

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Colorectal cancer awareness and its predictors among adults aged 50 to 74 years attending primary health care in the State of Qatar: a cross-sectional study
<b>AUTHORS</b>	AL DAHSHAN, AYMAN; Chehab, Mohamad; Bala, Mohamed; Omer, Mideaad; AlMohamed, Omayma; Al-Kubaisi, Noora; Selim, Nagah

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Mukhtiar Baig Faculty of Medicine, Rabigh, King Abdulaziz University, Jeddah, KSA
<b>REVIEW RETURNED</b>	12-Dec-2019

<b>GENERAL COMMENTS</b>	<p>It's a nice study but the sample size of 428 is insufficient to generalize the study results.</p> <p>The participants' selection from the healthcare facility is one of the confounding factors.</p> <p>In the conclusion section, it has been mentioned that "the present study has shown a decreased awareness regarding the symptoms....." pls replace the word decreased by "low" or "not up to the mark."</p> <p>Pls remove "2019" from the title.</p> <p>I am very sorry to say that this survey doesn't add anything new to the existing literature. I would suggest it should be submitted to the local journal.</p> <p>Overall, the manuscript needs language editing and rephrasing.</p>
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<b>REVIEWER</b>	Desiree Schliemann Queen's University Belfast, United Kingdom
<b>REVIEW RETURNED</b>	02-Jan-2020

<b>GENERAL COMMENTS</b>	<p>This is an interesting manuscript, describing an important area of research. However, there are several points that I would urge the authors to address in order to improve the manuscript, in particular concerns about the reporting of the results and use of grammar and language.</p> <p>1) The authors have stated that the manuscript has been revised for language/grammar – however, there are still numerous grammatical mistakes and the language needs to be further revised to improve use of scientific language.</p> <p>2) Participants are referred to as 'clients' which does not seem an appropriate term for the participants recruited here. It seems that all participants were patients attending the primary health clinic? If so, I would suggest to change all 'clients' to either 'patients' or 'participants'. Were people who accompanied patients also</p>
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	<p>interviewed? Please specify this in the inclusion/ exclusion criteria. If so, then I would refer to all as 'participants' as not all were 'patients'.</p> <p>3) The abstract refers to participants as 'elderly'. In most countries, people aged 50 are not necessarily referred to as elderly. I would suggest to be consistent and instead refer to 'at-risk' individuals. Furthermore, throughout the document the authors refer to participants as high-risk individuals, only defined as 'high-risk' by their age. This is also not appropriate as being at high-risk for CRC generally includes other factors, such as family history, smoking, etc. Therefore, I would change this to 'at-risk population'.</p> <p>4) The results section in the abstracts needs to be revised. The authors refer to 'mean awareness score' and present percentages, whereas this should be the actual score, i.e. mean symptom awareness score was 3.63/9. I would suggest to adhere to this throughout the manuscript (and not to present percentages for scores – only use % when you want to say % of people were aware that blood in stool was a sign for CRC).</p> <p>5) In the introduction, please add a reference for the CRC figures presented for Qatar. Also, since many international readers may not be aware of the ethnic differences of the Qatar population, it would be interesting to add a couple of sentences either in the introduction or when describing the study setting.</p> <p>6) Please state primary and secondary objectives (i.e. assess CRC symptoms and risk factor awareness and to assess differences in awareness between population groups/ different socio-demographic characteristics)</p> <p>7) The methods section needs to be restructured – I would suggest to remove the heading 'research protocol' in the middle of the methods section and have the following headings: Study design and setting/ Study population and sampling / Patient and public involvement/ Sample size/ Data collection/ Questionnaire (or similar). Also, the authors stated the age group recruited twice in the methods, one can be removed (page 6 line 128-129).</p> <p>8) Provide the reference to the original Bowel CAM. Briefly describe how the vs has been modified for use in Qatar (other than language).</p> <p>9) The original Bowel CAM assess prompted and unprompted knowledge of CRC. Please be specific as to what was assessed in this study (prompted) and why the authors didn't assess unprompted symptoms knowledge. Include this also as a limitation.</p> <p>10) In your methods you refer to a score out of 9 or out of 11. In your results however, you refer to a score out of 100. It is confusing and not clear where this is coming from or how it has been calculated?</p> <p>11) In the results, please rephrase 'reported symptoms' to either 'recalled' or 'identified symptom/ risk factor'. 'Reported symptoms' may confuse the reader to think participants experienced the symptoms themselves.</p> <p>12) Page 10 line 194-203: where are those figures reported? Are they in any tables, if no why not? Need to state (information not shown in tables). I would argue that this paragraph could also be removed since the differences are really assessed in a more meaningful way through the ANOVA and Multivariate regression analysis.</p> <p>13) Please clarify what the 'overall/ total awareness score' is and please be consistent and use only one of those terms. Is this just symptom and risk factor awareness combined?</p>
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	<p>14) Add figures/numbers to paragraph 'predictors of CRC awareness'</p> <p>15) Report p-values as &lt;0.001 instead of 0.000</p> <p>16) Figure 1 doesn't add much, would take it out (also as I mentioned don't report the scores as percentages, report the mean scores instead).</p> <p>17) In the discussion, you use the expression 'decreased knowledge' several times, please change this to 'low awareness' (as only awareness was assessed and 'decreased' suggests that it was at some point higher than it is now).</p> <p>18) Page 13, line 249 – what do you mean by type?</p> <p>19) I would suggest to report the figures from the original study in the UK. Compare the UK findings and findings from the countries you have reported – the authors state that they are all low but there are differences between the countries. Why? Also, it would be interesting to pull out a couple of symptoms/ risk factors that were best recalled and those that were not – why would that be? Is it in line with other countries?</p> <p>20) Page 14 line 268: 'In addition ... ' the sentence does not fit in.</p> <p>21) It is not scientifically correct to say findings 'correlate' with findings from another study – please change this in the discussion</p> <p>22) In the conclusion, there is no need to state the findings again. Also change 'elderly' as mentioned before.</p> <p>23) Change 'ethical' to 'ethics'.</p> <p>24) Previous reviewers asked to address 'lack of CRC family history assessment' as a limitation – this is still missing from the limitations section.</p> <p>25) The authors completed the STROBE statement, however, the following information is still missing from the protocol: missing information (how many for the different questions and how was missing information handled); reason why people refused participation (non-participation: in the table you stated N/A but in the results section you did mention that some people refused participation); add line number for background/rational; main results – you need to provide unadjusted AND adjusted beta coefficients in Table 4.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

-Reviewer comment: It's a nice study but the sample size of 428 is insufficient to generalize the study results.

-Investigator answer: Thank you for your comment. The sample size was determined by the relevant sample size calculation formula. It was based on a 95% confidence interval, precision of 5%, a hypothesis that 50% (+/-5%) of participants were aware of CRC symptoms and risk factors and a non-response of 20%.

-Reviewer comment: The participants' selection from the healthcare facility is one of the confounding factors.

-Investigator answer: We appreciate this comment. Overall, I do agree with the reviewer comment that the study findings could not be generalised to the whole population, but to people attending PHC centers. The selection of all participants from the healthcare facility is one of the study's limitations and has been mentioned in the discussion section.

-Reviewer comment: In the conclusion section, it has been mentioned that "the present study has shown a decreased awareness regarding the symptoms....." pls replace the word decreased by "low" or "not up to the mark."

-Investigator answer: Thank you for your insightful observation. The word “decreased” has been replaced as advised.

-Reviewer comment: Pls remove "2019" from the title.

-Investigator answer: The date of the study has been removed from the title.

-Reviewer comment: Overall, the manuscript needs language editing and rephrasing.

-Investigator answer: Thank you for this feedback. The study has undergone a thorough review of language and grammar.

Reviewer: 2

-Reviewer comment: The authors have stated that the manuscript has been revised for language/grammar – however, there are still numerous grammatical mistakes and the language needs to be further revised to improve use of scientific language.

-Investigator answer: Thank you for this feedback. The study has undergone a thorough review of language and grammar.

-Reviewer comment: Participants are referred to as ‘clients’ which does not seem an appropriate term for the participants recruited here. It seems that all participants were patients attending the primary health clinic? If so, I would suggest to change all ‘clients’ to either ‘patients’ or ‘participants’. