Author's response to reviews

Title: Health Belief Mode constructs as factors associated with Breast Self-Examination behavior in a sample of women in Bandar Abass, Iran

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Author's response to reviews: see over
Dear Editor in Chief

Journal of BMC Women’s Health

Article: To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women.

Reference number: 5348333262464961

Version: 2

Thank you for the opportunity to revise the manuscript entitled: “To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women: an Application of Health Belief Model” reference number as 5348333262464961. Attached, please find the responses to the reviewers’ reports on the manuscript.

It would be most appreciated if you consider the answers to be reviewed. I sincerely thank you in advance.

Hereby, I would like to thank all peer reviewers for their valuable comments on this manuscript.

Responses to Reviewer: Nursen O Nahcivan

Major Compulsory Revisions

REVIEW NOTES:

This is an interesting paper; that appears to be the first study which examine factors predict BSE behavior through health belief model (HBM) constructs, amongst Iranian women. Understanding Iranian women’s beliefs related to breast self examination will help healthcare professionals implement health education programs with the potential to increase BSE behavior. The manuscript would be strengthened if the authors would address the issues listed below:
1. Is the question posed by the authors well defined?

This paper only discusses health belief model constructs that influence the practice of breast self-examination (BSE) among the Iranian women, not other factors. In the first sight, the title of the study imply to examine the associated factors with BSE behavior, not only the HBM constructs. So that, It is not clear why did the investigator not choose to study the other affected factors (e.g. socio demographic variables, lack of knowledge and etc.) as well. This should be clarified. In addition, in the literature, the most common reason for not doing BSE was lack of knowledge and the belief that it was not necessary, so; why did the investigator not choose to learn such characteristics of Iranian women in the study? There is no mention of the effect of the such factors on BSE practice. Either the study needs revision and contribution in the introduction section. The manuscript's introduction is not enough wide ranging for its intended purpose. The introduction should be re-written to consider what is already known about the associated factors and the predictors related with BSE in other cultures. Please specifically add some additional information to give the readers a little background on Iranian women and their culture and a little information that aimed the similar and different aspects of Iranian women, comparing with women in other cultures. No data were shown here to support this point.

- Since this study aimed to examine only the predictors of HBM constructs for BSE, the other probably associated factors and predictors related with BSE such as socio demographic variables, lack of knowledge and etc, were not assessed by investigators. Thus, this justification was explained at the end of introduction. Additionally, this limitation of the study was mentioned in discussion section.

- If the authors’ purpose was examine only the predictors of HBM constructs, the title is awkward. Thus, the title should be altered as “Health Belief Mode constructs as factors associated with Breast Self-Examination behavior in a sample of Iranian women”.

The title of the manuscript was changed as recommended.
In “Introduction” section, be more specific than just saying advanced stages. Are you referred to regional and distant staged disease? Staged III and IV disease? (See Vahdaninia & Montazeri, 2004)

☐ This sentence was re-written more specifically as recommended.

Please give incidence rates for breast cancer in Iran.

- This rate was given based on existed evidence (Ref. number 9,10,11,12 were added in this regard).

The first parts of the introduction should be re-written to consider what is already know about the Iranian women’ breast cancer screening behaviours. The Introduction does not summarise what is already known on the breast cancer statistics and the previous studies’ reports in Iran. The background section should be updated to include some relevant literature (a few examples are below):


- Najafi et al, 2005 and etc.

- Mousavi et al, 2007


☐ The first part of introduction(Background) was improved as recommended. Some references ( 9,10,11,12,13, 20 ) were added to give more information about Iran.
Some of the assertions in the introduction appeared to be in need of a citation. More than one reference should be given in the “Introduction” section before the sentence “Therefore, understanding women's beliefs regarding BSE could be useful for designing suitable educational interventions to promote this healthy behavior.” The authors failed to cite many of the pertinent references in this field.

- Pertinent citations were added after the sentence.

There is a typographical error in the “Introduction” such as the use of “SBE” rather than “BSE”.

- These mistakes were corrected.

In the last part of “Introduction” the authors have already defined the HBM, so leave off (Health Belief Model). And for the readers who are not familiar with the health belief model, this theoretical model should be detailed described, what it is used for in general, and identifying its components. Please provide more information.

- More information about Health Belief Model was provided in the last part of introduction (Background).

2. Are the methods appropriate and well described?

Please provide more information regarding the women who participated in the study. What were their characteristics that were selected from 8 health centers in Bandar Abbas? How can they represent the Iranian women at all? A brief explanation would suffice to give the readers a clearer understand of the sample.

- The inclusion and exclusion criteria were provided in the first part of method. This study was performed among a sample of women who were living in Bandar Abbass, a southern city of Iran. Therefore, the results of this study could be only generalized to all women who live in this city not all Iranian women. Accordingly, the title of the manuscript was improved.
In “Methods” section, the authors state that the study sample was selected randomly. Which variables were included in the sampling algorithm? More information on the random sampling technique would be useful. There is no rationale offered for the sample size of 240 women. Also, the sampling procedures are not clear. The authors should clearly state how the study sample size was selected. Why did the authors choose 240 women? This should be clearly described.

- These descriptions were added into the method section. The sample size was referred to previous similar studies that numbered by references at the method section.

A little more information about how the data collection was accomplished would help readers who are contemplating how to achieve similar data collection. Please improve on the relevance and significance of your study.

- This description was added into the method.

In the text, one of the construct of HBM “self efficacy” was explained in the “Method”. But later, the term “confidence” was used that come to same meaning. The authors should clarify why these two words were used for the same meaning in the manuscript.

- This was corrected in the text. The term “confidence” was omitted and the word self efficacy was used instead.

It was written that the last version of the scale was used for the study. This statement needs citation. And please clarify the reason why the “health Motivation” subscale was not used?

- This citation was added into the text and the reason why the “health Motivation” subscale was not used, was clarified.
It is important to add some information in the Methods section about the nature of the questions used for the survey - their source (either pre-existing measures or measures created for this study).

- These information were presented in method section (in 1st, 2nd, and 3th paragraph of measure section).

Provide more information about the items on questionnaires (socio-demographic and BSE related questions).

- This information was presented in 1st paragraph of measure section in method.

The authors stated that there are questions about “having a regular plan for BSE” and “how to perform BSE” in the questionnaire. But, there is not any report in the “Results” section about these data. The variables that were measured need more definition and description. How was BSE behavior assessed?

- The skill of BSE behavior was not assessed in this study, so the question “how to perform BSE” was omitted from the text. The description regarding regular BSE was added at the end of table 1.

In page 4, the statements “some BSE behaviors like performing BSE or not” and “how to perform BSE and having a regular plan for BSE” need clarification. What does it mean? How was the BSE frequency determined in the study?

- As mentioned above, the statement “how to perform BSE” was omitted from the text and the other statements were defined.

A clearer description of the instruments used and how they were developed and their reliability would be very helpful. Were they conducted in private?

- This description was presented in method section of the manuscript. (The first part of measure section provides this information).
A clearer description of the instruments, how they were developed, and their reliability would be very helpful for the readers. The authors should add the details on the differences of reliability and validity analyses between the original scale, the scales used in similar women groups in other countries and the scale used in the study. Was the factors analyses made? If yes, based on the data, how many factors were revealed? Which source was used for the reliability and validity criteria’s?

- The description was added into the method as recommended. In this study, factor analyze was not made which is a kind of limitation of the study. This limitation was mentioned in discussion section.

More information on the data collection methods is needed. What was the period of data collection? How were the surveys administered?

- This information was added into the method section.

3. Are the data sound?

In “Result” Please include maximum and minimum value for the health belief model constructs.

- These values were presented in table 2.

A new table should added that shows the descriptive characteristics (socio-demographic and BSE practice related) of the participants.

- These data were shown in table 1.

In the paper all “P” should be written with small letter as “p”.
In the statement “However, perceived BSE barriers among women with BSE were significantly lower than other group (P<0.05).” What does it meant by “women with BSE.”? This sentence should be re-written.

The name of the Tables may be more expressive. For example, Table 2 should be changed as “Multiple regression analysis of health beliefs constructs for performing BSE”.

In Table 1, the number of the comparing groups should added. And, the columns should labeled as “performing BSE regularly (n=……) ” and “not performing BSE regularly(n=……)” .

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

In “Discussion” section, the low rate of BSE practicing was being related to only the reason that participants did not believe they were susceptible to breast cancer. However, lack of breast cancer knowledge, socio-economic status, level of education, a referral from a physician, knowledge of breast cancer, BSE, and mammography, health insurance coverage and family history of breast cancer also have been associated with BSE practice.
On page 7, first paragraph, there was a statement as “Studied women in our research mentioned barriers like embarrassing, lack of time, lack of self examination skills and lack of enough private space to do BSE.” But there is no information regarding this in “Results” section.

- These wrong words were corrected. Also these results were shown in table 3.

Spelling mistakes and grammatical errors should be corrected. And typographical errors in the use of “lake” rather than “lack” in the words “lack of time, lack of self examination skills and lack of enough private space to do BSE”. Should be corrected too.

- These misspelling were corrected.

There are several mistakes in both references and citations.

- The references of 28 and 29 are same.


- These mistakes were corrected.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
• These sections were revised and the conclusion was re-written. They were improved appropriately.

• In “Discussion” section, first paragraph, the words “screening behavior” should be altered with “BSE behavior”.
  • This was improved as recommended.

Results were not well justified or discussed. Especially with the similar study reports that were conducted in other cultures. The cited references should be reviewed deeply.

