PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	The contribution of short-term global clinical health experience to the leadership competency of health professionals: A qualitative study
AUTHORS	Hayashi, Mikio; Son, Daisuke; Onishi, Hirotaka; Eto, Masato

VERSION 1 – REVIEW

REVIEWER	Tracy Rabin Yale University School of Medicine, United States
REVIEW RETURNED	18-Dec-2018

GENERAL COMMENTS	Thanks very much for your submission - I think that this represents a very important effort to understand the implications of engaging in a specific sub-type of short-term global health clinical experiences. One question that I have has to do with whether the competencies that have been identified are truly related to leadership competency, or simply related to clinical practice itself - it would be helpful if you could describe in more depth the rationale for focusing on these findings as aspects of "leadership" competency. (Using the nursing example: empathy and trusting relationships in the workplace are aspects of good clinical relationships with patients and co-workers. Certainly these are included in aspects of good leadership, but these are relevant for all nurses, not just nurse leaders.) Also, I appreciate the discussion your "study limitations" section on page 19, of the fact that the study participants were from one country. This is interesting, given that the global health experience that they participated in was intended to be a multi-national collaboration, which would have allowed for inclusion of a broader variety of participants in the project. This manuscript would benefit from a discussion of why this decision was made. In the same vein, I imagine that they fact that this was a relatively homogenous sample (from a cultural perspective) is the reason why you were able to achieve thematic saturation with such a small number of participants - otherwise, it would be very difficult to understand how this could have been achieved for nurses with only 5 participants, dentists with the same number, and physicians with only 10 participants. It would also be helpful to better understand the roles that the various participants played in the global health experiences - one quote mentioned that a participant was engaged in scheduling of days off for clinical colleagues, which would indicate that this person had more of an administrative roles. So I wonder how

	much of that person's work was clinical vs. administrative, and whether there are different competencies that would have been developed through those different activities. Thus, is it appropriate to be attributing these competencies to to a clinical global health experience? Or are these more related to the administrative components? In general, I feel that this work represents a very important contribution, however I am not clear (based on what is presented at this time) as to whether the design is such that you have answered the question that was asked. And given the homogeneity of the sample and small number of participants, I don't know that it is accurate to state that these findings are generalizable to health care professionals from other countries and/or working in other types of global health clinical experiences .

REVIEWER	Sim Joong Hiong University of Malaya, Malaysia
REVIEW RETURNED	01-Jan-2019

GENERAL COMMENTS	Title and abstract The title identifies the study as a qualitative study. The structured abstract gives a summary of key elements of the study. However, it is not clear why there is a section “Strengths and limitations of this study” (p.4) inserted between the abstract and the introduction. Introduction In the introduction, problem formulation was described with reference to the background of the study and related literature. Purpose and objectives of the study were stated. Methods The authors mentioned that they followed the Standards for Reporting Qualitative Research recommendations. It is inadequate to just mention this. The authors need to elaborate / describe where necessary details are needed to enhance readers’ understanding of the methodology. Although it was clear that the study adopted a qualitative approach, the research design (whether it was grounded theory / ethnography / phenomenology / case study / narrative design), was not identified. Study setting was clearly described. However, it was unclear how the participants were recruited. It appeared to be a convenient sample. Ethical issues had been addressed. Data collection method only involved semi-structured interviews. Other appropriate data collection methods that could have been used were focus group discussions and observations in actual setting. With only one data collection method, no triangulation of data is possible. The section on data analysis needs more elaboration. It was not clear how data analysis was done – whether data was analysed manually, or using software such as NVIVO. There was no mention of how the audio recording was transcribed into text. It was also not clear how coding was done and how the themes emerged. The authors should describe how to prepare and organise the data for analysis, describe how to explore and code the data, as well as how to use codes to develop description and themes. The use of a flow chart or a figure to illustrate and summarise the process of data analysis would be helpful. The use of the phrase “…with no new theoretical concepts identified…” (p.9, line 33) could be replaced by “…with no new themes emerged…”. For techniques to enhance trustworthiness and credibility of data analysis, only member-checking was mentioned (p.9, line36). Results / Findings I am not sure what the authors meant by saying “…we identified 58 constituent elements…” (p.9, line 45). Does it mean 58 codes? Furthermore, it was mentioned “The theoretical framework comprised seven primary factors: …”.

