Review of: "Character strengths of women with polycystic ovary syndrome in a single center"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

This is an interesting study using a novel measure in a PCOS sample. Although it is very refreshing to find research looking at positive aspects of PCOS, there are some flaws in the methodology and reporting of the study which should be addressed:

- The paper describes two groups, PCOS and non-PCOS. However the method section says that “All controls included women with normal fertility or subfertility due to tubal, male factor or unexplained cause, who did not fit the Rotterdam criteria…”. The paper doesn’t tell us if the control groups consists of 1% women with normal fertility or 99% normal fertility, or something in between. If the control group is mainly subfertile women, this would explain the otherwise highly unusual finding that the controls had slightly higher levels of anxiety and significantly higher levels of depression than women with PCOS.
- The HADS scores might not be due to screening out people with “psychiatric disease”, because HADS scores in women with PCOS are not necessarily in the clinical range.
- We are not told what the mean (SD) scores are in each group for hirsutism, BMI, bioavailable testosterone, SHBG, free androgen index (FAI), irregular menstrual cycle, acne and fertility.
- The authors ran a lot of statistical tests (e.g. 24 regressions), so the authors should justify not adjusting the threshold for significance (.05) to reduce the likelihood of significant results occurring by chance.
- The sample size is probably too small to justify regression models with 11 predictors. Using a rule of thumb (Tabachnick and Fidell, 2000), 39 more participants would have been required.
- Were the usual assumptions for the use of multiple linear regression met (e.g. normality)?
- The results section states that: “The results of linear regression showed that an increase in FAI tends to decrease the score of judgement”. However the discussion says: (a) “In our study, there was no existence of correlations between testosterone levels and character strengths” and (b) “PCOS patients had higher scores of judgement”. The latter finding is puzzling, because FAI is usually higher in PCOS, which would contradict the statement in the results section that “an increase in FAI tends to decrease the score of judgement”. Again, this begs the need to show the mean (SD) scores for each group for bioavailable testosterone, SHBG, free androgen index (FAI), hirsutism, BMI, irregular menstrual cycle, acne and fertility.
- The finding that “menstrual cycle disturbances were linked to higher curiosity and transcendence scores” was not explained or explored.
- In the discussion section the authors say the findings are not “in accordance with a study that revealed higher

neuroticism levels in patients with PCOS". However that statement is difficult to justify given that the present study did not measure neuroticism.

- The discussion section says: "Weiner et al. [21] revealed a weak non-linear relationship between mood and testosterone. However, our results do not echo the latter finding as there was lack of any correlation between the two studied variables." Did the authors test for nonlinear correlations? If so this should be made clear in the method section and the results given in the results section.

I hope that these comments are helpful to the authors. All of the issues mentioned above, apart from the sample size, can be adjusted to improve the paper. For example, I would suggest that the control group is split into two groups, one of fertile women, and one of subfertile women, and the data reanalysed appropriately.