Reviewer's report

Title: A survey on depression among infertile women in Ghana

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Reviewer: Lone Schmidt

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Review
A survey on depression among infertile women in Ghana

This is an important cross-sectional study about the prevalence of depression among infertile women attending a fertility clinic in Ghana. Infertility – especially secondary infertility – is highly frequent in Sub-Saharan countries. Previous studies from a range of African countries have shown huge negative psychosocial consequences for infertile women and also for infertile men. The literature on depression and infertility in African countries are still sparse. This study contributes to shed light on a severe psychosocial consequence of infertility in Ghana.

The study is thoroughly conducted and data analyses are sufficient. However, I have a range of suggestions for improving how the study is presented in the manuscript.

Major Compulsory revisions

1. Definition of infertility. The author states, p. 4 “the classical definition of infertility as defined by the WHO”. WHO uses two different definitions according to infertility: one is regarding the non-achievement of a pregnancy after > 12 months of trying. The second definition is regarding the non-achievement of a live birth after e.g. 5 years of exposure (see Mascarenhas et al. PLoS Medicine 2012, 9: e1001356 for definitions as well as global data in infertility prevalence (the demographic definition used) since 1990 based on 277 household surveys).

Please, state specifically how the concept infertility is defined in this study and add a reference. Also state specifically the terms primary infertility and secondary infertility used in this study. How is previous conceptions measured? Are miscarriages, induced abortions and still births included or are only live births included? Please, state specifically.

2. Prospective study? On p. 7 the author states that this study “is the first prospective study” on depression among infertile women in Ghana. The study is cross-sectional and I find the term “prospective” indicates a longitudinal cohort design with repeated measurements. Does “prospective” indicate that the women having responded to interviews before initiating fertility treatment?

3. Language revisions and proof reading. A professional language revision would
be beneficial and is required. What is “20-30 year bracket” – age group? (p. 5). Furthermore, a carefully proof reading is necessary. Some examples: BDI is several times stated as “BID”, “conceive” in Table 2 should be “conceived”, the reference to Table 1 (p. 7, first paragraph) should be to Table 2. Use either “P” or “p” consequently; three digits are sufficient (0.001) both in p-values and 95% confidence intervals.

Minor Essential Revisions
1. “Relationship”, “correlation” or “association”? In this epidemiological, cross-sectional study I would suggest throughout the manuscript to use the concept “association” when describing how variables are related to each other.

2. “Increase” or “higher”? On e.g. p. 6 the author states there was a gradual increase in mean score depression with an increase in age. I suggest not to use the word “increase” as this could indicate a change, an increase over time. Again this is a cross-sectional study including no measurement of depression over time. I suggest instead e.g. to state that the prevalence of depression was higher in higher age groups.

In line with this the author states on p. 9 “more depressive symptoms which increased in severity as the duration of infertility increased”. Again, this use of the word “increase” could indicate that infertile women over time report more and more depressive symptoms. This study shows an association with infertility duration and severity of depressive symptoms – not that depressive symptoms increase over time.

3. Conclusion. The author states on p. 10 in the Conclusion Section that psychological interventions may prevent occurrence of severe depression. In the Abstract conclusion is further added that a reduction in severe depression “may lead to improve fertility rate”. The first statement is far from the study conducted – this study is not about effects of psychosocial interventions for reducing depressive symptoms among infertile women. The second statement is questionable. A recent meta-analysis (Boivin et al., BMJ 2012) showed that level of depressive symptoms before assisted reproduction was NOT a predictor of probability of achieving a pregnancy. I suggest the authors to revise the conclusion section to be closely linked to what has been investigated.

4. Reference list. The reference list is not 100% consistent. For example, there is a mix between abbreviated journal titles and full length journal titles. Please, follow carefully and consistently Author Guidelines for this journal.

Ref 3. “i” should be “I”.

5. Figures. An explanation for the stars in Figures 1 and 2 is missing. Why is “Depression” with capital “D” in the figures and figure legend 2 and why is “Scores” stated with two capital letters?

6. Table 2. Why is the title “Rate of Depression” but in the column “Level of
Depression”? Is it two different aspects? And again why is depression with capital D?

Please, add “n” in columns for normal/mild/moderate depression. I suggest not to state “normal” as the heading is level of depression. Change to “No” depression.

Discretionary Revisions

See e.g. Mascarenhas et al. as mentioned above in this review.

2. Infertility/fecundity. On p. 8, the author states that “female fecundity is at peak around the age bracket of 26-36 years and infertility becomes more pronounced after the age of 35 [15,16].”

Ref. 15 is as far as I am aware to a study among women in insemination treatment with donor semen? I suggest to include more recent references and to refer to studies covering women in general and not women in assisted reproduction (refer e.g. to ESHRE reports on female fertility and ovarian aging). Further, I understand that the word “infertility” in this context is used as the non-achievement of a pregnancy or is it the non-achievement of a live birth?

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.