PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (see an example) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

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<th>Chronic health problem on health-related quality of life in Chinese children and adolescents – a population based study in Hong Kong</th>
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<td>AUTHORS</td>
<td>Wong, HSW ; Lee, SL; Cheung, YF; Leung, TH; Lam, TH; Lau, YL</td>
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VERSION 1 - REVIEW

| REVIEWER | Henian Chen, MD, PhD  
|----------|-----------------------|
|          | Associate Professor  
|          | Department of Epidemiology & Biostatistics  
|          | Director of Biostatistics Core  
|          | Clinical & Translational Science Institute  |
| REVIEW RETURNED | 10-Aug-2012 |

THE STUDY

1. no information about their sampling methodology;  
2. they should use a same reference group (health group) for data analysis;  
3. they need to control the comorbidity when they report the difference between subjects with a health problem vs., subjects without a health problem.

RESULTS & CONCLUSIONS

1. only 0.8% of subjects (children aged 5-10 years) reported a (any) mental health condition from this data;  
2. only 0.3% of subjects (children aged 11-14 years) reported a (any) mental health condition from this data;  
3. the reliability and quality of this data are very poor.

| REVIEWER | Jeanne M. Landgraf  
|----------|---------------------|
|          | Vice President and Chief Science Officer  
|          | HealthActCHQ Inc.  
|          | Cambridge MA USA  |
|          | Ms. Landgraf is the principal developer of the Child Health Questionnaire (CHQ). HealthActCHQ owns the intellectual property and is the licensing agent for use of the CHQ.  |
| REVIEW RETURNED | 22-Oct-2012 |

THE STUDY

I did not see any supplemental documents with the MS such as a CONSORT checklist. There was however, the STROBE 2007 (v4) statement but all seemed ok in this checklist.

GENERAL COMMENTS

This is a well written manuscript reporting on findings from the Chinese Health Survey. A rigorous sampling methodology was employed. The Child Health Questionnaire parent and child versions were used to assess the physical and psychosocial health and well-being of children in Hong Kong. The use of both child-self report (when age warranted) and parent reported for younger ages is a substantial strength of the paper and should be mentioned as such.
in the MS. The methods used to analyze CHQ findings are scientifically robust and controlling variables were used as warranted. The conclusions are appropriate and supported by other studies. Overall, a very strong MS.

There are just a few minor corrections that are needed:

Page 5 Completion of the CHQ needs to be clarified – were just the demographics and family household data based on interviewer or was the CHQ also interviewer administered or self-completed at the time of the interview but without the help of the interviewer? If it was interviewer administered (i.e., items read aloud to the child and parent and then recorded by the interviewer) this should be addressed in the MS as a potential confounder. Was the child able to complete the CHQ confidentially without the parent’s input? Also, did the parent and child or just the parent report on the conditions? This should be addressed.

5 lines 6-7 – CHQ description – and throughout the MS - please omit the term domain and instead refer to “concepts” in your description of the CHQ and findings. Note that Family Cohesion is a global item and is transformed 0-100 for continuity but is not a “scale” or “domain” since it is a single item. Also, Is there some reason for the omission of the change in health item in the list of concepts and in your analyses?

Page 5 line 19 - The statement is inaccurate – Response options for the CHQ items and scales vary from 4-6 levels.

Page 5 line 23 With the exception of the GH scale, the Global Behavior item, the Change in Health item and the Family Cohesion item, the CHQ scales use a four week recall period.

Page 6 lines 33-45 – “Commonest” is not grammatically appropriate. One would say the top 5 or the 5 most common health conditions….

Page 6 lines 33-45 – The % difference in vision across gender for both age groups seems quite minimal. What is far more compelling but perhaps not unexpected (but not mentioned) is that there are more reported vision issues in the older age group versus the younger age group. It’s possible this could this be attributable to a difference in reporter (parent vs child) but it is not clear if the parent or the child provided information about these conditions. It could simply be due to other issues as raised in the MS.

Page 6 – line 49 – since there is a switch to a new table - it would be easier to follow if the paragraph opened with a reference to table 3 – it is not noted that we are looking at a new table until the conclusion of the paragraph. Also – the opening sentence reads as if both age groups self reported but this is not quite accurate, correct? See earlier comment #1. The sentence should read Parents reported…

Pages 7 and 8 findings – Tables 4 and 5 – again the CHQ are scales not domains. Is there a reason why the order of the conditions is not consistent across the tables? It makes it harder to read and understand the text. Separate paragraphs corresponding to each respective table are needed rather than one large paragraph.

Perhaps most importantly, although the condition is based on parent
report (so discussing across ages in tables 3 and 4 is ok), it is not ok in Tables 4 and 5 to draw inferences across ages. Table 4 is based on CHQ-PF50 parent report whereas Table 5 is based on CHQ-CF87 self-report. Therefore, difference in reporter could be a confounding variable and perhaps should be controlled for if one is to draw inferences across ages. It is more accurate to discuss the tables separately. Thus, line 26…”Table 5 shows that children aged 11-14 years were apparently less affected than younger children” is inaccurate. It should be rewritten “As shown in Table 5, children aged 11-14 years reported significant impact on HRQOL (as reported on the CHQ) for 3 of 5 mental health conditions (60%) and 11 of 22 physical health conditions (50%).

Where are the MANOVA findings and post hoc findings – if they are not in the table this should be stated in parentheses as (not shown but available from the author).

Page 10 – line 17. Create separate paragraphs to distinguish CHQ parent-report from CHQ self-report. Start the new paragraph with …Older children….

Overall, throughout the MS, more might be said with regard to parent/child reporters…this might be one of the largest studies using a child self-report QOL measure in a population based study and this is worth highlighting.

Page 16 – Figures 1 and 2 – The titles should use the plural of age (ages not age)

Page 16 – Figure 1 – the title of the 1st bar chart on the top left should read Ages 5-10 years not 0-5.

References:

Citation #4
Please note that the 1996 and 1999 Manuals are no longer in print. The following citation would be appropriate as a single reference for this study:


**VERSION 1 – AUTHOR RESPONSE**

Reviewer: Henian Chen, MD, PhD
Associate Professor
Department of Epidemiology & Biostatistics
http://health.usf.edu/publichealth/epb/Henian+Chen.htm
Director of Biostatistics Core
Clinical & Translational Science Institute
http://health.usf.edu/research/ctsbiostatistics_intro.htm
University of South Florida

1. no information about their sampling methodology;
The sampling methodology was random sampling. The sampling units were selected using systematic replicated samples based on the frame of quarters maintained by the Census and Statistics Department (C&SD) at the first stage. At the second stage, households with children aged <14 residing were selected for the interview and all children aged <14 in the sampled households were included.

2. they should use a same reference group (health group) for data analysis;

Ans: Yes! Thanks for your reminder, in fact we have already put the physical and mental health conditions as confounder in the model, we put back this statement in the method section.

3. they need to control the comorbidity when they report the difference between subjects with a health problem vs., subjects without a health problem.

Ans: Yes! The answer is same as above.

1. only 0.8% of subjects (children aged 5-10 years) reported a (any) mental health condition from this data;
2. only 0.3% of subjects (children aged 11-14 years) reported a (any) mental health condition from this data;
3. the reliability and quality of this data are very poor.

Ans: We agreed that the prevalence of mental health condition was low in our study and we were not sure whether it was due to cultural acceptance or genetic predisposition. However, the prevalence of physical health condition concurred favorably with previous local condition-specific prevalence studies supported the reliability and quality of our study.

Reviewer: Jeanne M. Landgraf
Vice President and Chief Science Officer
HealthActCHQ Inc.
Cambridge MA USA

Ms. Landgraf is the principal developer of the Child Health Questionnaire (CHQ). HealthActCHQ owns the intellectual property and is the licensing agent for use of the CHQ.

This is a well written manuscript reporting on findings from the Chinese Health Survey. A rigorous sampling methodology was employed. The Child Health Questionnaire parent and child versions were used to assess the physical and psychosocial health and well-being of children in Hong Kong. The use of both child-self report (when age warranted) and parent reported for younger ages is a substantial strength of the paper and should be mentioned as such in the MS. The methods used to analyze CHQ findings are scientifically robust and controlling variables were used as warranted. The conclusions are appropriate and supported by other studies. Overall, a very strong MS.

Ans: The strength of our study in using both child-self report (when age warranted) and parent reported for younger ages has been mentioned in the discussion in the revised manuscript. A new reference no. 16 was also added.

Ans: “Our study showed that our children population has been enjoying fairly good health with low reported prevalence of many physical and mental diseases, which was not unexpected as in many developed countries or cities. Nowadays, the concepts of highest attainable standard of health is not limited to improved survival, free of disease, the ability to perform daily activities but to well-being and quality of life. In children and adolescent, HRQoL is a multidimensional construct covering physical,
emotional, mental, social and behavioral components of well-being as perceived by the children and adolescents or their parents. The definition of HRQoL used for adults thus cannot be directly applied to them. Although there were concern whether children and adolescents could reliably express their own opinions, attitudes and feelings about HRQoL in the past, QoL questionnaires in children and adolescent have been increasingly developed, validated and shown that children and adolescent are able to report on their well-being and functioning.[16] In fact, our study might be one of the largest studies using a child self-report QoL measure in a population based study and it supported the adoption of child self-report QoL questionnaire in addressing the issue of HRQoL in children and adolescent in the future. The use of both child-self report when age warranted and parent reported for younger ages within a study with fairly concurrent result is also a substantial strength of our study.”

There are just a few minor corrections that are needed:

Page 5 Completion of the CHQ needs to be clarified – were just the demographics and family household data based on interviewer or was the CHQ also interviewer administered or self-completed at the time of the interview but without the help of the interviewer? If it was interviewer administered (i.e., items read aloud to the child and parent and then recorded by the interviewer) this should be addressed in the MS as a potential confounder.

Ans: We have clarified in the methodology that

“Parents of children aged 5 to 10 completed the validated Chinese version of the CHQ-parent form (PF) 50 and children aged 11 to 14 themselves completed the validated Chinese version of the CHQ-child form (CF) 87 respectively without the help of the interviewer.”

Was the child able to complete the CHQ confidentially without the parent’s input? Also, did the parent and child or just the parent report on the conditions? This should be addressed.

Ans: We have addressed in the limitations at the end of the discussion of the revised manuscript. “Secondly, we could not ensure absolute confidentiality in children aged 10-14 years who reported CHQ themselves due to in general small household size in our local population. The possibility of over-rating about certain health concepts like family activities, family cohesion could not be completely ruled out.”

5 lines 6-7 – CHQ description – and throughout the MS - please omit the term domain and instead refer to “concepts” in your description of the CHQ and findings.

Ans: Amendment was made and “concepts” instead of “domain” was used throughout the revised manuscript.

Note that Family Cohesion is a global item and is transformed 0-100 for continuity but is not a “scale” or “domain” since it is a single item. Also, Is there some reason for the omission of the change in health item in the list of concepts and in your analyses?

Page 5 line 19 - The statement is inaccurate – Response options for the CHQ items and scales vary from 4-6 levels.

Page 5 line 23 With the exception of the GH scale, the Global Behavior item, the Change in Health item and the Family Cohesion item, the CHQ scales use a four week recall period.
Amendment was made in the methodology based on these 3 comments / suggestions in the methodology of the revised manuscript.

Ans: "The CHQ PF50 and CHQ CF87 consist of 50 and 87 items, based on which 14 2 and 11 multi-dimensional health concepts (domains) are measured.scored respectively. These concepts domains include: general health perceptions (GH), physical functioning (PF), role functioning-emotional (RE), role functioning-behavioral (RB), role functioning-physical (RP), bodily pain (BP), general behavioral (BE), mental health (MH), self esteem (SE), family activities (FA), family cohesion (FC), parental impact-emotional (PE), and parental impact-time (PT) and change in health (CH). The two concepts domains, role functioning-emotional and role functioning-behavioral are combined into one, namely role functioni
ing-emotional and behavioural (REB) in the CHQ-PF50. Two conceptsdomains, PE and PT are not applicable for CHQ-CF 87 as the questionnaire is answered by the children themselves. These health concepts comprise of multiple or single item. With the exception of the general health scale, the global behavior item and the family cohesion item, the response to these items are based on a 4 week recall period. The response options of each item vary from 4-6 levels. A five-point scale is used for each item. For concepts with multiple items, the response to the items are summed up and transformed to a scale that ranges from 0 (lowest possible score indicating the worst health) to 100 (highest possible score indicating the best health). The 12 and 11 domains are then transformed into scores that range from 0 (indicating the worst health) to 100 (indicating the best health). Family cohesion, the only health cConcept comprising of awith single item in both CHQ-PF50 and CHQ-CF87 is also transformed to a 0 to 100 scale. All questions are based on recall of health over the preceding 4 weeks. We did not analyze CH in our study as this health concept comprising of single-item ealthe concept as it was not validated in our previous Chinese version."

