Reviewer's report

Title: The dynamics of risk perceptions and precautionary behavior in response to 2009 (H1N1) pandemic influenza

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Reviewer: Eve Dubé

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General comments

This study presents interesting data and should have been published earlier to guide actions in the second wave of A(H1N1) pandemic. However, due to the limited number of questions on complex concepts like risk perception and the absence of a theoretical model, the interest of this study in a post-pandemic context is limited.

Major Compulsory Revisions

1. What I have found to be the main flaw of this study are the scales and dichotomus scores used. I am really disappointed that willingness to engage in preventive behaviors (vaccination and antivirals as prevention) were amalgamed with intention to engage in curative behaviors (antivirals medications to cure). Those two behaviors are not the same and psychosocial predictors of willingness to engage in preventive vs curative behaviors are known to be different. The dichotomus score representing engagement in precautionnary behaviors is also misleading. The search for information in the medias cannot be consider at the same level that cancelling trips or quarantine measures which have more consequences in the life of individuals. The absence of a theoretical model se fait cruellement sentir à ce niveau. Cronbach scores cannot replace a solid reflexion on the underlying the questions. I would suggest to construct two scales for the willingness to take pharmaceutical interventions (preventive interventions versus curative interventions) and two scales for the engagement in precautionnary activities (information seeking vs “quarantine” measures). Unfortunately, this would implie major changes in the method, results and discussion sections of the manuscript.

2. Another main irritant of the manuscript is the parallel with media attention. Analysis of the media attention presented in the method section is only about news stories in the newspapers. Few indication are given about the exhaustivity of the logiciel used (are all newspapers in the US recensed in this software?, Were the online version included? Was flu the only keywords used? More information should be given to better understand this part of the analysis.). Furthermore, at one point, it is stated that most indiviuval learned about swine flu on TV (65.9%) and then all comparisions between results of the study and media attention are based upon news stories in the newspaper. Whitout adding
references showing that the decline in news stories in the newspapers were parallel with the decline of general attention toward swine flu or the pandemic in all medias (radio, television), results must be presented with precaution and the limits of this analysis should be stated. Correlations between results of the study and decrease in media attention, as presented in the discussion section, should be presented in the lights of these limitations.

3. The affirmation in the paragraph on the implications of survey results for successful responses to a novel influenza outbreak in the discussion section are not supported by results of this study. For example, it is said that acceptance of H1N1 vaccine is likely to be higher among individuals who have received prior flu vaccines and no information on the past vaccination behavior of the survey respondents were presented.

4. Table 1 is not adding any new information to the text. This table should be replaced by Additionnal File 1, which is more illustrative.

5. Table 4 is not easy to read and the use of t-test to compare dichotomous variable is inappropriate. This table should be re-think and the presentation must be revised.

Minor essential revisions

1. Questions included in the score on perceived likelihood are not pertained on the perceived likelihood that the respondent “himself” will contract the swine flu, which is the determinant of engagement in precautionnary behaviors (see Brewer, already cited in the manuscript). When discussing about the fact that this concept is not related with precautionary behavior, this flaw should be acknowledge.

2. More information on the recruitment and the limit of web-base survey should be presented. Was the survey firm having a list of individuals that had already consented to receive questionnaires? What is the representativity of their list? Web-based surveys have many limitations that were not presented in the paper. More information on the sociodemographic characteristics of the respondents and the non-respondents should be discussed in the manuscript. The problem of representativity inherent to this method for data collection should be clearly stated.

3. The low response rate should be cleary indicated as major limitation of this study.

4. Beside household size, age and sex, revenu and educationnal level are found, in many studies, to be predictors of precautionnary behaviors. No data about this are presented in the manuscript, this is a limit that should be stated.

5. In the Table 1, references about the source of data about H1N1 cases should be added.

Discretionary Revisions
1. I would have liked to have another reference (maybe a more theoretical oriented paper) to support the idea that individual risk perceptions are important in the control of infectious diseases.

2. The references of the work of Brewer (3-4) are directly related to the Health Belief Model, however this is completely evacuated of this article. References to less theory-driven papers would have been preferable. More information should be given on the relation between risk perceptions and subsequent behaviors.

3. The sentence on constance of predictors of precautionary behaviors over time should be supported by adequate references. Works in the psychosocial fields are mostly supporting the opposite...

4. I was surprised not to have found any references to the work of Ritvo, who is a leader in the field of risk perception. Indeed, a clear definition of risk perception and its use in this study should be found in the background.

5. In the results section, an indication should be given when data cannot be found in the Tables or Figures.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests