Reviewer's report

Title: To test or not to test: Preliminary assessment of normality when comparing two independent samples

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Reviewer: Gabriela Vazquez Benitez

Reviewer's report:

The present paper is a well written paper that addresses statistical standard practices in clinical research. Authors analyze type I error of commonly use methods to decide whether use t-test statistic to compare two independent samples in the absence of information of the underlying distribution.

General comments:

- Description of the simulation is left at the end of the paper, without reference. It was difficult to read the results in the absence of knowing the parameters they were using (sample size, parameter of the distribution, equal variance).
- If I understand correctly, the decision tree is a three stage procedure: 1) Shapiro-Wilk test for normality, if not use Mann-Whitney's U test, if yes, test for equal variance, and apply t-test. In your exercise it was assumed equal variance. My question is what is the role of testing equal variance in estimating the conditional type I error rates?
- The authors compared results to using a non-parametric approach in the absence of testing for normality. Additional information for broader targeted readers may be to add the type I error rate when ignoring testing for normality.
- In the conclusion, the authors suggest that the distribution of the outcome might be investigated in pilot studies. From a practical perspective a pilot study are commonly done in small samples, and as you noted in the manuscript, there is little power to verify assumptio

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.