Reviewer's report

Title: Educational Potential of a Virtual Patient System for Caring for Traumatized Patients in Primary Care

Version: 2 Date: 7 May 2013

Reviewer: Christine Phillips

Reviewer's report:

Thanks for asking me to review this very interesting paper which sets out a proof-of-concept about a new educational tool, a virtual refugee patient case (RTSim). The authors make a sound argument for the need for education in this area. It is indeed difficult to develop effective educational tools that enable the learner to reflect on the impact of complex trauma, while receiving feedback.

I was intrigued by this paper, and would like to encourage the authors to consider and frame the analysis and description of this educational tool. The presentation of the analysis, though long, is relatively superficial.

MAJOR COMPULSORY REVISIONS:

1. More discussion of educational theory
2. Streamline the results and don’t overinterpret the very small dataset.
3. Include in the discussion the implications of this tool now that you have demonstrated proof-of-concept. Can it be scaled up? What IT support will be needed?

MINOR ESSENTIAL REVISIONS:

4. Sort out the denominator issue in the presentation of the methods and results (it's variably 11 or 10, though the methods section suggests it should be 10)
5. Review the one significance test used; it's unclear what statistical test was used and the result seems unconvincing.
6. Don't use the word "trend" for fluctuations in datapoints. The dataset is too small for a trend to emerge.

DISCRETIONARY REVISIONS:

In the discussion, consider: Is it best used in educational design for adult experienced learners or for medical students, and why? What of the argument that this is suited for standardised examinations rather than experiential learning?

INTRODUCTION The paper would benefit from more engagement with educational theory. There is one sentence in the last paragraph under Discussion, which suggests the authors used a cognitive constructivist pedagogy and situated learning approach (unreferenced). Educational simulations are frequently presented as situated learning projects. Authenticity is critical to
whether a virtual patient can be considered to be part of a situated learning
eendeavour. Arguably, authentic patient encounters are more challenging to
simulate for experienced primary care practitioners than for medical students,
which may go some way to explaining some of the reservations expressed by
one of the respondents (Results, par 4). Could the authors expand their
discussion of educational theory for adult, experienced learners as compared
with novices, like medical students?

METHODS: There’s slippage in the denominator which the authors should clarify:
it’s variously 10 or 11. If one of the participants was unable to continue because
of illness, he/she should be included, unless participant 11 provided the post data
but did not participate in the interview at a later stage. I had to return to Ref 34 to
understand the evaluation methods. That reference explicitly states that no
significance tests were used (correctly) because of the small numbers. I am
unclear what significance test was used to establish a significant difference
between the 10, or 11, participants in before and after in mental health
assessment; but it seems unconvincing, given the small numbers.

RESULTS: To my mind the presentation of the results is over-extended. This
section would read better if it were compressed and arranged around
proof-of-concept issues, that is focusing on its the authenticity of the educational
experience, acceptability, penetration (as evidenced by recall and recognition of
key foci) and ease of use. Some of the quotes are hard to interpret, particularly
the quote in the last sentence par 4 of the Results section. Other quotes are
grammatically odd and require the reader to decode them). The Likert scale data
mean little given the low numbers and are accorded too much interpretive weight.
The use of the word “trend” in the Limitations section is misleading. There can’t
be before-after trends with such a small dataset; what we’re looking at is
fluctuating datapoints.

DISCUSSION: Some of the respondents suggest that the VP case may be useful
for examinations. The authors, on the other hand, intend this to be a discovery
learning exercise for experienced learners. Is it possible that this method may
have a role as a standardised testing exercise, rather than a learning exercise;
and if so, does this change the design approach? While the addition of trauma to
the DMM seems like a good idea, it isn’t related to the evidence in this paper. On
the other hand, a case for this may emerge from the forthcoming RCT.

As this is a proof of concept, how easy would it be to scale this up? What IT
resourcing is likely to be needed? Can this be done with no input from an actual
facilitator, and is it possible that this method could be used by two learners
working together?

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

Quality of written English: Needs some language corrections before being
published
**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests