Author's response to reviews

Title: Assessment of knowledge retention and the value of proctored ultrasound exams after an introductory emergency ultrasound curriculum.

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Author's response to reviews: see over
To Whom It May Concern:

Please accept our revised submission for publication to the BioMed Central – Medical Education Journal. We have addressed the comments of both reviewers below in a point-by-point format. In addition, IRB approval was obtained for this study and informed consent was obtained from all participants.

Reviewer Alan Jones
1. We have changed the aims of the study sentence in the Background per reviewer’s suggestions.
2. We have added an explicit statement regarding the emergency medicine residents previous ultrasound experience (none had any formal training) in the setting and population section.
3. We have attached a file with the entire 24 question test and the editors can make it available as an appendix.
4. Although the data is generally normally distributed, given the small sample sizes, we've performed all of the calculations again with nonparametric statistics in the revised manuscript. This caused no qualitative change in the results or conclusions, and we feel this approach strengthens the analysis by removing any assumptions about the data distributions. The calculations were performed with a statistical package, Statxact, which is specifically designed for small or skewed datasets.
5. We have changed the scores to use the raw score data instead of the percentages in the revised manuscript.
6. We have clarified that there were 6 subjects in the proctored ultrasound exam group and six in the control group for the resident section – this is spelled out in the study intervention section.
7. We have reported the 95% confidence intervals instead of p-values in the revised manuscript.
8. We have changed the data analysis section to more accurately reflect the groups being analyzed and to further clarify the analytic approach. An investigator experienced in statistical analysis has been added to the study and paired and unpaired nonparametric comparisons have been performed as appropriate to
reflect the reviewer’s concern. Graphics have been converted to boxplots with associated explanations to provide a better picture of the data distributions for the reader.

9. We have attempted to describe in more detail that the curriculum for both resident and faculty groups is the standard curriculum described in the literature and focuses on the six applications the American College of Emergency Physicians list as the most important for EPs. Our US knowledge test focuses on those six applications. We clarified this in the methods section.

10. We have included some of the subjective comments from the study subjects verbatim to support the point of improved comfort. We specified that none of the residents or faculty had any further US training during the six month study period and that as US was not part of the standard of care in any of the study subjects clinical practice environment, their “non-study” exposure to emergency ultrasound was very limited and thus had limited confounding effect on the subjects comfort level. However, we have pointed out that we did not specifically set out to study the outcome of improved comfort level with the technology and so have modified the conclusions to reflect this.

Reviewer Alan Chater
2. We have attempted to address these reviewer’s comments as above in point #10.
3. We have included more specific statements regarding prior US experience and training in the methods section

The manuscript, as submitted or its essence in another version, is not under consideration for publication elsewhere, and will not be published elsewhere while under consideration by BMC. The authors have no commercial associations or sources of support that might pose a conflict of interest. All authors have made substantive contributions to the study, and all authors endorse the data and conclusions.

Thank you for your consideration.

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