Reviewer's report

Title: Avoidance Behaviors and Negative Psychological Responses in the General Population in the Initial Stage of the H1N1 Epidemic in Hong Kong

Version: 2 Date: 9 October 2009

Reviewer: Anja Leppin

Reviewer’s report:

The article deals with the prevalence of avoidance behaviours and negative psychological responses to the H1N1 epidemic in the Hong Kong population as well as with factors associated with these potentially problematic behavioural and psychological tendencies. The study is one of the first to investigate such questions in relation to the H1N1 threat, and it came up with some – random sample-based - findings which are suggestive and important, even though they have to remain tentative due to the fact that the study is cross-sectional only. Thus, the paper definitely deserves publication, after some issues have been taken care of.

In the methods section the sample is reported as having been obtained on three different days over a one-month-period. At first sight the presentation rather gives the impression that different waves/cohorts will be looked at/compared. The results section, however, reports only data on the combined sample, while in the discussion section results from the separate cohorts are mentioned which did not appear in the results section. Apart from the fact that, in general, the discussion should not newly introduce empirical findings which have not been reported in the results section, the presentation should be made more consistent. So, the "change perspective" should either be explicitly introduced into the paper (and then also be reflected in the research questions and the data analysis) or else it should be consistently excluded and the initial, i.e. 'pre-community-outbreak', phase should be looked at as a whole.

As the authors themselves point out, the non-responder rate (almost 25%) is, if not uncommon, substantial. Is there any (socio-demographic) information available on the non-responders which could indicate how systematic the non-response was?

The terminology used is not always consistent. Thus, on page 8 the authors describe their measures of risk perception as having asked for "higher or lower risk of having a large scale outbreak in Hong Kong” and of having asked the respondents to indicate the chance for himself/herself to contract H1N1. The corresponding table suggests that the authors actually also asked for the "chance” of an outbreak in Hong Kong, not for ”risk”. Common definitions of risk, such as the one chosen by the Health Belief Model to which the authors themselves refer, define perceived risk as the product of perceived chance/probability and perceived severity (measured for instance by fatality,
which the authors also included, but labeled as "perceived clinical properties of H1N1"). To avoid confusion, I would suggest to change the description of the outbreak rating from "risk" to "chance" (always provided that the item wording given in table 4 is the correct one) and then to list both the items of chance/probability for outbreak and personal contraction as well as the fatality measures under the heading of "risk perception".

The description of the measures used in the study is partly done in the text, partly the respective information can be found in the tables. This should also be more consistent.

Some of the findings warrant more discussion than offered at present. Most importantly, table 4 seems to indicate that misconceptions about modes of transmission increase the risk for avoidance behaviours, but so do correct perceptions/knowledge, which seems contradictory at first glance. I suspect that in this case the issue is less whether people are correct or incorrect in their assumptions per se, but that a higher number of perceived pathways of catching the virus (some of which are "real" or correct, others "imaginary" or incorrect) leads to more avoidance. While the authors correctly point out that rectification of misconceptions is important (page 12), some of the assumptions which seem to lead to more avoidance cannot be rectified as they are correct to begin with. These issues need further discussion.

With regard to the evaluation of governmental preparedness and performance in dealing with H1N1 the authors report that a large majority of 92.3% was confident that Hong Kong would be able to handle the H1N1 epidemic and (83.6%) that the government would be able to control an outbreak. However, when the questions got more detailed, it seems that skepticism became more pronounced, i.e. 36% believed that the health system did not have enough medication, 41% that there wasn’t enough vaccine. These differences in response should be discussed/commented on.

On page 12 it is stated that females, older people and those who were unemployed were more likely to avoid visiting some places or show signs of severe mental distress. Tables 4 and 5, however, indicate a question for "full time employment" with the answer yes/no. Respondents who answered ‘no’ would thus not necessarily have to be unemployed (in the narrower sense of the word, i.e. out of work), but could be part-time employed, pensioners or homemakers. To avoid misunderstandings the term "unemployed" could thus be changed to "not full time employed".

The Health Belief Model is mentioned rather haphazardly in the discussion section and sounds more like a "theoretical afterthought". If the model is used it should also be be introduced more deliberately, and it should also be stated that the study could test only parts of this model, as some of its core constructs, such as outcome expectancies and (in the newer version) self-efficacy have not been measured.

On page 14, top it is stated that the univariate findings for a relationship between
perceptions of government efficacy and avoidance were non-significant in the multivariate analysis and that this was due to them being mediated by socio-demographic characteristics, worry or perceived susceptibility. The socio-demographic characteristics should be taken off this list, as they are unlikely to have had a true mediator effect, but, if at all, might only have eliminated spurious associations between government efficacy ratings and avoidance and psychological response.

Though overall the article is well presented, the language should be checked, as some minor mistakes and/or ambiguities appear. A few examples (this is not an exhaustive list) include:

Page 5, 2nd paragraph: instead of "...their level of emotional distress related to panicking or much depressed or much emotionally disturbed" it should probably rather be something like "... their level of emotional distress, expressed by panicking, depression or emotional disturbance"

Page 5, 2nd paragraph, end: "evaluation of" and "The study period covers...."

Page 9, 2nd paragraph, heading: "factors associated with avoid visiting different places", rather: "factors associated with avoidance of visits to different places".

Page 9, 3rd paragraph, it should rather be either "those who believed H1N1 would cause ..." or "those believing H1N1 would cause..."

Page 11, 2nd paragraph: "such avoidance among large numbers in the population potentially damages the economy and disrupts daily lives".

Page 12, 2nd paragraph: The "nonetheless" which is leading the 2nd sentence seems misplaced, unless I misunderstood the following sentence. It seems as if the sentence led by "nonetheless" is an elaboration of the prior sentence, i.e. it confirms what is said by a specific example and does not contradict or limits/qualifies it.

Page 14, 2nd paragraph: This should be: "The study is, however, anonymous. Fourth, Hong Kong went...."

Level of interest: An article of importance in its field

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.