) Inadequate measurement of outcome: The literature on abortion and depression has focussed on the linkages between exposure to abortion and longer term risks of depression. This study does not measure these longer term risks adequately. The measure used assesses depression in the last week using a short form non diagnostic measure. This falls far short of measuring the individual's history of depression. The result of using a limited measure based on a short time period is likely to be an under-estimation of the linkages between abortion and life time risks of depression and increased risks of type II errors. Nowhere in the report do the authors discuss these limitations of their results. To adequately test the hypothesis they propose requires a far more searching and extensive measurement of depression than attempted in this study

2) Misinterpretation of the Test of Significance: In their discussion and abstract the authors imply that they found no evidence to suggest an association between abortion and depression. These sweeping claims mis-represent the data. There was, in fact, a marginally significant relationship (OR = 1.21 CI = .98 – 1.5) between abortion and depression even following all adjustments. In the discussion and abstract sections of this report this evidence becomes transmuted into the claims : "There is no evidence in this paper suggesting that pregnancy termination increases the risk of depression:" (Abstract) and "The evidence in this paper does not support a causal link between termination and depression" Neither claim is sound – what the paper produces is somewhat inconclusive evidence of a relationship between abortion and a weak measure of depression. The conclusions drawn by the authors only succeed by process of translating what are clearly "grey" results into black and white conclusions using the test of significance as the arbiter of this process

3) Mis-representation of regression results: The paper makes the strong claim

that most of the association between abortion and depression is explained by partner violence. Specifically, the Discussion notes “This has allowed us to demonstrate that women were not more likely to experience probable depression if they terminated their pregnancy- whether in the teens or later provided there was adjustment for experience of violence”. Inspection of the coefficients in Table 2 show that this is not the case. These coefficients show that controlling for partner violence only reduces the ORs marginally and that the association remains significant after such control. What the paper shows is that control for both partner violence and socio demographic factors has small accumulative effects that reduce the association to marginal statistical significance. Again this reflects a tendency for “grey” findings in the Results section to be translated into black and white conclusions in the Discussion sections

My overall impressions of this research are that it contains a number of design limitations that preclude the authors from making the sweeping conclusions they present in the abstract and Discussion. What the study produces is the somewhat inconclusive finding of a weak association between abortion and a very limited measure of depression. With sufficient determination it would be possible to represent these results as either favouring the view that abortion does not increase abortion risks or as producing findings that are consistent with the view that abortion may increase risks of depression. I think that if this paper is to make a useful contribution to the literature both the Abstract and Discussion will need to be rewritten in a far more even handed way that recognises the limitations of the data set and the problems that arise in interpreting a marginally significant association between abortion and a less than comprehensive measure of depression.

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

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.