Author’s response to reviews

Title: Opportunities and challenges of integrating genetics education about human diversity into public health nurses’ responsibilities in Japan

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To

The Editor, BMC Nursing.

Dear Editor,

Thank you very much for your valuable time and sharing reviewer/editorial insightful comments with regard to our manuscript, "Opportunities and challenges of awareness activities about human diversity in public health nurses’ responsibilities in Japan" (NURS-D-19-00055R1).

We have discussed on these review comments including all authors. There are the point-by-point responses to the comments and suggestions made for the reviewers and your consideration. All the necessary changes have been incorporated in the manuscript using the red-colored typeface accordingly. We hope that our responses will be suitable to qualify the manuscript for publication in your well-reputed journal.

Thank you very much for your excellent support and concern.
Sincerely,

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Editor Comments:

BMC Nursing operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Response: Thank you very much for your guidance.

Reviewer reports:

Angela Trepanier, MS (Reviewer 3):

Comment: I appreciate the opportunity to review this interesting manuscript. Public health nurses have the potential to facilitate the integration of evidence-based genomics applications into medical practice. As such, this manuscript investigates an important topic. However, some revision of the literature review (introduction), methods section, and discussion is needed as described below. In addition, further improvements in the English language translation of this manuscript are needed. There are numerous places throughout the manuscript where word choices/phrasing negatively impact the clarity of the reporting.

Response: Thank you for your specific advices. We have revised this manuscript as per these comments as follows.
Comment: Abstract: In the background section, the term "awareness programs" is confusing. Do you mean that you are investigating opportunities and challenges of "integrating genetics education into their professional duties?" Or do you mean integrating genetics services into their professional duties?

Response: Yes, we mean that we are investigating opportunities and challenges of integrating genetics education into their professional duties (page 2, line 45).

Comment: In the results section, the sentence, "Through the experience of duties, public health nurses needed specialized education, post-graduation studies, and mentoring about genetics," is also confusing. What do you mean by "Through the experience of duties?.

Response: We mean “Through the professional education and experiences”, and we have revised this phrase and added as it was confusing (page 2, line 54).

Comment: In the conclusion of the abstract, the first sentence is very clearly stated but the second seems to reach beyond the scope of the project. I do not think this study demonstrates that incorporating genetics "would solve health-related issues"- that is an overstatement. For the last part of the sentence, I think you mean, that it "would also provide an opportunity for clients to be informed about their latent genetic risks."

Response: Yes, we agree with your understanding and accordingly we have revised this descriptions in the ‘Conclusion’ section of ‘Abstract’ (page 3, line 61 – 62).

Comment: Background Section:

The Human Genome Project reference is really dated (2010). There are now more than 60,000 genetic tests for more than 18,000 different genes (https://www.ncbi.nlm.nih.gov/gtr/) or see "Genetic testing availability and spending. Where are we now? Where are we going? in Health Aff (Millwood). 2018 May; 37(5): 710-716, doi: 10.1377/hlthaff.2017.1427.

Response: We have revised this description in the begining of ‘Background’ section and also added a new reference from : https://www.ncbi.nlm.nih.gov/gtr/ (page 4, line 76-79).
Comment:

The sentence, "The increasing number of genetic tests has simultaneously allowed companies to have direct access to consumers (DTC), providing affordable and easy to use genetic tests by healthcare providers," is problematic. There is direct to consumer genetic testing through companies like 23andMe but some of their testing, such as tests for most multifactorial diseases, has not been clinically validated. See the Centers for Disease Control and Prevention Tier Table Database at https://phgkb.cdc.gov/PHGKB/topicFinder.action;jsessionid=926FE32EDC1A3AA7C3834C8AC3DD1148?Mysubmit=init&amp;query=tier+3 for a good review of what genetic tests have evidence to support implementation into public health programs and those that do not yet have sufficient evidence to recommend implementation. Your introduction could be strengthened by focusing on evidence-based genetic tests (e.g. CDC Tier 1) and moving away from discussions about DTC to focus on clinical testing.

Response: This problematic sentence we have revised (page 4, line 80-82). We have also added the example of evidence-based genetic tests, including a reference [6], (page 4, line 89-92).

Comment:

On page 5, line 101, the meaning of the statement '...the understanding of human diversity could resolve the ethical issues associated with genetic and medical technologies" is unclear. Do you mean human genetic diversity?

Response: Yes, we mean it as ‘human genetic diversity’. We have corrected this word (page 5, line 105).

Comment:

Starting with line 110 on page 5, the sentence that starts with "In collaboration... is very long. Instead of semi-colons it would be clearer to break this long sentence into separate sentences. The part of the sentence that starts with "however,they do not have the proper knowledge on genetics to overcome the community demand through their duties (line 113,page 5) is confusing. Do you mean that nurses do not have sufficient knowledge to address the need for genetics services or that they do not have sufficient time or both?

Response: We have revised and divided into three short sentences. We have also revised this confusing sentence. Yes, public health nurses do not have enough knowledge on genetics and sufficient time to address the genetics services demand by the community (page 6, line 114-119).
Similarly, the sentence (page 6, line 120) "In contrary (contrast), external to their professional duties...are facing challenges during awareness programs of health promotion especially (related to) genetic diseases. Does this mean that public health departments sponsor awareness programs on genetics topics? Are these programs meant to improve the awareness of the public or of the public health providers? Since your aims are investigating awareness programs I think a little more description of what they are would be beneficial and help provide more context to your study.

Response: We have revised this description as this study aims to identify opportunities and challenges of integrating genetics education into the public health nurses’ professional duties (page 6, line 125-128).

Comment: Methods:

Please reference the phenomenological research design.

Response: We have revised the study design as a qualitative descriptive approach (page 7, line 132).

Comment:

Please justify your decision to conduct a single focus group with 6 participants. How did you determine this was a sufficient number of groups/group members?

Response: Thank you for your important observation. We would like to acknowledge that this small number of participants is our study limitation. These are not sufficient numbers. We also mentioned it to our limitations at the end of this manuscript.

Comment:

Since you talk about maternal health and mental health public health nurses in your discussion, it would be helpful to know all the different areas your participants worked in.

Response: We have added the activities of participant (page 7, line 137-138).
Comment:
Your interview guide does not ask any questions about awareness programs despite that being a focus according to your study aims. As mentioned above, please clarify what you mean by awareness programs.

Response: We have made a confusion by using ‘awareness programs’; we have revised this phrase and the aim of this study.

Comment:
Please reference your data analysis methods (qualitative content analysis).

Response: We have revised this methods as a qualitative descriptive approach for data collection and analysis.

Comment:
Under the rigor section, please be more specific about how the data set was coded. Who developed the code book. How many investigators reviewed each coded sentence? Were all sentences coded by at least two authors? If not, what was the interrater reliability for coding?

Response: We have revised this data coding process and added the description under the ‘Rigor’ section (page 9, line 170-176).

Comment: Results: The results section is well-written and provides a thorough description of the results with clear categories and subcategories that align well with the provided quotes.

Response: Thank you very much for your appreciation.

Comment: Discussion: Overall, the discussion thoroughly reviews the potential implications of your results. Attention to the English language translation would enhance clarity, though. Below are some additional recommendations.

Response: Thank you for your overall evaluation of ‘Discussion’ section. This manuscript has checked and improved the English by a native English Lecturer of Hiroshima University.
Comment:

It would be helpful to start the discussion by stating your study aims and a summary statement about the findings before you give specific examples.

Response: We have added a few sentences in the starting of ‘Discussion’ section according to your recommendations (page 15, line 296-301).

Comment:

On page 17, line 331, what do you mean when you say the role of public health nurses in promoting human diversity is very important? What do you mean by diversity? In gender, ethnicity, physical ability? How do nurses typically promote diversity?

Response: We have revised this expression as human ‘genetic’ diversity what we would like to mean (page 18, line 348).

Comment:

Line 335 on page 17, as noted earlier in this review, please consider rephrasing the sentence about solving health-related issues and providing an opportunity for clients to notice latent genetic issues to improve clarity. This sentence appears a third time in the conclusion (so please consider modifying it there as well).

Response: We have revised this sentence and rephrased in all three positions as you mentioned (here, page 18, line 350-352).

Comment:

On page 17 starting with line 338, "For instance, the knowledge should be studied as part of the mandatory education system"- do you mean nursing education? What do you mean by "acquired as a specialized level?" When you say "Human diversity should be studies at a young age," as stated before, what do you mean by human diversity- in genetic makeup? other factors?.

Response: Yes, we mean it as ‘nursing education’ to be acquired up to a specialized level. By the word ‘Human diversity’, we would like to mean’ Human genetic diversity’. We also revised the text (page 18, line 354-355).
Comment:
On page 18, when you say "In addition, lower level of genetic knowledge is related to age and education level" how is it related? Do younger people know more about genetics than older people or vice versa? Is higher education level associated with more genetics knowledge or is the opposite true?

Response: We have revised this sentence as “In addition, lower level of genetic knowledge is related to older age and lower education level” (page 18, line 359).

Comment:
The sentence that starts with "The reasons..." is awkwardly worded and hard to understand.

Response: We have revised this sentence and rephrased accordingly (page 19, line 360).

Comment:
Do you have a reference to support your statement about "When children learn accurate information..." page 18, line 348?

Response: Yes, we have added a new reference [new reference number 26].

Comment:
In the conclusion you mention the development of organizations (this statement is also present in other parts of the paper). What types of organizations are you referring to? Professional organization for public health genetics? for public health nurses?

Response: These are the professional organizations for public health nurses to identify potential risks. We have revised the text (Page 21, line 414-415).
Additional Comment:

If improvements to the English language within your manuscript have been requested, you should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use any reputable English language editing service. We can recommend our affiliates Nature Research Editing Service (http://bit.ly/NRES_BS) and American Journal Experts (http://bit.ly/AJE_BS) for help with English usage. Please note that use of an editing service is neither a requirement nor a guarantee of publication. Free assistance is available from our English language tutorial (https://www.springer.com/gb/authors-editors/authorandreviewertutorials/writinginenglish) and our Writing resources (http://www.biomedcentral.com/getpublished/writing-resources). These cover common mistakes that occur when writing in English.

Response: Thank you for your advice. This time we have checked our revised manuscript by an English native, who is working as a Medical English Lecturer in Hiroshima University.

Thank you very much for the Editor’s & Reviewers’ logical comments and continuous support to improve the quality of our paper. We highly appreciate and acknowledge their great contribution.