Author’s response to reviews

Title: The Association of Depression and Anxiety with Glycemic Control among Mexican Americans with Diabetes Living Near the U.S.-Mexico Border

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Author’s response to reviews: see over
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Dear Dr. Pafitis:

Thank you for your invitation to resubmit our manuscript, *The Association of Depression and Anxiety with Glycemic Control among Mexican Americans with Diabetes Living Near the U.S.-Mexico Border*, to BMC Public Health. The reviewer suggestions and concerns are summarized below, followed by our response and the corresponding changes made to the manuscript. We are happy to make additional changes to the manuscript as needed.

Sincerely,

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REVIEWER CONCERNS

1. **Concern:** In their response, author state that: “We agree with the reviewer that p = .10 is probably not normally worth noting. However, in this case the p-values were actually less than .10, with p = .08 for the relationship between depression and HbA1c, and p = .07 for the relationship between anxiety and fasting glucose (see pgs. 9-10). We wanted to show a consistent pattern of relationships between depression and anxiety with measures of glycemic control, so we thought it was important that readers know the relationships approached significance. In addition, the fit for the entire model (with covariates) in each of these cases was also significant (information about model fit has been added to pgs. 9-10 at the reviewers request – see comment #3)."

   The relevant fact is that the significance level is >.05. In other words, the relationships described are not statistically significant, even if they are included insignificant models. Given the high number of analyses performed, even a p<.05, but >.01, could be expression of relationship due to chance. I feel to stress once more this point, because authors perform “moderation analyses” on the basis of not significant data. This is methodologically not correct and even misleading. This is a negative data and should be reported as such. Depression is not related to HbA1c and anxiety is not related to fasting glucose.
Response: Given the reviewer’s concerns, we have removed the notation “†p < .10” from tables 3 and 4. We have also specifically stated that these relationships were not significant on pages 9 and 10 (see text below), and have removed mention of these relationships in first paragraph of the discussion section. With regard to moderation, our understanding is that the relationship between the independent variable (depression) and the dependent variable (HbA1c) does not need to be significant overall to examine moderation effects. In fact, if the relationships are opposite across levels of the moderating variable (e.g., depression positively related to HbA1c among more educated participants; depression inversely related to HbA1c among less educated participants) you could anticipate a non-significant overall effect despite a strong moderation effect (i.e., crossover effects, see Aiken & West, 1991; Multiple Regression: Testing and Interpreting Interactions).

Pg. 9
“Depression was not significantly associated with HbA1c.”

Pg. 10
“Anxiety was not significantly associated with fasting glucose.”

2. Concern: Some recent studies have been added in the Background section (2nd par). However, at least two recent and well-performed meta-analyses reporting higher risks of depression in patients with diabetes are still not cited (Nouwen A, Winkley K, Twisk J, Lloyd CE, Peyrot M, Ismail K, et al. European Depression in Diabetes (EDID) Research Consortium: type 2 diabetes mellitus as a risk factor for the onset of depression: a systematic review and metaanalysis. Diabetologia 2010;53(12):2480–6; Rotella F, Mannucci E. Diabetes mellitus as a risk factor for depression. A meta-analysis of longitudinal studies. Diabetes Res Clin Pract. 2013 Feb;99(2):98-104). Furthermore, authors have not highlighted in the text the fact that if diabetes increases risk for depression, this may have a significant influence on the rates of depression found in diabetic patients in cross-sectional studies.

Response: At the reviewer’s request, we have added the omitted references and a few additional relevant references to pg. 3 (i.e., Nouwen et al., 2010; Rotella & Mannucci, 2013; Renn et al., 2011; Roy et al., 2012). In addition, we have added a statement indicating that diabetes increases risk for depression, and may explain high rates of depression in diabetic samples (see pg. 3).

Pg. 3
“Research indicates that the relationship between depression and diabetes is bi-directional [8-13]. Depression is associated with the development of diabetes [8, 12]. Conversely, diabetes is associated with the development of depression [8-10]. Given that diabetes increases risk for depression, it is not surprising that higher rates of depression are found among diabetic patients in cross-sectional studies. Further, Mexican Americans with diabetes…”