	Where did the theoretical framework come from? Did the framework / model develop from the data? Were you using grounded theory design? The research design was not clearly described in the methods section. And do you mean to say themes instead of factors? As mentioned earlier, it was not clear how the codes were collapsed into themes. In the results section, the authors described each of the themes separately, each with text excerpts from participant(s). It would be helpful if the themes were also presented / summarised in a table, each theme illustrated by representative quote(s) from participants. For Tables 1 and 2, get rid of the vertical lines within the tables. Table 2 occupies two pages. Perhaps in portrait orientation, it can be combined as one table. For Figures 1 and 2, the figure number and caption should appear below the figure, not above it. Discussion Limitations of the study were addressed in the discussion. However, transferability or generalizability and implications of the findings were not discussed. References References are recent and adequate. Of the 38 references, 14 of them are from years 2010 or newer. 26 of references are journal articles.

VERSION 1 – AUTHOR RESPONSE

Reply for Reviewers

Reviewer 1 (Tracy Rabin):

The authors are grateful for the reviewer's comments and advice. The yellow highlighted lines in the tracked copy of the main document mark the segments that were altered after consideration of the reviewer's inputs.

1) Thanks very much for your submission - I think that this represents a very important effort to understand the implications of engaging in a specific sub-type of short-term global health clinical experiences.

Answer: The reviewer's endorsement of our work is much appreciated.

2) One question that I have has to do with whether the competencies that have been identified are truly related to leadership competency, or simply related to clinical practice itself - it would be helpful if you could describe in more depth the rationale for focusing on these findings as aspects of "leadership" competency. (Using the nursing example: empathy and trusting relationships in the workplace are aspects of good clinical relationships with patients and co-workers. Certainly these are included in aspects of good leadership, but these are relevant for all nurses, not just nurse leaders.)

Answer: We thank the reviewer for the question. The potential to inculcate the competency of leadership exists in all individuals, regardless of their current job designations. We focused on the leadership aspects of certain specific factors related to clinical practice. For instance, we considered the 'establishment of a trust relationship' to be a leadership competency component of 'working with others,' but did not regard 'performing assignments' as an element contributing to the leadership competency. We have added this information in the 'introduction' and 'results' sections accordingly.

3) Also, I appreciate the discussion your "study limitations" section on page 19, of the fact that the study participants were from one country. This is interesting, given that the global health experience that they participated in was intended to be a multi-national collaboration, which would have allowed

for inclusion of a broader variety of participants in the project. This manuscript would benefit from a discussion of why this decision was made. In the same vein, I imagine that they fact that this was a relatively homogenous sample (from a cultural perspective) is the reason why you were able to achieve thematic saturation with such a small number of participants - otherwise, it would be very difficult to understand how this could have been achieved for nurses with only 5 participants, dentists with the same number, and physicians with only 10 participants.

Answer: We appreciate the reviewer's comment and suggestion. By focusing on a culturally homogenous group, we could achieve thematic saturation with this limited number (20) of participants. We have inserted this clarification in the segment pertaining to participants in the 'methods' section.

4) It would also be helpful to better understand the roles that the various participants played in the global health experiences - one quote mentioned that a participant was engaged in scheduling of days off for clinical colleagues, which would indicate that this person had more of an administrative roles. So I wonder how much of that person's work was clinical vs. administrative, and whether there are different competencies that would have been developed through those different activities. Thus, is it appropriate to be attributing these competencies to to a clinical global health experience? Or are these more related to the administrative components?

Answer: We thank the reviewer for this query. All participants shared both clinical and administrative duties due to the location and working conditions, which varied day by day. We have added this information in the segment pertaining to the setting in the 'methods' section.

5) In general, I feel that this work represents a very important contribution, however I am not clear (based on what is presented at this time) as to whether the design is such that you have answered the question that was asked. And given the homogeneity of the sample and small number of participants, I don't know that it is accurate to state that these findings are generalizable to health care professionals from other countries and/or working in other types of global health clinical experiences.

Answer: The leadership competency development in other cultures would have to be studied to investigate the transferability of these results. Leadership competencies would be affected by cultural values such as individualism-collectivism and social norms including cultural tightness-looseness. It is also difficult to make generalized statements without researching the leadership development process in other fields such as volunteering, construction, or religious missions. Based on emergent themes, we can predict that other fields or cultures would yield some similar findings in parameters such as communication, working with others, and team-building (Table 2). We have accordingly added this information in the 'discussion' section.

Reviewer 2 (Sim Joong Hiong):

The authors appreciate reviewer's comments and suggestions. The yellow highlighted lines in the tracked copy of the main document mark the segments that were altered after consideration of the reviewer's inputs.

Please refer to the file attached.

Answer: We thank the reviewer for the suggestion. Please refer to the file attached

Reply for Reviewer
The authors appreciate the reviewer's comment. The yellow highlighted lines in the

tracked copy of the main document mark the segments that were altered after consideration of the reviewer's comments.

Title and abstract

1) The title identifies the study as a qualitative study. The structured abstract gives a summary of key elements of the study. However, it is not clear why there is a section "Strengths and limitations of this study" (p.4) inserted between the abstract and the introduction.

Answer: We thank the reviewer's comment. We merely followed the directions provided in the author guidelines for research articles on the journal's website (Authors in BMJ Open). To quote the relevant statement, "An Article Summary, placed after the abstract, consisting of the heading 'Strengths and limitations of this study', and containing up to five short bullet points, no longer than one sentence each, that relate specifically to the methods."

Introduction

In the introduction, problem formulation was described with reference to the background of the study and related literature. Purpose and objectives of the study were stated.

Methods

2) The authors mentioned that they followed the Standards for Reporting Qualitative Research recommendations. It is inadequate to just mention this. The authors need to elaborate / describe where necessary details are needed to enhance readers' understanding of the methodology.

Answer: We thank the reviewer for the pertinent advice. We have followed this suggestion and have added the requisite information to the 'methods' section.

3) Although it was clear that the study adopted a qualitative approach, the research design (whether it was grounded theory / ethnography / phenomenology / case study / narrative design), was not identified.

Answer: The thematic analysis method used in this study involved generative coding and theorization. We have added this information in the 'methods' section.

4) Study setting was clearly described. However, it was unclear how the participants were recruited. It appeared to be a convenient sample. Ethical issues had been addressed.

Answer: All fifty health professionals involved in this project were invited to participate. Twenty people volunteered: five nurses, five dentists, and ten physicians. This information has been inserted in the 'methods' section in the part pertaining to the participants.

5) Data collection method only involved semi-structured interviews. Other appropriate data collection methods that could have been used were focus group discussions and observations in actual setting. With only one data collection method, no triangulation of data is possible.

Answer: We thank the reviewer for this comment. As a participant in the Pacific Partnership, the first author worked alongside the twenty participants and observed them in situ. This information has been added to the segment pertaining to data collection in the 'methods' section.

6) The section on data analysis needs more elaboration. It was not clear how data analysis was done – whether data was analysed manually, or using software such as NVIVO.

Answer: We are grateful for the reviewer's suggestion. We have analyzed the data manually. This information has been added to the segment pertaining to data collection in the 'methods' section.

7) There was no mention of how the audio recording was transcribed into text.

Answer: The recorded audio data of the interviews were transcribed verbatim by the authors immediately after each interview. This information was already presented in the data collection segment of the 'methods' section.

8) It was also not clear how coding was done and how the themes emerged. The authors

should describe how to prepare and organise the data for analysis, describe how to explore and code the data, as well as how to use codes to develop description and themes. The use of a flow chart or a figure to illustrate and summarise the process of data analysis would be helpful.
Answer: We appreciate the reviewer's suggestion. The method of coding and theorization for data analysis comprised two major steps: first, the text data were divided into small units and were classified as meanings or ideas; and second, each of these small units was labelled with an interpretive description. These processes were conducted on each interview transcript. We have added this information in the 'methods' section. We have also inserted a figure (Fig.2) to illustrate the process of data analysis.
9) The use of the phrase "…with no new theoretical concepts identified…" (p.9, line 33) could be replaced by "…with no new themes emerged…".
Answer: We thank the reviewer for the helpful advice. We have revised the sentence accordingly.
For techniques to enhance trustworthiness and credibility of data analysis, only memberchecking was mentioned (p.9, line36).
Results / Findings
10) I am not sure what the authors meant by saying "…we identified 58 constituent elements…" (p.9, line 45). Does it mean 58 codes?
Answer: We meant that we identified 58 emergent themes in this part. We have revised the content in the pertinent portion of the 'results' section to clarify our intentions.
11) Furthermore, it was mentioned "The theoretical framework comprised seven primary factors: …". Where did the theoretical framework come from? Did the framework / model develop from the data? Were you using grounded theory design? The research design was not clearly described in the methods section. And do you mean to say themes instead of factors?
Answer: We value the reviewer's comment. The thematic analysis method employed in this study involved generative coding and theorization as mentioned above. After we identified the 58 emergent themes, we categorized them into the seven competency areas: leadership concepts, teambuilding, direction-setting, communication, business skills, working with others, and self-development. We have revised this information in the 'results' section.
12) As mentioned earlier, it was not clear how the codes were collapsed into themes. In the results section, the authors described each of the themes separately, each with text excerpts from participant(s). It would be helpful if the themes were also presented / summarised in a table, each theme illustrated by representative quote(s) from participants.
Answer: We welcome the reviewer's suggestion. As we have mentioned above in answer to comment #8, we have inserted a figure in 'method' section to illustrate the process of data analysis (please see Fig.2).
13) For Tables 1 and 2, get rid of the vertical lines within the tables. Table 2 occupies two pages. Perhaps in portrait orientation, it can be combined as one table. For Figures 1 and 2, the figure number and caption should appear below the figure, not above it.
Answer: We thank the reviewer for this suggestion. We have revised the tables and figures according to the reviewer's advice.
Discussion
14) Limitations of the study were addressed in the discussion. However, transferability or generalizability and implications of the findings were not discussed.
Answer: The reviewer's comment is much appreciated. The leadership competency development in other cultures would have to be studied to investigate the transferability of these results. Leadership competencies would be affected by cultural values such as individualism-collectivism and social norms including cultural tightness-looseness. It is

also difficult to make generalized statements without researching the leadership development process in other fields such as volunteering, construction, or religious missions. Based on emergent themes, we can predict that other fields or cultures would yield some similar findings in parameters such as communication, working with others, and team-building (Table 2). We have accordingly added this information in the 'discussion' section.

References

References are recent and adequate. Of the 38 references, 14 of them are from years 2010 or newer. 26 of references are journal articles.

VERSION 2 – REVIEW

REVIEWER	Joong Hiong Sim, Senior Lecturer University of Malaya, Malaysia
REVIEW RETURNED	20-Feb-2019

GENERAL COMMENTS	The major flaws of this manuscript lies in its methodology. 1. In both the abstract (p.2) and the Methodology (p.7), can the author(s) please explain what is a "qualitative descriptive study"? For quantitative study, a descriptive study normally refers to survey design. Is there such a study design in qualitative study? 2. For point 2 under strengths and limitations of the study, there are actually two sentences in that point. From authors' guidelines, each point should comprise only one sentence. 3. In the Introduction section, I think there is a need to include operational definitions for each of the three key terms used in this study (see the title). These terms are: (i) clinical health experience, (ii) leadership competency, (iii) health professional. 4. Can the author(s) explain what is "generative coding and theorization" method of analysis (p.7, last line)? 5. The author(s) mentioned Figure 2 (p.10, line 4). However, I could not find any figure in this revised manuscript or as attachment. Also, where is Figure 1 as mentioned on p.9? 6. In the Results section, the author(s) mentioned 58 themes were identified. In my previous review, I questioned if it was 58 codes? 58 themes emergent from the study is far too many. I am not sure how the themes emerged as the coding process was not described. The author(s) should include how exploring and coding of the data was done, or in short, the coding process such as assigning a code, reduce redundancy, and finally how the codes are collapsed into themes.

VERSION 2 – AUTHOR RESPONSE

Reply for Reviewer 2 (Joong Hiong Sim):

The authors are grateful for the reviewer's comments and advice. The yellow highlighted lines in the tracked copy of the main document mark the segments that were altered after consideration of the reviewer's inputs.

1) In both the abstract (p.2) and the Methodology (p.7), can the author(s) please explain what is a "qualitative descriptive study"? For quantitative study, a descriptive study normally refers to survey design. Is there such a study design in qualitative study?

Answer: We thank the reviewer for this query. Qualitative descriptive study is one of the qualitative study methods that are widely used in healthcare research, particularly to describe the nature of various healthcare phenomena. We have added this information in the 'Abstract' and 'Methods' sections accordingly. We have also added the systematic review (Reference number 30) that supports the above idea.

2) For point 2 under strengths and limitations of the study, there are actually two sentences in that point. From authors' guidelines, each point should comprise only one sentence.

Answer: We thank the reviewer for the pertinent advice. We have followed this suggestion and have separated the sentences for Point 2 in the Strengths and Limitation section accordingly.

3) In the Introduction section, I think there is a need to include operational definitions for each of the three key terms used in this study (see the title). These terms are: (i) clinical health experience, (ii) leadership competency, (iii) health professional.

Answer: We appreciate the reviewer's comment and suggestion. We have followed this suggestion and have inserted a table in the Introduction section to illustrate the glossary of these terms: (i) global clinical health experience, (ii) leadership competency, and (iii) health professional (please see Table 1).

4) Can the author(s) explain what is "generative coding and theorization" method of analysis (p.7, last line)?

Answer: We thank the reviewer for the question. We analyzed the data using a method consisting of a four-step coding process in which the researcher edits segmented text, putting (1) focused words from within the text; (2) words outside of the text that are replaceable with the words from 1; (3) words which explain the words in 1 and 2; and (4) themes and constructs, including a process of writing a story-line and offering theories that weave together the themes and constructs. These are the steps entailing generative coding and theorization. We have demonstrated this process in a figure (Fig.2). We have also added a reference (Reference number 34) to support the explanation.

5) The author(s) mentioned Figure 2 (p.10, line 4). However, I could not find any figure in this revised manuscript or as attachment. Also, where is Figure 1 as mentioned on p.9?

Answer: We thank the reviewer for this query. We would like to indicate that we have sent the figure files as an attachment with our previous submission. Figures cannot be attached to the manuscript file on BMJ Open's online submission system. We have emphasized to the Editors that you had not been able to access the figures and requested them to ensure that you receive the figure files. When receiving the resubmitted manuscript, please ensure that you confirm as having received the figure files as well.

6) In the Results section, the author(s) mentioned 58 themes were identified. In my previous review, I questioned if it was 58 codes? 58 themes emergent from the study is far too many. I am not sure how the themes emerged as the coding process was not described. The author(s) should include how exploring and coding of the data was done, or in short, the coding process such as assigning a code, reduce redundancy, and finally how the codes are collapsed into themes.

Answer: We appreciate the reviewer's comments and suggestions. As we have mentioned above in answer to Comment #4, we have conducted data analysis comprising two major steps: first, the text data were divided into small units and were classified as meanings or ideas and second, each of these small units was labelled with an interpretive description. These processes were conducted on each interview transcript. We have also inserted a figure (Fig.2) to illustrate the process of data analysis. Through this process, we identified 58 themes and categorized them into seven competency areas: leadership concepts, teambuilding, direction-setting, communication, business skills, working with others, and self-development. Further, we agreed that we achieved a complete understanding of the identified themes. Moreover, member checking was conducted on the research participants after the data analyses.