Page 6 lines 33-45 – “Commonest” is not grammatically appropriate. One would say the top 5 or the 5 most common health conditions….

Ans: Sentences were amended.

Page 6 lines 33-45 – The % difference in vision across gender for both age groups seems quite minimal. What is far more compelling but perhaps not unexpected (but not mentioned) is that there are more reported vision issues in the older age group versus the younger age group. It’s possible this could this be attributable to a difference in reporter (parent vs child) but it is not clear if the parent or the child provided information about these conditions. It could simply be due to other issues as raised in the MS.

Ans: We have calculated the difference between the age groups and revised the manuscript to “Vision problems were more prevalent in females and in the older age group.”

The chi-square test result was presented in the footnote of Table 2.

Page 6 – line 49 – since there is a switch to a new table - it would be easier to follow if the paragraph opened with a reference to table 3 –it is not noted that we are looking at a new table until the conclusion of the paragraph. Also – the opening sentence reads as if both age groups self reported but this is not quite accurate, correct? See earlier comment #1. The sentence should read Parents reported…

Ans: The paragraph was rewritten as “Table 3 categorizes the participants by age and by the number of reported health conditions: no physical or mental health condition; reported either 1 physical or 1 mental health condition; reported 2 co-morbid physical and mental health conditions and reported 3 or more co-morbid physical and mental health conditions. For children aged 5-10 years, around 70% of the parents reported that their children did not have any aged 5-10 years physical or mental health
condition, 29% reported that their children had 1 physical health condition, 1% reported that their children had 1 mental health condition and 1.2% reported that their children had co-morbid physical and mental health conditions. Fifty-two percent of children aged 11-14 years reported no physical or mental health condition, 46% reported 1 physical health condition, 0.3% reported 1 mental health condition and 1.4% reported co-morbid physical and mental health condition. Physical health condition was more prevalent than mental health condition in either age group."

Pages 7 and 8 findings – Tables 4 and 5 – again the CHQ are scales not domains. Is there a reason why the order of the conditions is not consistent across the tables? It makes it harder to read and understand the text. Separate paragraphs corresponding to each respective table are needed rather than one large paragraph.

Ans: We initially presented in an order that those with significant results would be put on top. We have rearranged the order of the conditions to be consistent across the tables and separated the paragraphs corresponding to each respective tables.

Perhaps most importantly, although the condition is based on parent report (so discussing across ages in tables 3 and 4 is ok), it is not ok in Tables 4 and 5 to draw inferences across ages. Table 4 is based on CHQ-PF50 parent report whereas Table 5 is based on CHQ-CF87 self-report. Therefore, difference in reporter could be a confounding variable and perhaps should be controlled for if one is to draw inferences across ages. It is more accurate to discuss the tables separately. Thus, line 26…”Table 5 shows that children aged 11-14 years were apparently less affected than younger children” is inaccurate. It should be rewritten “As shown in Table 5, children aged 11-14 years reported significant impact on HRQOL (as reported on the CHQ) for 3 of 5 mental health conditions (60%) and 11 of 22 physical health conditions (50%).

Ans: Amendment was made according to the suggestion.

Where are the MANOVA findings and post hoc findings – if they are not in the table this should be stated in parentheses as (not shown but available from the author).

Ans: The posthoc results were show in Table 7 and Table 8 of the revised manuscript.

Page 10 – line 17. Create separate paragraphs to distinguish CHQ parent-report from CHQ self-report. Start the new paragraph with …Older children…

Amendment was made according to the suggestion

Overall, throughout the MS, more might be said with regard to parent/child reporters…this might be one of the largest studies using a child self-report QOL measure in a population based study and this is worth highlighting.

Ans: This has been added in the discussion of the revised manuscript.

Page 16 – Figures 1 and 2 – The titles should use the plural of age (ages not age)

Page 16 – Figure 1 – the title of the 1st bar chart on the top left should read Ages 5-10 years not 0-5.

Ans: Figures 1 and 2 were replaced by Table 6 as suggested by the managing editor.

References:
Citation #4
Please note that the 1996 and 1999 Manuals are no longer in print. The following citation would be appropriate as a single reference for this study:


Ans: This new citation was used in the revised manuscript.