  • The discussion section was improved. The references number 5, 7, 8, 9, 10, 12, 19, 20, 21, 22, and 32 were added into this section.

It would be helpful if the conclusion statements altered both in the abstract and in the paper. As, the data was only showed the importance of HBM constructs in BSE practicing. But there were not any data that shows “more educational interventions to promote women's confidence through more training and skill building”

  • The conclusion was improved appropriately.

In “Discussion”, paragraphs 3.ve 4., Are the cited studies’ samples similar with the Iranian women? And what are the similarities and differences between the women groups? Are the findings from these studies applicable to your study?

  • These descriptions were added into the discussion section. References number 24, 25, and 27 were omitted. Instead similar studies (ref. numbers 5, 7, 8, 9, 10, 12, 19, 20, 21, 22, and 32) were added in discussion and introduction.

The quotations should be checked carefully. As, Selda and Nursen’s study “higher susceptibility, higher confidence and lower barriers to BSE predict more BSE performing (28).” Not higher self-efficacy.
6. Are limitations of the work clearly stated? The limitations of the study are not included in the paper.

- The limitations were added at the end of discussion.

7. Do the title and abstract accurately convey what has been found?

In the abstract, the conclusion statements are not well enough linked with the study results. This part should re-written as “The findings of this study indicated that perceived BSE barriers and perceived BSE self-efficacy were influencing factors which could predict BSE behavior among studied women. Therefore BSE training programs for improving self efficacy and encountering barriers to BSE are strongly recommended”.

- The conclusion was improved as recommended.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests
Reviewer's report

Title: To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women: An Application of Health Belief Model

Version: 2 Date: 2 March 2009

Reviewer: Paul Norman

Reviewer's report:

The manuscript reports an interesting study applying the Health Belief Model (HBM) to the prediction of breast self-examination among Iranian women. The manuscript is likely to make a positive contribution to the literature given that are no other HBM studies on BSE in Iran. In addition, the relatively large sample and the use of Champion’s HBM scale are positive features of the study. Nevertheless, there are a number of ways in which the manuscript could be improved especially regarding the description of the BSE measures and the data analysis where a logistic regression analysis is likely to be more appropriate.

Major Compulsory Revisions:

1. The manuscript would benefit from thorough copy editing by a native English speaker.
   - It was more edited.

2. Page 4. More information is needed on the BSE measures. How many questions were asked? What was the wording of these questions and what were the response categories? Such information is needed to be able to interpret the results.
   - These information were added into the method.

3. Page 5. It is necessary for the reader to know what the response options to the BSE questions were to be able to fully interpret the results (see point 6). The results for each BSE question need to be reported.
   - This was reported in table 3.
4. Page 5. Given that the authors have compared women who do versus do not perform BSE (Table 1), I was surprised that they didn’t then report a logistic regression analysis to examine the independent contributions of the HBM variables to the prediction of BSE performance. This analysis should also control for the effects of any sociodemographic variables that are associated with BSE performance. The regression analysis should employ a hierarchical (or direct entry) procedure whereby any sociodemographic variables that are associated with BSE performance are entered in block 1, followed by all of the HBM variables in block 2.

- A logistic regression analysis was done and the results were reported in the table 4.

5. Page 5. The use of stepwise regression analysis should be avoided as it is atheoretical. The ability of the HBM to explain variance in BSE should be considered as a whole followed by an examination the unique contribution of each construct. All of the HBM variables should be entered into the regression model (after first controlling for the effects of socio demographic variables that are associated with BSE). In addition, the frequency measure (which forms the DV in the current analysis) is likely to be highly skewed, given that most women didn’t perform BSE. As a result, the use of a linear regression analysis might be inappropriate. A logistic regression analysis using performance versus non-performance as the DV might be more appropriate (see previous point). If the linear regression analysis is retained, then it would be necessary to report the correlations between the HBM variables and BSE performance.

- This was done as recommended and the results were reported in the table 4.

6. The practical implications of the results need to be expanded. How would one increase self-efficacy. The authors should refer to Bandura’s work on the sources of self-efficacy.

- This was done.

Minor Essential Revisions:

1-The title could be more concise – e.g., An application of health belief model to the prediction of breast self-examination in Iranian women.
The title of the manuscript was changed as recommended.

2. The abstract is clear, but (i) there’s no need to include information on the response choices and (ii) the R-square value from the regression analysis should be reported.
   - The statement regarding information on the response choices was omitted from the abstract.
   - R-square value from the regression analysis was reported in the abstract.

   - This information was added into the method.

4. Page 4. The description of the HBM should be deleted from the method section as it is already described in the introduction.
   - This description was omitted.

5. Table 1. Include details of the n’s for each group. Report the t values in the table.
   - This was added into the table 2.

