Reviewer's report

Title: Social adaptability and substance abuse: Predictors of depression among hemodialysis patients?

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Reviewer: Alexander Goldfarb-Rumyantzev

Reviewer's report:

The paper is well written and flows well. The research question is relevant and practical for health care providers dealing with dialysis population. Authors analyzed their local data, they tested dialysis patients for the presence of depression and derived data necessary to calculate the SAI. I agree with the authors that the SAI is a practical and reliable tool in predicting population at risk, though in this study it did not demonstrate the association with depression, which is somewhat counterintuitive, but still is an important and useful message.

I also reviewed the comments of the Reviewer, both the initial comments and the comments to resubmitted paper. Reviewer makes valid points, but I feel that the importance of these points to the final message is not uniform.

I think I would definitely agree with the Reviewer’s point #2, where the Reviewer expresses the concern that both SAI and substance abuse indicator were included in the regression model, as collinearity might cause false negative results. Same as the Reviewer, I would advise the authors to run two separate models: one that would include the SAI but not the substance abuse indicator; and the second model including the substance abuse indicator, but not the SAI. In fact, I feel very strong about it, and if they have problems with this analysis, I invite them to send the data to us and we can run the model quickly and send them the outcome very quick. Reviewer is absolutely correct in saying that the result might be very different if you do it this way, who knows, maybe substance abuse indicator will come out significant. In the paper however, authors mentioned in one place about analyzing these two variables separately, and if indeed it is true, that needs to be made clear in the rest of the paper.

Regarding other comments, though I see the reviewer’s point, I don’t feel very strong; I think the paper would be OK without addressing those. In our experience, when we analyzed SAI in very different patient populations, it was not really skewed and has distribution close to normal (of course local data might be very different). I think running the histogram of SAI might be something quick and easy, and again, if authors have an issue with that, I invite them to send the data to us and we would generate the histogram and test the distribution for normality. Again, I don’t particularly feel strong about making this correction; it is very unlikely that it would change the outcome.

As far as including components of the SAI in the model separately, I think it might
be interesting to see if any of the components would have the association with depression, but I would leave it to the discretion of the authors. After all, their specific goal was to test the SAI as a tool, and looking at individual components might be beyond the scope of this paper. On the other hand if they have these components already calculated, it does not sound like a big deal to run the model with these five variables, but make sure to take SAI out of that model. As above, my group would be happy to run this analysis too, if they might be interested.

The following paragraph has nothing to do with this project. I wonder if authors have survival data on their patients. I would be curious to know if SAI is associated with survival in their population, but definitely it has nothing to do with this paper, and it they do not have to analyze it as a part of current project. However, analyzing SAI in relation to survival in their population would be a solid separate project that they can do next and publish it. Further, another interesting project they can do - I would be very interested to see if they can analyze SAI in relation to vascular access, the hypothesis being that patients with lower SAI get more central vein catheters, while those with higher SAI get more AV fistulae. That would be a good interesting paper, and I think they have data to do it. Finally, maybe they can look at the SAI as a predictor of transplantation. Well, that is a little tangential, but I think authors did a good job collecting the data and might as well derive more interesting projects out of it.