**Reviewer's report**

**Title:** Assessment of need for Inpatient Treatment for Mental Disorder among Female Prisoners: A Cross-Sectional Study of Provincially Detained Women in Ontario

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**Reviewer:** Mary Davoren

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Reviewer Comments.

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**Comments.**

1. This is an original paper that examines the need for hospital admissions among women prisoners in Ontario Canada. There is a paucity of research in the area of prisoners mental health needs, but most especially for women prisoners. I am of the view that this paper will be of interest to the readers of BMC psychiatry and contributes to the literature in this field.

2. I would recommend publishing this study with only very minor revisions. It is well written and will add to the literature in the field.

**The abstract.**

3. The abstract is clearly written and provides an accurate summary of the paper.
The introduction:

4. The introduction is well written and clearly sets out the rationale for the study, i.e. the need to quantify the level of need among female prisoners.

5. In the introduction section on paragraph 2, page 5, the authors note that the Dundrum tool is a set of four SPJ instruments. However they are not referring to the most up to date version of the tool. The Dundrum tool is in fact a suite of five instruments, the fifth being the service user self-rated version. I am of the view that the inclusion of the service user self-rated tool is quite important and would ask that the authors update their reference to the tool, reference 11 to the most up to date reference which is to tool version 26. I have included the link here: http://www.tara.tcd.ie/handle/2262/67375.

6. I would suggest that it would be helpful if the authors added to the paragraph on page 5 that described the Dundrum tool with a little more detail, in order to assist the readers. I would suggest a statement that the Dundrum tool is a 'needs' assessment tool not a 'violence risk' assessment tool would be helpful and to clarify that the other sections in the five tool suite are Dundrum-3 Programme completion and Dundrum-4 Recovery scales, as well as the service user scale (the fifth scale) which are used to assess a patients readiness to move to less secure places. It would also be helpful at this point to state that the individual items of the Dundrum 1 and 2 scales are listed in table 2, and each item is rated 0-4 according to a series of definitions. The highest scores indicating higher need for therapeutic security on admission. These small additions would assist a reader who may be unfamiliar with the tool in my view.

The methods.

7. In my view the methodology was clearly described and appropriate to the research question being asked. Again in the methods section reference 11 to the Dundrum tool could be changed as per the above comment (4).

8. The statistical methods were appropriate.
The results.

9. The results were clearly stated and answered the research question. I think it is a definite strength of the study that the investigators managed to get such good numbers for a study of female prisoners.

10. On table one, which showed the results of the mean Dundrum-1 scores and need for admission, the authors state in the manuscript that higher scores on the Dundrum-1 scale were associated with need for admission to higher levels of therapeutic security. However on examining table one, the scores appear to be reversed with higher scores listed for the group where admission was not required (25.1) and lower scores with need for a high intensity bed (12.9). I would suggest this is a simple clerical error and the scores were slotted into the wrong section on the table?

11. On page 10, the readers include the overall results and a secondary item-to-outcome analysis. I note that most of the items on the tool were associated with the need for therapeutic security which was a positive finding. I would suggest leaving out the statement that there was a trend towards association for times 7 (preventing access) and item 8 (victim sensitivity) as in my view an item either reached statistical significance or it did not.

12. In paragraph one, page 11 the authors note that the scores on the Dundrum-2 triage urgency scale was not associated with the level of need for therapeutic security. This is not an unexpected finding as Dundrum-2 does not assess the level of security a patient should be admitted to, rather it assesses the urgency of need for the admission bed. Therefore I do wonder if the authors would consider examining if there was any association between the ratings on the five point scale of need with the Dundrum-2 urgency scale? I think the scale of need may better reflect the clinicians view of 'urgency' which would be interesting to readers.

The Discussion.

13. In the discussion section the findings were put into context of the current literature and implications for mental health services discussed clearly.
14. In the discussion section the authors refer to Flynn et al whose findings in Ireland were similar, although examining a mainly male population referred to medium security. I would add that a similar study in London also supported these findings with the link here https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-015-0620-9 and I think this would also be worth referencing. Again however this was a study of mainly male patients being referred, whereas the current study is entirely female which adds significantly to this piece.

15. On page 2, line 31 (in the abstract) I think the sentence should read "on a five point scale". This is clearly a minor clerical error.

Summary.

16. Overall I really enjoyed reading this article and would recommend it for publication.
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.

Yes

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

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