Reviewer’s report

Title: Newspaper coverage before and after the HPV vaccination crisis began in Japan: A text mining analysis

Version: 1 Date: 07 Nov 2018

Reviewer: Megan Smith

Reviewer's report:

Thank you for sending me this revised manuscript, and thank you to the authors for responding to and addressing most of my comments. There are a few small points that remain - in some cases where the authors provided information in their response, but that information is not yet in the manuscript. These are as follows:

1. The authors have clarified in their response why January 2005 was chosen as the start date - please add this brief explanation to the manuscript. Also, they now clarify in the manuscript text that no articles were identified between January 2005 - June 2009, but then later say the first article was in August 2009 (page 8, line 2). So presumably the text should say no articles between Jan 2005 - July 2009, rather than June 2009.

2. Page 3, line 44: It would be clearer to speak about incidence in this sentence, rather than morbidity. This sentence should be reworded, as it is currently not very clear. Eg "Cervical cancer incidence and mortality have increased in recent years among women in their 20s and 30s." (if the increase is only in these age groups)

3. I asked whether authors could tell whether articles presented one-sided views or not; they responded to me that they could not identify whether articles were one-sided or two-sided arguments. This should be included in the paragraph describing limitations.

4. The authors have provided a helpful example of a previous experience where coverage of influenza vaccine dropped after the community became concerned that it was ineffective. I don't think that is the same as concerns about vaccine safety, which appear to be the case with the HPV vaccine (even though the concerns are not supported by the evidence). Are there any previous examples of vaccine hesitancy in Japan driven by safety concerns? Or if not, it would be helpful context to note that this is the first one. Either way it is helpful to know whether this has occurred before.

5. As the text is searched as kanji/ Japanese characters, could the specific characters searched for be included (eg in an Appendix)?

Also, I have some concerns around some of the new text added to address previous comments:

Abstract, final sentence:
1. This states that various groups should "should cooperate to continue a balanced debate about benefits and risks". The debate should be "evidence-based", or something along similar lines; terminology like "balanced debate" risks encouraging false balance. False balance is particularly known to be an issue in relation to media coverage of vaccines (eg, media present "both sides" in the interest of "balance", but this misrepresents that weight of evidence as being equally balanced when it is not).

2. In both this sentence and a similar sentence in the Discussion (p9, line 56), the various expert/stakeholder groups are listed but the government/MHLW is always last in the list. Wouldn't it be more appropriate for them to be first? The other groups in the lists have already been speaking in favour of the HPV vaccine. It appears that it is the government/MHLW that needs to change the ways it acts and show leadership (as I gather from the other added text that it did in the case of influenza, by re-including it in the Prevention Vaccination Law again).

3. Again affecting both this sentence and a similar sentence in the Discussion (p9, line 56): I suspect that more than 'cooperation' or 'discussion' is required - it seems likely that the response would need to include well-organised advocacy, vaccine promotion and support, emphasising safety more strongly, robustly responding to misinformation, engaging with community allies - for example as occurred in Ireland [1], and more recently in Denmark.

Discussion, first paragraph:

4. The authors suggest given the decrease in the number of articles and influenza example that the "the general public will in the near future forget HPV vaccination as a past scandal." It does not sound like influenza coverage changed because the public "forgot", but because the government reinstated the active recommendation that influenza was a target disease covered by the Prevention Vaccination Law (lines 46-51), eg: ". Influenza vaccine coverage had remained to be quite low until the Preventive Vaccination Law was amended in 2001 to again include influenza." This is a good example that the authors could point to to show the importance of government action and leadership.

Discussion, second last paragraph (p13, lines 8-21):

5. The authors state that "the proactive recommendation of HPV vaccination by the Ministry of Health, Labour and Welfare is expected to be resumed as soon as possible". My interpretation is this means the authors believe this is likely to happen soon - is this what they intended to say? If so, I am not sure where does this expectation come from, given the years of inaction by the MHLW, failing to restore proactive recommendation, since their own Vaccine Adverse Reactions Review Committee concluded there was no safety issue, and similar conclusions from the study in Nagoya, international studies, and the WHO's Global Advisory Committee on Vaccine Safety. Were the authors trying to say they thought this is what the MHLW should do, or had a duty to do?

6. Again, the second half of this paragraph emphasises the role of expert health and scientific stakeholder groups in influencing the government: "Scientist, health
professionals, and medical societies should influence the government more strongly for the resumption of the proactive recommendation of HPV vaccination". But it is my understanding that they have tried. Possibly there is more they could do, but as above the real gap in terms of action seems to be on the part of the government. I am worried this text may not acknowledge what has been done by these stakeholder groups and may sound like it is blaming them for not doing enough, or giving the government an excuse for their inaction. Could this text be adjusted to reflect that these groups have tried already, at least in some ways?

References

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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Not relevant to this manuscript

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