Reviewer's report

Title: Factors influencing nurses' compliance with Standard Precautions in order to avoid occupational exposure to microorganisms: A focus group study.

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Reviewer: Mary-Louise McLaws

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It is nice to read a qualitative study reporting barriers and facilitators of Standard Precautions. I have several comments I believe will strengthen the paper:

Methodology

1. Please provide a brief overview of the requirements of your Health Department and/or hospital’s infection control policy related the obligation for compliance by healthcare workers with Standard Precaution.

2. Under the Aim: There are many behavioural frameworks you could have chosen, the Protection Motivation Theory, The Ecological systems theory, Theory of Planned Behavior and many more. The variety of health behaviour theories usually include measures of beliefs, attitudes, self-efficacy/control, peer pressure and sometimes intention to perform the target behaviour but the more tricky measures of environmental/organizational cultural and risk-taking personality are rarely measured. The method of choice or defence of choice of a theory is to describe the target behaviour within the context for the expected target behaviour and then identify compatible components and the different theories. Alternatively, a stronger method is to observe the behaviour in context, run a pilot focus group and listen to the barriers and facilitators for the behaviour and then determine which theory best suits (and even add a component to a chosen theory and test for internal validity). I agree that a previously successful application of a theory in similar circumstances provides a degree of validity for your choice. However, this approach may repeatedly omit important predictive components. The Health Belief Model (HBM) is largely predicated on the action of interest having a direct benefit to the participant. Unlike the HBM and many other theories applied to health behaviour there is a twist in the behaviour you are researching - the behaviour (Standard Precautions) is complex as the perceived benefits is not just to the user (the healthcare worker) but compliance directly and indirectly benefits others (the patient and colleagues), and it may be a work-related requirement (i.e. a clinical practice requirement and/or an occupational health and safety requirement). Uptake of vaccination and condom use may be similar and hence the choice of HBM can be validity but I believe you will have to discuss the limitations of HBM applied to Standard Precautions because compliance with Standard Precautions is undertaken in more overt circumstances unlike e.g. vaccination and condom use uptake in covert circumstances. In addition, there is the impact of organizational culture that is not considered in the HBM. A rigorous
scientific argument as to why a theory was chosen does not include “it’s been used before”.

3. Under Factors leading to non-compliance: You have stated that “...in most cases there was no theoretical framework...”. There have been publications to explain one of the Standard Precaution behaviours (hand hygiene) successfully using the TPB – can you please include these references to balance your argument: O’Boyle et al (O’Boyle CA, Henly SJ, Larson E. Understanding adherence to hand hygiene recommendations: the theory of planned behavior. Am J Infect Control 2001; 29:352-360.) and Whitby et al (Whitby M, Mc Laws ML, Ross MW. Why Healthcare Workers Don’t Wash Their Hands: A Behavioral Explanation. Infect Control Hosp Epidemiol 2006; 27:484-492) and Sax H et al. (Determinants of Good Adherence to Hand Hygiene Among Healthcare Workers Who Have Extensive Exposure to Hand Hygiene Campaigns. Infect Control Hosp Epidemiol 2007; 28:1267-1274.)

4. The overt circumstances for compliance with most of the components of Standard Precaution (hand hygiene, mask use etc) and the organisation/institutional context (that should provide a culture or peer pressure to influence compliance) have not been considered. Have you thought of including a new component to measure the impact of organisational culture?

5. There were 3 senior nurses included in the focus group discussions. Can you specify which group(s) they attended? How have you ensured that junior staff were able to have frank discussion in the presence of the senior staff?

6. Can you clarify whether the facilitator was known to the participants and if so how was the potential for an adverse impact of this previous relationship measured/prevented?

7. You have used Krueger and Casey guidelines for analysis – I think the brief explanation that follows in the next sentence is the description. Please replace Kruger with “Krueger” in analysis section. What did you do with an issue that could not be easily placed into a factor in accordance with HBM?

8. The healthcare workers mentioned fear of transmitting infection to their families, did you explore the same fear of transmission to (i) other patients (ii) colleagues?

Results

9. It is not unusual to have contradictory results if you lump all standard precautions together. For example, one group is contrasting their actions with children and adults “...But it is different when you have an adult.” while other quotes imply that even with adults the nurses do not comply with Standard Precautions due to time constraints, they don’t wish to offend etc. I think your data would best be presented under headings of “Low Risk” and “Medium-High Risk” clinical activities requiring Standard Precautions. Under these categories conflicting barriers and facilitators for compliance would make sense.
10. It is often helpful to ascribe the quote to the group of healthcare worker or individual.

Discussion:

11. It is not surprising that you conclude that “Many of the factors that emerged are in accordance with previous findings.” if you compare/contrast your findings with other research based only on the HBM. What did you do when the data did not fit the HBM components? It would give your Discussion strength if you discussed the findings/limitations against other published work using a different theoretical basis.

12. Under Process you state “on the purpose of the study and the process as well as information on the HBM.” Can you please clarify in the methods whether you ran the focus group discussions exploring the components of HBM or only used the HBM to fit the qualitative data once the data were collected?

13. I dispute that you have sufficiently compared/contrasted your finding to concluded “making this model suitable for developing a questionnaire to examine the factors...”. What you have are data to provide, somewhat limited, content validity. You should leave this conclusion until you have R2 for the behaviour from a model based on the data collected from your questionnaire.

14. Please remove “non willingness” as this is not an influence/control factor but an outcome.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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'