Author’s response to reviews

Title: Effect of an Interactive E-learning Tool for Delirium on Patient and Nursing Outcomes in a Geriatric Hospital Setting: Findings of a Before-After study

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Dear Editor in Chief, Executive Editor and reviewers,

Please find attached the revised manuscript entitled: ‘Effect of an Interactive E-learning Tool for Delirium on Patient and Nursing Outcomes in a Geriatric Hospital Setting: Findings of a Before-After study’.

We would like to gratefully thank the reviewers for their comments. This has helped us to improve the paper. We have taken into consideration all comments and have revised the manuscript accordingly. All changes in the text are underlined.
We hope that we have sufficiently addressed the comments of the reviewers. Thank you for reconsidering this manuscript for publication.

Sincerely yours,

On behalf of all co-authors,

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Reviewer 1

This is a timely and well-written manuscript. The study addresses an E-learning Tool for Delirium of persons in a geriatric hospital setting. The authors have included a comprehensive review of the literature, provide a clear and appropriate description of study methods, analyses and discussion. Study findings have clear implications for future work in this area, either descriptive or for future intervention testing. The authors are commended for their contributions in further understanding patient and nursing outcomes relative to delirium.
We thank the reviewer for reviewing this manuscript.

Reviewer 2

The subject of this study is of interest to readers of BMC Geriatrics: educational strategies to increase delirium knowledge among nurses are desirable.

Substantial methodological and other formal clarifications are needed.

We thank the reviewer for this report. Please find below the point-by-point responses and our respective revisions on your comments.

*Results section, 1st paragraph, study participants: almost half of the admitted patients refused to give consent to the study. It is questionable to calculate a prevalence of delirium as a primary outcome of the study with such a refusal rate, due to an inevitable detection bias.

We agree that we have a high refusal rate. However, it is inherent to this population that the dropout is high and the patient cooperation is limited. Yet, our prevalence rate of delirium is similar to those of previous studies in medical/geriatric populations.

We have added this remark as a limitation in the discussion section as follows: We are aware that we have a high refusal rate in patients. However, it is inherent to this patient population that the drop out is high and the cooperation is limited. (page 17, line 360-361)

*Discussion section, 1st paragraph: the authors admit they did not find impact of the delirium e-learning tool on prevalence, duration, severity of delirium, nor on mortality and nursing knowledge. They also hypothesize that the effect of e-learning tool could be more effective on wards less experienced on delirium management. This could be interpreted as a substantial admission of a wrong design of the study.
We thank the reviewer to draw our attention to our hypothesis that could be interpreted as a substantial admission of a wrong design of the study. However, we do not fully agree.

The fact that our geriatric nurses had high baseline recognition and knowledge levels regarding delirium is a consideration that should be taken into account by interpreting our findings; yet, not as a wrong design of the study. Indeed, the window of increasing nurses’ knowledge and as a consequence decreasing delirium incidence, duration or severity can be smaller, but, an improvement in knowledge and patient outcomes is always possible. Moreover, our study results - demonstrating that e-learning is insufficient to implement in its current form to influence patient outcomes on wards with staff having high levels of delirium-related knowledge - are particularly important for both hospitals implementing e-learning as delirium education and the research community which wants to evaluate e-learning in future research. Since evidence based data have demonstrated that educational interventions embedding enabling and reinforcing strategies appear to be effective in improving patient-related outcomes, a switch from an e-learning educational approach to a larger approach of blended-learning education (i.e. e-learning combined with other learning strategies) might be necessary to influence patient outcomes.

*Methods section, baseline data paragraph: the cited version of the Katz index ADL should range from 0 to 6, and not 0 to 12.

We thank the reviewer for this remark. As explained in the methods section we used an adapted version of the Katz index ADL (e.g. indicating the level of independence in performing the following six activities scored on a 3-point scale (0=independent; 1=partly dependent; 2=dependent): bathing, dressing, feeding, continence, transfer and toileting. This results in a total score ranging from 0 to 12.