Reviewer’s report

Title: The Association Between Hope, Marital Status, Depression and Persistent Pain in Men and Women Following Cardiac Surgery

Version: 0 Date: 11 Jul 2017

Reviewer: Karin Humphries

Reviewer’s report:

This is an interesting paper that looks at sex differences in hope after cardiac surgery as well as factors associated with hope. The premise of the study is that because hope is linked to psychosocial well being, improved physical health and positive CHD outcomes a better understanding of factors associated with hope may identify strategies to increase hope.

Overall this paper has some interesting findings, but the conclusions as stated are not supported by the actual data in the manuscript. The results do not directly address approaches to strengthen hope, but instead identify factors that need to be addressed in order to strengthen hope. This distinction needs to be made clear.

On page 10, first paragraph, please summarize the highlights of Table 4.

Other comments:

In the abstract one of the key findings is that women who were divorced, single, or widowed, had lower hope scores. As written, 'marital status', this is not clear. Please reword so it is clear that living alone - divorced, single or widowed - and female sex are associated with lower hope.

Page 6, Aim - please reword aim 2, so it is clear that you are examining hope after cardiac surgery and not the factors, as listed, after cardiac surgery. Consider, '…between hope after cardiac surgery and the following…..'

Page 8, 4th line - reference 58 is not in any way relevant to the STATA software. Please delete and provide the manufacturer and city for STATA, instead.

Page 7 and 8 - there is some confusion in the definitions/categories of 'marital status'. On page 7, there is a category 'living with children' that does not appear on page 8, when the seven categories were collapsed into 2 categories. Please reconcile how you grouped 'living with children'.

Page 8 - in the list of selected covariates, time is one of the factors. Please make it clear that this refers to follow-up time.
In several places you refer to valve surgery and CABG surgery, as well as CABG /valve surgery. It would be clearer if you referred to them as isolated valve surgery and isolated CABG surgery, so they are distinct from the combined CABG and Valve surgery.

Page 10 - when discussing the findings related to isolated valve surgery;, please make it clear that the positive association with hope is relative to isolated CAVG surgery. Similarly, it is important to better describe the sex* marital status interaction. Perhaps something like, 'while neither sex nor marital status, as main effects, demonstrated significant associations with hope, women who were divorced/widowed/single were significantly more likely to have lower hope scores over the study period.

Table 1 - to be consistent, under marital status, change 'married' to 'married/cohabitant/partner'.

Table 1 - comorbidities are discrete, not continuous. Change from mean to either median, or report the proportion with 2+ comorbidities.

Table 2- title - change 'itmes' to 'items'

Table 3 - title - change the title so it is clear you are modeling 'higher' Herth Hope Index scores.

Table 3 - there is something wrong with the label for age. According to the footnote, it should read '>65,' not '<6'

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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