6. Page 4. It would be useful to include example items of the HBM measures.
   - These items were included in table 3.

7. Page 4. It is questionable whether it is necessary to include a data analysis section.
   - This section was omitted as recommendation.
8. Page 6. The results of the study should be compared more closely with other Iranian (or Asian) studies than with studies that have examined migrant ethnic groups.

- This was done in discussion section. (Ref numbers 9, 10, 12, 20, 25 and 32 refers to previous works in Iran)

9. Page 6. Is there any evidence for the conclusion that the low rate of BSE is due to low perceived susceptibility? Perceived susceptibility failed to distinguish between the two groups in Table 1.

- The conclusion was improved.

10. Page 6. How do the ratings of the perceived seriousness of BSE compare to those reported in other studies?

- This was done through t test.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests
Reviewer's report

Title: To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women: An Application of Health Belief Model

Version: 2 Date: 4 March 2009

Reviewer: ilknur aydin avci

Reviewer's report:

A study related use of breast cancer screening practices is an important topic, especially with women in a country such as Iranian. The topic of breast cancer is important to public health and in countries where mammography is not readily available, BSE may be the screening method of choice.

***Additionally, the reported findings do not offer any new information on the topic. In this reason, it must be written how is this study different? The list of recommendations presented at the end of the manuscript is not different than the recommendations of most similar studies. What new information does the results of this study offer to the practitioner?

- The difference of this study with others was described at the end of introduction(Background).

***Summary; Aim of study should be written as separate.

- This sentence was written separately.

***A discussion of the efficacy of BSE in detecting breast cancers early is also needed. That discussion should also include the results of the clinical trials related to BSE conducted in Russia and Shanghai.

- The discussion was revised and improved through comparing the data with more relevant studies especially previous conducted research in Iran.

***Study methods need to explained in more detail. The study sample is not explained completely. Why were chosen 30 women from eight health center as the
sample? How is chosen these women, which method is used? What was the power analysis for this study?

- These descriptions were added into the method section.

***What health services are given in these centers, primary, secondary or tertiary? And are these women healthy or sick? This status is important in health beliefs. It must explained.

- These explanations were added into the method.

*** It must given minimum and maximum scores of subscales. Readers want to know what it means these scores.

- These scores were presented in the table 2.

***What is women’ BSE knowledge rate was not assessed.

- In this study, women’ BSE knowledge rate was not assessed .This is a kind of limitation of the study that mentioned at the end of discussion.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**
Reviewer's report

Title: To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women: An Application of Health Belief Model

Version: 2 Date: 26 February 2009

Reviewer: Gisela Gastrin

Reviewer's report:

REVIEW ON THE ABSTRACT.

There are differences in Finland an Iran when using the English language to describe BSE-related circumstances, but I am sure that we mean the same things. According to Finnish standards of presentation, BSE is aimed at DETECTING CHANGES in the breasts, while THE DIAGNOSIS OF THE CHANGES is carried out by mammographic and other clinical investigation. In Iran, women who performed BSE effectively were those who perceived high degree of benefits and low degree of barriers; therefore it is important to explain to large populations the benefits of, and the easy ways to attend comprehensive BSE programs.

REVIEW ON THE ARTICLE ACCORDING TO GIVEN GUIDELINES

“‘To predict factors associated with Breast Self-Examination behavior in a sample of Iranian women: An application of Health Belief Model’.”

Article type: Research on health beliefs, health habits and influence on women’s breast health.

POINTS TO BE CONSIDERED

according to my knowledge as a radiologist / oncologist, health educator and adviser in health education of the WHO:

1. The question posed is well defined. The authors are exploring the concrete psychological factors, that may predict BSE-behavior in well defined female individuals. A written interview according to a certain health belief model (HBM) is used to ease in a trustworthy manner comparisons to other investigations done or expected to be done.

• O.K. Thanks
2. The methods are appropriate and well described.
   - O.K. Thanks

3. The data seem to be sound.
   - O.K. Thanks

4. The manuscript seems to adhere to relevant standards for reporting and data deposition. I am not an expert on this item, but I think that it is correct.
   - O.K. Thanks

5. The discussion and the conclusions are well balanced and adequately supported by the data and by comparisons to other investigations.
   - O.K. Thanks

6. Limitations of the work are not stated or needed.
   - Limitations of the study were added at the end of discussion.

7. The authors clearly report on published work, but not from e.g. the Nordic countries, where the item has also been worked upon and discussed in medical for a.
   - Discussion was improved and some new references including ref. number 5 regarding a study conducted in Nordic countries were added.

8. The title and Abstract convey the findings.
   - O.K. Thanks

9. The writing is of great interest, because little is previously known about the item on a global scale.
• O.K. Thanks

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:** I declare that I have no competing interests

I wish all the best for you.

Most sincerely.

Teamur Aghamolaei,