Reviewer's report

Title: Hospital Safety Culture in Taiwan: A Nationwide Survey Using Chinese Version Safety Attitude Questionnaire

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Reviewer: Carl J Lombard

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Suggestion to change the title to:
Hospital Safety Culture in Taiwan: A nationwide survey using a Safety Attitude Questionnaire in Chinese

Abstract: This manuscript reports the 2008 survey as indicated in the methods p8. The reference to 2007 is therefore not appropriate.

In a number of places the word surveys are used were questionnaires are meant - for example in the first line of the results in the abstract and on p9.

Very little background is given on the population of 528 hospitals that formed the target population - are they day hospitals, tertiary, district hospitals? What is the nature of the 200 hospitals that responded and how does this compare to the target population?

Informed consent: p7 administration of the survey. It is stated that 208 hospitals participated with signed informed consent. This is at the hospital level. What happened at the health care worker level? Was participation voluntary and was informed consent needed?

Did each participant complete his/her own questionnaire? Was this complete at home or at work. Did they have to return it to the hospital administrator or did they post it to the TJCHA?

Data analysis
Nothing is said about the completeness of the responses on the questionnaires analysed and how this was handled. The only indication is the fact that 750 respondents did not report their age.

I took a look at the SAC-C attachment but it did not help me with the ordinal description of the questions on the questionnaire - an example is needed to understand the Likert scale. This information is provided for the extra items on p7.

The confirmatory factor analysis was done at the individual level data which is fine.

The categorization of the mean SAC-C at 75% and calculating the hospital level mean positive attitude is fine. The distribution across hospitals should be displayed by histograms or boxplots. Sinc the scale is bounded by 0 and 100% the median and q1,q2 will be more appropriate statistical measures to report than the
mean and sd.

The authors report the correlation between the hospital level positive attitude levels and the hospital level safety behaviours. This analysis is an ecological analysis and the direct correlation between say the team work response and the safety behaviour response answered by a respondent is broken. These type of analysis is subject to the so called ecological bias and can be summarised as the fact that the association (correlation) between variables at the hospital level on the basis of ecological data may not be the same as the association that exist at the individual level. The authors should clearly motivate why they consider a hospital level analysis appropriate and why a multi-level analysis will not be more appropriate - see for example encyclopedia of epidemiological methods, Wiley 200 p314-333 for a nice summary of the problems associated with an ecological analysis.

p7 line 2 - grammar
Administrators encourage the reporting of medical adverse events in this clinical area

Discussion
Not sure that you can make the statement sufficient external validity. Only 200/528 participated and response rate <70%. You only have approximately 26% of the total health care population who responded. Why was a sample of hospitals with a proper sampling design not considered?

Another statement that is no substantiated is: Hospital leader were willing to participate in the survey. In Table one a break down of managers versus non-managers is given - what does this statement mean in view of the fact that 7.4% of the respondents were managers?

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

Declaration of competing interests:
'I declare that I have no competing interests'