Author’s response to reviews

Title: Content analysis of press coverage during pandemic influenza H1N1 in Germany 2009/2010

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Author’s response to reviews: see over
Reviewer 1:
This paper has a lot of promise but needs major revisions before it can be considered for publication.

Major compulsory revisions
1. Abstract: The conclusions are not based on study findings.

   We have changed the conclusion in the abstract: “The newspaper articles which were analysed in the content analysis included different information and message characteristics. The extent of information provided differed over time of the pandemic. As current research evidence indicates, the use of message characteristics such as fear appeals and self-efficacy, which were also included in the analysed newspaper articles, can help to make health messages effective.”

2. The background is too long- it seems like an extended literature review. Lines 63-69 seem out of place and not required. The section on attitudes towards vaccination could be summarised in a couple of sentences at most. The section on ‘influence of mass media on health behaviour’ should be summarised in the background/introduction and referred to in more detail in the discussion. The detailed theoretical framework on types of health messages in the media should go in the methods if this framework informed the a priori codes for the quantitative content analysis and again referred to in the discussion to place findings in context.

   We have reduced the information provided in the background. For example, lines 63-69 were deleted. Further information were either summarised or mentioned in the discussion.

3. Methods: Examples of how the coding was applied for categorising message characteristics e.g. what type of content would qualify as ‘fear appeal’, should be included in the methods.

   We have added information on the categorization in the methods.

4. This paper only presents a quantitative content analysis but there is not enough detail or insight provided by simply using this approach. I would like to see some qualitative content analysis of the 140 articles included in the results.

   The qualitative parts of the content are indirectly described by summarizing the information due to the category system. A qualitative view will not lead to further insights, because the articles are mostly very short. All different content aspects are assessed within the category system.
5. Results:
Lines 231-232: How was it possible that only 17.1% of the articles included information on influenza when you searched for articles using search terms relating to influenza. This statement is based on the information regarding the influenza virus. Therefore, we have clarified this sentence: “In only 17.1% of all articles considered in the quantitative content analysis (n = 24) can information on the influenza virus in general and/or agent of the New Influenza type H1N1 be found.”

Lines 236-237: This sentence is not clear "No clear increase or decrease regarding the supply of information is obvious"; try rephrasing this.
We have changed the sentence: “The extent of data on the H1N1 pandemic does not differ between the selected dates.”

6. Discussion
Line 298: On what basis do you claim that the H1N1 pandemic was 'highly visible' in the media. Is this a subjective judgement or did you use any objective criteria to ascertain this. What for e.g. would qualify as 'low coverage'?
We have added a reference for this statement. Furthermore, we have describes a bit more, what we meant with “highly visible”.

Lines 298-299: Your reported findings do not demonstrate how media awareness is 'highly dependent on single events'. Please provide the evidence for such claims.
Figure 2 illustrated that the absolute number of newspaper articles is closely linked to single events. Therefore, we have clarified the sentence: “The results of this study indicate that the extent of press coverage on aspects of the H1N1 pandemic is highly dependent on single events, as shown in Fig. 2.”

Lines 334-336: Your findings do not indicate the effectiveness of health messages respecting the aspect of self-efficacy; this is a hypothesis which you must state as such and reference if possible.
You are absolutely right. The intention of this sentence was not clearly stated. Therefore, we have rephrased this paragraph: “In contrast to the empirical state of the art regarding the use of threat as a message characteristic, our findings indicate that the aspect of self-efficacy was used more frequently. This is important for changes in health behavior, because messages
which are highly threat oriented, without directly observable self-efficacy components, can cause defensive and avoidance strategies [20].”

Line 353: What is a 'favourable' course; please clarify.
This sentence and its meaning were closely linked to the following sentence. To avoid any confusion, we have deleted the whole sentence.

Line 359: What do you mean by '...were restricted at a late point in time...'. Please clarify and/or rephrase.
This sentence should pronounce that several measures of surveillance were put into force during the pandemic in addition to standard surveillance systems. These additional systems were reduced or stopped at the end or after the pandemic respectively. We clarified this aspect: “Therefore, it was also reasonable that several measures linked to infection control and surveillance were reduced or stopped at a late point in time, to avoid any unexpected spread of the influenza.”

Lines 370-375: This paragraph seems out of place and does not follow from the preceding paragraph- please remove.
We have deleted this sentence.

7. Conclusions
The entire conclusions section is not based on the study findings. The conclusions and implications are overstated.
We have shortened the conclusions. Furthermore, some aspects were shifted to the discussion.
The conclusion is now in the following way: “The newspaper articles which were analysed in the content analysis included different information and message characteristics. The extent of information provided differed over time of the pandemic. As current research evidence indicates, the use of message characteristics such as fear appeals and self-efficacy, which were also included in the analysed newspaper articles, can help to make health messages effective. From the analysis of the press coverage during the H1N1 pandemic, several recommendations for better risk communication in health-related issues arise: For vaccine-preventable infectious diseases that spread quickly the benefits as well as risks of a
vaccination have to be communicated transparently. Even the basic knowledge of hygiene measures has to be highlighted more clearly.”

Minor essential revisions
1. Revise subheading 'Time course of the H1N1 pandemic' to 'Time course of the H1N1 pandemic in Germany'
   After revision of the background section, we have deleted the subheading.

2. Line 332: Replace 'majorly' with 'major'.
   We have changed the wording.

3. Line 347: Replace 'therefore' with 'the' and rephrase as '...could be a barrier in the perception of health messages'
   We have changed the wording.

Reviewer 2:
Control of influenza remains a major concern not only for policy-makers and public health professionals but for people across the globe especially after 2009-10 pandemic. Risk communication to public during the pandemic is an important step in which media often plays an important role. However, it is essential to understand in what way the press deals with pandemic. In this context, the present manuscript provides an example. It describes the content analysis of press coverage during pandemic influenza H1N1 in Germany 2009/10. It provides important insights for media to take appropriate measures in case such situations arise in future. The article can be considered for publication; however, there are a few points that need to be addressed.

Major compulsory Revisions
1. Abstract: The last sentence does not provide an appropriate reasoning. Authors should reword it.
   We have changed the conclusion in the abstract: “The newspaper articles which were analysed in the content analysis included different information and message characteristics. The extent of information provided differed over time of the pandemic. As current research evidence indicates, the use of message characteristics such as fear appeals and self-efficacy,
which were also included in the analysed newspaper articles, can help to make health messages effective.”

2. Some details or may be a footnote on 'Risk communication' may be helpful for readers. Authors may refer to the WHO website.

We have added a definition of “Risk communication” based on the definition by WHO: “According to the definition of the World Health Organization (WHO), risk communication is a “process which aims to help stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience [13].”

3. Lines 52-53: Reasoning is not appropriate. Authors may reword this.

The sentence was reworded: “The age distribution of influenza cases attributable to the H1N1 pandemic is similar to that of seasonal influenza. However, deaths attributable to the pandemic H1N1 influenza were mainly found in infants (0.44 per 100,000 infants) and adults aged between 39 and 59 years (0.42 per 100,000 inhabitants). By contrast, about 90% of seasonal influenza-related deaths occur in the age-group 60 years and over.”

4. Lines 55-58: If possible, providing proportion of deaths across all age groups would be useful to understand differences more clearly.

We have added further information for the proportion of deaths for all age-groups. In addition, confidence intervals were provided for all numbers: “The age distribution of influenza cases attributable to the H1N1 pandemic is similar to that of seasonal influenza. However, deaths attributable to the pandemic H1N1 influenza were mainly found in infants (0.44 per 100,000 infants [95% CI: 0.16 - 0.95]) and adults aged between 35 and 59 years (0.42 per 100,000 inhabitants [95% CI: 0.35 - 0.50]). The cumulative mortality in the age-group 15-34 years was 0.22 per 100,000 inhabitants (95% CI: 0.16 - 0.30) and for the age-group 60 years and more 0.24 per 100,000 inhabitants (95% CI: 0.18 - 0.32). By contrast, about 90% of seasonal influenza-related deaths occur in the age-group 60 years and over. The overall mortality was 0.31 (95% CI: 0.27 - 0.35) per 100,000 inhabitants [6].”

5. Lines 61-62: Why many cases remain unreported in a developed country like Germany? It would be useful to understand reasons behind no reporting.

We have added the reasons for underreporting: “The actual number of H1N1 patients is believed to be much higher due to unreported cases, because not all people with an influenza
demand care by the health care system and only labor diagnosed cases are reported to the Robert Koch-Institute (RKI) [1, 7, 8].”

6. Lines: 85-87: No reference was provided for this study. The reference was provided at the end of the paragraph, because all information is based on this. Nevertheless, we have added the reference directly after the introductory sentence.

7. The background section is lengthy. Authors need to condense that. I feel some sentences may go as a part of discussion section. In the present version, it takes a long time for the readers to get to the aim and objectives. We have changed several aspects from the background to the discussion section. Therefore, the background is much shorter now.

8. Although a detailed background is provided, the aim and objectives need to be clearly stated. The section “study aims” was not separated by a subheading. The aims and objectives were slightly rephrased: “This study deals with a (content) analysis of newspaper articles published during the H1N1 pandemic of 2009/2010 in Germany. The aim is to show how the press coverage dealt with the course of the pandemic. Therefore, the number of disease cases is plotted against the number of newspaper articles in every week during the pandemic. In addition, the content and message characteristics in the context of risk communication in the press coverage are systematically assessed. The objective is to highlight, how far the information provided by the media is dependent on the current situation. Furthermore, it should be highlighted which information is mainly published by the media in such crisis situations. These results are needed to make recommendations for effective risk communication of health-related topics.”

9. Chi-square test was mentioned in the methods, but there was no mention in the paper. You are absolutely right. We have deleted the results for the Chi-square test but forgot to delete this information in the method section. This is corrected now.
Minor comments

1. In a few places authors used present tense where use of past tense may be more appropriate.
   We have changed the tense where necessary.

2. Table 1: Caption for Number and % may be useful.
   We added a caption for Table 1: “The percentage of articles is arranged in columns for each category. The absolute number of articles is mentioned in brackets.”

3. Figure 2: In addition to weeks, inclusion of years may be useful to understand the timeframe.
   We have added the information on the years in the caption of the figure.

4. Authors need to pay attention to the tense used in some sentences. Since this report is based on the event occurred during 2009-10, use of past tense would be more appropriate.
   We have changed the tense where necessary.