

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form

(<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Reliability and validity of the Chinese version of the Family Resilience Questionnaire (FaRE Questionnaire) in patients with breast cancer: a cross-sectional study
<b>AUTHORS</b>	li, mengmeng; Ma, Rui; ZHANG, Shanfeng; Wang, Shan-shan; jiao, jiawei; LIU, Lamei; WANG, Panpan; Zhang, Zhen-xiang; Wang, Peng; Li, Xiaoyan

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Wheelwright, Sally J. Univ Southampton, Health Sciences
<b>REVIEW RETURNED</b>	18-May-2021

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this manuscript which describes the translation of the Chinese version of the Family Resilience Questionnaire and provides some evidence of content validity and reliability. The translation process was very thorough and some useful data on reliability and validity are presented.</p> <p>The manuscript would benefit from some general editing. For example, the word 'the' is sometimes missing, there is an inconsistent use of tenses and incorrect capitalisations and there are some curious word choices and sentence constructions. Specific typos include: Page 1, line 28 – adaption (not adoption) Page 4, line 19 – women (not woman) Page 7, line 53 – made (not maked)</p> <p>In addition, please consider revising the title – there are too many ands and you could specify what type of validity you have demonstrated.</p> <p>Page 3-4 “the selection of samples’ targeted population and quantity may be biased to some extent because of convenience sampling method” – this needs clarifying</p> <p>Page 4: “Future studies should add other related factors to further assess the validity of the Chinese version of FaRE questionnaire.” This statement is too vague (what factors?) and in fact, this is not actually a strength or limitation of the current study.</p>
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	<p>In the abstract, add that participants are breast cancer patients in the Participants section. The punctuation and order presentation in the Results section should be reviewed. Delete the repeated information about the number of items in the measure.</p> <p>Introduction</p> <ol style="list-style-type: none"> <li>1. The opening paragraph is too long. I suggest splitting it around line 35.</li> <li>2. Page 4 – the sentence starting on line 48 needs splitting into two – one about the negative effects on the patients and one about the negative effects on the family.</li> <li>3. Explain what positive psychology is and reference (page 5, line 7).</li> <li>4. It would be helpful to include a paragraph on resilience, including a clear definition of resilience, a clear definition of family resilience and how these are connected.</li> <li>5. Page 5, line 23: “Compared with other types of cancer, breast cancer has more significant impacts on patients, their spouses, family members, conjugal relationships and family function.” This sentence needs justifying and referencing.</li> <li>6. Page 5, line 28: “Thus, for breast cancer patients, family resilience may provide a new theoretical basis for the prevention and intervention of family crisis”. This sentence needs a bit more explanation. For example, do you mean that families could be screened?</li> <li>7. Is there any literature on the use of the Family Resilience Questionnaire in practice/clinical settings?</li> <li>8. Please state somewhere who should fill out the Family Resilience Questionnaire: I believe this is both patients and family members.</li> </ol> <p>Method</p> <ol style="list-style-type: none"> <li>1. Page 8, line 9. Please explain how semantic consistency was scored.</li> <li>2. Please explain the critical value method, item total score correlation method, I-CVI and S-CVI more clearly.</li> <li>3. I assume you mean exploratory rather than explanatory factor analysis in this section.</li> </ol> <p>Results</p> <ol style="list-style-type: none"> <li>1. Page 14, line 30 – make clear the 4 values are for the 4 subscales.</li> </ol> <p>Discussion</p> <p>There are some limitations to the study which would be good to discuss.</p> <ol style="list-style-type: none"> <li>1. Patients and family members should have been included in the expert panel.</li> <li>2. Data should have been collected from family members as well, given the questionnaire is not just aimed at patients.</li> <li>3. Content validity scores should have been gathered for patients and family members, either as part of the expert panel or this could have been added to the data collection.</li> <li>4. It would have been beneficial to provide some evidence of construct validity. Perhaps this could be a future study.</li> </ol>
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<b>REVIEWER</b>	Robieux, Léonore Institut Curie, Unité de Psycho-Oncologie
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<b>REVIEW RETURNED</b>	15-Jun-2021
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<b>GENERAL COMMENTS</b>	<p>Introduction - A brief definition of resilience would help identify the theoretical framework in which this psychometric tool is embedded. Walsh's model is referred to below as a "method" but without further explanation. What link do the authors make between family resilience and social support, or dyadic coping? How does this resource differ?</p> <p>Method - In the description of the FARE, a presentation of the scores and sub-scores is necessary. How were the participants recruited? If not, more information on the delivery of the questionnaire to the researchers is needed. This sentence "Finally, a subgroup of 30 patients with breast cancer were interviewed again at the clinic" is misleading, are these really interviews? How were the participants of the subgroup who completed the retest selected and recruited? Is their representativeness of the total sample assessed? Given the structure of the tool, i.e., the 4 factors, has no assessment of convergent or divergent validity been considered? It is not usual to indicate validity first and then reliability in psychometric validations. The authors do not mention the evaluation of sensitivity. This remark is also valid for the Results part of the paper where neither for each item nor the sub-scores nor the total score, the sensitivity is evaluated.</p> <p>Results - This comment is in the continuity of the previous one, was there an evaluation of the normality of the distribution of the total scores, sub-scores, and item conducted? This seems relevant to assess the psychometric qualities and identify the tests to be selected upstream. According to the results of the factor analysis, would it be relevant to apply a rotation?</p> <p>Discussion - Some of the points in the first paragraph are missing from the discussion, yet they would have been relevant. Are there any limitations to this research work identified?</p>
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<b>REVIEWER</b>	Toledano-Toledano, Filiberto Hospital Infantil de México Federico Gómez Instituto Nacional de Salud, México City, México, Unidad de Investigación en Medicina Basada en Evidencias
<b>REVIEW RETURNED</b>	14-Jul-2021

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review the manuscript.</p> <p>I appreciate the amount of work the authors have put into the manuscript.</p>
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Overall, the manuscript is well written and easy to follow. However, following a careful reading of the manuscript, I have some comments:

**TITLE::**

It is adequate, clear, specific and concrete, as established by the criteria of the BMJ Open journal. Eliminating an AND would be very important.

However, I suggest adding the following sentence: among patients with breast cancer.

Therefore, the title could be as follows:

Translation, reliability and validity of the Chinese version of the Family Resilience Questionnaire among patients with breast cancer.

**ABSTRACT:**

It is adequate, it has been well written, it is concrete and if it integrates the elements: objective, method and findings. As established by the criteria of the journal BMJ Open. Aspects that contribute and facilitate the reading and understanding of the manuscript.

**INTRODUCTION:**

1. In the Introduction section, the manuscript must describe a technically sound piece of scientific research with data that supports the conclusions.

Apparently the authors have worked on the manuscript to show scientific evidence that supports the research question of this instrumental study, based on the available empirical literature.

2. A fundamental aspect for the closing of the paragraphs of the introductory section, in addition to the fact that the authors have described the factors that explain the quality of life of parents of children with cancer, it is important that the authors also present empirical findings of the resilience processes in diverse contexts, populations and cultures; because currently measurement and evaluation has focused on developing positive adaptation processes to overcome adversity, risk and vulnerability in families and patients with cancer. To do this, I suggest reviewing and citing the following research results:

A).

<https://hqlo.biomedcentral.com/track/pdf/10.1186/s12955-017-0817-3>

B).

<https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-019-7512-8>

C). [https://res.mdpi.com/d\\_attachment/ijerph/ijerph-18-00748/article\\_deploy/ijerph-18-00748-v3.pdf](https://res.mdpi.com/d_attachment/ijerph/ijerph-18-00748/article_deploy/ijerph-18-00748-v3.pdf)

3. Although the authors have described some of the factors associated with the family resilience questionnaire among patients with breast cancer, it is not yet clear within the manuscript, what are the gaps in the knowledge that the literature has reported and that if this is not addressed complexity and this problem, what would be the consequences in the family and in future generations of patients with breast cancer.

	<p><b>METHODS</b></p> <p>1. In the method section the experiments must have been conducted rigorously, with appropriate controls, replication, and sample sizes. I appreciate the amount of work the authors have put into the manuscript.</p> <p>2. I congratulate the authors for having made a good methodological section, which is worthy of a manuscript sent to the journal BMJ Open.</p> <p><b>RESULTS:</b></p> <p>1. The findings have been presented appropriately and based on the data and the study method.</p> <p>2. The results have been presented in a systematic, orderly manner and from the study methodology; and the main findings are consistent and respond to the objectives of the study. They are adequate and have been described in an organized way. I appreciate the amount of work the authors have put into the manuscript.</p> <p><b>DISCUSSION</b></p> <p>1. The discussion has been methodologically developed and well supported. And the results are discussed from previous research, based on the empirical findings of the present study. I appreciate the amount of work the authors have put into the manuscript.</p>
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### **VERSION 1 – AUTHOR RESPONSE**

reviewer 1:

1 The word 'the' is sometimes missing, there is an inconsistent use of tenses and incorrect capitalisations and there are some curious word choices and sentence constructions. Specific typos include: Page 1, line 28 - adaption (not adoption)

Page 4, line 19 -women (not woman) Page 7, line 53 -made (not maked)

Reply: The errors have been revised in the main text.

2 In addition, please consider revising the title – there are too many ands and you could specify what type of validity you have demonstrated.

Reply: the title has been revised as Reliability and validity of the Chinese

version of the Family Resilience Questionnaire in patients with breast cancer: a cross-sectional study.

3 Page 3-4 'the selection of samples' targeted population and quantity may be biased to some extent because of convenience sampling method" – this needs

clarifying

Reply: Thanks for your comment. After careful consideration, I think the sentence is not appropriate, and I have deleted it in the strengths and limitations of the study in the abstract.

4 Page 4: "Future studies should add other related factors to further assess the validity of the Chinese version of FaRE questionnaire." This statement is too vague (what factors?) and in fact, this is not actually a strength or limitation of the current study.

Reply: I agree with editor's comment, and I have deleted it in the strengths and limitations of the study in the abstract.

5 In the abstract, add that participants are breast cancer patients in the Participants section. The punctuation and order presentation in the Results section should be reviewed. Delete the repeated information about the number of items in the measure.

Reply: I have indicated the participants are breast cancer patients in the Participants section; the punctuation and order presentation in the Results section has been revised; repeated information about the number of items in the measure also was deleted.

6 Introduction

(1) The opening paragraph is too long. I suggest splitting it around line 35.

Reply: I have split the Introduction into three paragraphs to make it concise.

(2) Page 4 - the sentence starting on line 48 needs splitting into two – one about the negative effects on the patients and one about the negative effects on the family.

Reply: I have splitted the sentence starting on line 48 into two parts according to reiewer 1's suggestions.

(3) Explain what positive psychology is and reference (page 5, line 7).

Reply: Family resilience belongs to a part of positive psychology, so I quote positive psychology on page 5 line 7.

(4) It would be helpful to include a paragraph on resilience, including a clear definition of resilience, a clear definition of family resilience and how these are connected.

Reply: I have added a clear definition of family resilience and its significance, which is essential to this study. However, as the connections between resilience and family resilience are not the objective of this study, I only emphasized the importance of family resilience in this manuscript.

(5) Page 5, line 23: "Compared with other types of cancer, breast cancer has more significant impacts on patients, their spouses, family members, conjugal relationships and family function." This sentence needs justifying and referencing.

I have justified and added a reference to the justification, i.e., reference 18.

(6) Page 5, line 28: "Thus, for breast cancer patients, family resilience may provide a new theoretical basis for the prevention and intervention of family crisis". This sentence needs a bit more explanation. For example, do you mean that families could be screened?

Reply: The sentence has been revised by deleting confusing information such as the prevention.

(7) Is there any literature on the use of the Family Resilience Questionnaire in practice/clinical settings?

Reply: Family Resilience Questionnaire has been used in practice/clinical settings, but it was developed for cancer. Hence, it is necessary to introduce the questionnaire to Chinese cancer patients, providing an instrument for empirical research.

(8) Please state somewhere who should fill out the Family Resilience Questionnaire: I believe this is both patients and family members.

Reply: In my study, patients fill out the Family Resilience Questionnaire, because breast cancer directly influences patients, leading to family members' changes of family resilience. Follow-up study will consider that family members fill out the Family Resilience Questionnaire.

## 7 Method

(1) Page 8, line 9. Please explain how semantic consistency was scored.

Reply: Sorry that the sentence was not appropriate, and I have deleted the sentence.

(2) Please explain the critical value method, item total score correlation method, I-CVI and S-CVI more clearly.

Reply: The critical value method, item total score correlation method, I-CVI and S-CVI have been revised to be clearer. Item total score correlation method is a method of item analysis. I-CVI and S-CVI are methods of content validity.

(3) I assume you mean exploratory rather than explanatory factor analysis in this section.

Reply: I have revised the explanatory into exploratory.

## 8 Results

(1) Page 14, line 30- make clear the 4 values are for the 4 subscales.

Reply: The sentence has been revised according to the reviewer comments, i.e., And four common factors extracted are consistent with the 4 subscales of the original English questionnaire.

## 9 Discussion

There are some limitations to the study which would be good to discuss.

1. Patients and family members should have been included in the expert panel.
2. Data should have been collected from family members as well, given the questionnaire is not just aimed at patients.



3. Content validity scores should have been gathered for patients and family members, either as part of the expert panel or this could have been added to the data collection.

4. It would have been beneficial to provide some evidence of construct validity. Perhaps this could be a future study.

Reply: According to the reviewer's advice, the above-mentioned points have been added to the limitation section.

reviewer 2:

Introduction

A brief definition of resilience would help identify the theoretical framework in which this psychometric tool is embedded. Walsh's model is referred to below as a "method" but without further explanation. What link do the authors make between family resilience and social support, or dyadic coping? How does this resource differ

Reply: I have given a brief definition of family resilience in the Introduction section. FaRE Questionnaire was developed based on Walsh's model. Social support and dyadic coping belong to a part of family resilience

Method

(1) In the description of the FARE, a presentation of the scores and sub-scores is necessary.

Reply: A presentation of the scores and sub-scores about FaRE questionnaire has been added.

(2) How were the participants recruited? If not, more information on the delivery of the questionnaire to the researchers is needed.

Reply: The participants' recruitment was added in detail..

(3) This sentence "Finally, a subgroup of 30 patients with breast cancer were interviewed again at the clinic" is misleading, are these really interviews?

Reply: I have revised the sentence again, and I meant that interviews equals to data collection. The sentence has been revised into “In addition, clinical data from a subgroup of 30 patients from different age groups were collected again at two weeks after the initial collection to assess the test-retest reliability of the FaRE questionnaire”

(4) How were the participants of the subgroup who completed the retest selected and recruited? Is their representativeness of the total sample assessed?

Reply: a subgroup of 30 patients was chosen from 249 patients By random sampling, and after two weeks, they were retested. The sample had representativeness because they were assessed according to different age groups..

(5) Given the structure of the tool, i.e., the 4 factors, has no assessment of convergent or divergent validity been considered?

Reply: Further study will consider assessment of convergent or divergent validity. Besides this has been added as a limitation of this study.

(6) It is not usual to indicate validity first and then reliability in psychometric validations.

Reply: I have revised the order of reliability and validation.

(7) The authors do not mention the evaluation of sensitivity. This remark is also valid for the Results part of the paper where neither for each item nor the sub-scores nor the total score, the sensitivity is evaluated.

Reply: Further study will evaluate the sensitivity of each item, sub-scores and the total score. Besides this has been added as a limitation of this study in Discussion.

## Results

(1) This comment is in the continuity of the previous one, was there an evaluation of the normality of the distribution of the total scores, sub-scores, and item conducted? This seems relevant to assess the psychometric qualities and identify the tests to be selected upstream.

Reply: We conducted an evaluation of the normality of the distribution of the total scores, sub-scores, and item conducted. The relevant information has been added to the main text.

(2) According to the results of the factor analysis, would it be relevant to apply a rotation?

Reply: Rotation has been applied.

Discussion

(1) Some of the points in the first paragraph are missing from the discussion, yet they would have been relevant.

(2) Are there any limitations to this research work identified?

Reply: I have discussed the limitations of this research work in the Discussion section.

reviewer 3:

1 Reply(about the title): the title has been revised as Reliability and validity of the Chinese version of the Family Resilience Questionnaire in patients with breast cancer: a cross-sectional study.

2 ABSTRACT:

It is adequate, it has been well written, it is concrete and if it integrates the elements: objective, method and findings. As established by the criteria of the journal BMJ Open. Aspects that contribute and facilitate the reading and understanding of the manuscript.

Reply: Thanks for the comments.

3 INTRODUCTION:

(1) In the Introduction section, the manuscript must describe a technically sound piece of scientific research with data that supports the conclusions.

Apparently the authors have worked on the manuscript to show scientific evidence that supports the research question of this instrumental study, based on the available empirical literature.

Reply: Thanks for the comments.

(2) A fundamental aspect for the closing of the paragraphs of the introductory section, in addition to the fact that the authors have described the factors that explain the quality of life of parents of children with cancer, it is important that the authors also present empirical findings of the resilience processes in diverse contexts, populations and cultures; because currently measurement and evaluation has focused on developing positive adaptation processes to overcome adversity, risk and vulnerability in families and patients with cancer.

Reply: I have revised the Introduction according to the reviewer's comments.

(3) Although the authors have described some of the factors associated with the family resilience questionnaire among patients with breast cancer, it is not yet clear within the manuscript, what are the gaps in the knowledge that the literature has reported and that if this is not addressed complexity and this problem, what would be the consequences in the family and in future generations of patients with breast cancer.

Reply: I have revised according to the reviewer's comments.

## METHODS

(1) In the method section the experiments must have been conducted rigorously, with appropriate controls, replication, and sample sizes. I appreciate the amount of work the authors have put into the manuscript.

(2) I congratulate the authors for having made a good methodological section, which is worthy of a manuscript sent to the journal BMJ Open.

Reply: Thanks for the comments.

## RESULTS:

(1) The findings have been presented appropriately and based on the data and the study method.

(2) The results have been presented in a systematic, orderly manner and from the study methodology; and the main findings are consistent and respond to the objectives of the study. They are adequate and have been described in an organized way. I appreciate the amount of work the authors have put into the manuscript.

Reply: Thanks for the comments.

#### DISCUSSION

The discussion has been methodologically developed and well supported. And the results are discussed from previous research, based on the empirical findings of the present study. I appreciate the amount of work the authors have put into the manuscript.

Reply: Thanks for the comments.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Robieux, Léonore Institut Curie, Unité de Psycho-Oncologie
<b>REVIEW RETURNED</b>	03-Jan-2022

<b>GENERAL COMMENTS</b>	This revision is significantly improved from the original and has done a good job of addressing reviewer points. And in this form i would recommend the manuscript for publication in BMJ Open.
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<b>REVIEWER</b>	Toledano-Toledano, Filiberto Hospital Infantil de México Federico Gómez Instituto Nacional de Salud, México City, México, Unidad de Invesrstigación en Medicina Basada en Evidencias
<b>REVIEW RETURNED</b>	28-Nov-2021

<b>GENERAL COMMENTS</b>	Thank you for the opportunity to review this manuscript.
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#### VERSION 2 – AUTHOR RESPONSE

Reviewer3: Dr. Filiberto Toledano-Toledano, Hospital Infantil de México Federico Gómez Instituto Nacional de Salud, México City, México

Comments to the Author:

Thank you for the opportunity to review this manuscript.

Reply: Thanks for the comments.

Reviewer2 :Dr. Léonore Robieux, Institut Curie

Comments to the Author:

This revision is significantly improved from the original and has done a good job of addressing reviewer points. And in this form i would recommend the manuscript for publication in BMJ Open.

Reply: Thanks for the recommendations.

Reviewer: 3 Competing interests of Reviewer: None.

Reply: Thanks.

4 Reviewer: 2 Competing interests of Reviewer: None

Reply: Thanks.