Reviewer’s report

Title: Physical activity, depressed mood and pregnancy worries in European pregnant women who are obese: results from the DALI study

Version: 2
Date: 16 April 2015
Reviewer: Diane Ehlers

Reviewer’s report:

Thank you for the opportunity to re-review this manuscript and for the authors’ thoughtful responses to and modifications based upon the original review. I believe the paper is much improved since the initial draft.

Major Compulsory Revisions

• The introduction is improved from the first draft. However, the contribution of the study is still somewhat unclear. Please expand on how this study furthers the literature above and beyond the contributions of references 16 and 27. Where do these studies fall short? Or are these two of the only studies to examine mental health as a predictor of physical activity in obese pregnant women? Only a small amount of expansion on the study’s significance in this section is needed.
• Please make sure the connection between emotional well-being and depression is clear. The mention of emotional well-being in line 170 was surprising as the manuscript up to this point referred to the primary independent variables as depressed mood and pregnancy-related worries.
• The methods, data analyses, and results sections are much clearer after the authors’ revisions.
• In the conclusion paragraph starting on Line 373, should this section mention pregnant women who are obese? In line 374, should this be the “combined risk of poor mental health and obesity”? It seems the take away of the study is that focused/tailored efforts may be needed when promoting physical activity among obese women reporting at-risk levels of depressive symptoms. This isn’t entirely apparent at the end of the manuscript.

Minor Essential Revisions

• Change the word “is” to “may be” (Line 60).
• Change the word “less” to “fewer” (Line 68).
• The statistic presented in lines 74-76 is related to American women; however, none of the women enrolled in this study were from the US. Please provide a statistic more relevant to the study sample.
• Change “improving” to “improve” (Line 83).
• Please provide references in Line 88. Placement of references 17-18 in subsequent sentences is sufficient; however, more references are needed as
depression as a predictor of low physical activity has been “well studied”.
• Please provide 2+ references in Line 93.
• Change “is” to “are” (Line 121).
• Include “and” after “hospitals” (Line 127).
• Lines 142-144. These sentences are a little unclear as written. Consider rewording to indicate that previous validation studies have found activity estimates to be comparable across the three monitors. Additionally, the GT3X is a triaxial accelerometer, but data can be analyzed from the vertical plane only to standardize activity estimates across the three accelerometers. All three are made by ActiGraph.
• What sampling rate was used for this study (Line 145)?
• Please provide the Evenson & Terry (2009) citation to justify the use of 480 minutes as minimum daily wear time and address why a minimum 480 minutes and 3 days are sufficient to estimate usual physical activity levels (Lines 150, 156). Please note that this study was in postpartum, not pregnant women.
• Please provide a reference in Line 161 citing other studies that have utilized this method. This reviewer is not positive, but some of Greg Welk’s work may provide this justification.
• Was the CWS back-translated to validate the translation (Line 189)?
• The term “different mental health categories” (Line 214) – to what does this refer? The WHO-5 split at 50 and the tertiles of the CWS? This was not clear.
• Delete “SD” in Line 251 for consistency.
• Please reword the sentence in lines 286-287, as this manuscript does not present information on the “frequency, intensity, and duration of different physical activity.” Summary information about intensity and average daily duration is presented, but no information about the frequency of activity, duration of bouts, or different types of physical activity is presented.
• Please provide a citation for the EPDS (Lines 306-307).

Discretionary Revisions
• Include a statement on how the data were analyzed in the abstract (Line 49).
• The change to “pregnant women who are obese” reduces the readability of the sentences including this identification. Depending upon the editors’ preference, the authors might consider changing this language back to “obese pregnant women.”
• Consider using ± to express standard deviations. For example, women had a mean age of 31.6 ± 5.8 years – it may read a little better than including the units after the SD parenthetical.
• The abstract reads quite well. Very clear exactly what was done in this study.
• Consider changing “a lot of” to “many” (Line 57).
• Change “depressed mood or . . .” to “depressed mood and . . .” (Line 57).
• Please provide the justification for 29 kg/m² as the minimum BMI to qualify for this study in the Methods section (Line 132).

• Delete the phrase “although not validated in pregnancy” in line 159. Citation of Freedson cutpoints in other studies of pregnant women is sufficient. Inclusion of this phrase highlights a limitation of the study that does not need to be highlighted, as the authors have provided adequate justification for using these cutpoints.

• The authors may consider rewording the content of Lines 236-239. The part in Line 238 suggests a mediation analysis. To eliminate this confusion, address these variables as confounders or moderators (if significant interactions between HAPA factors and mental health were observed).

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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.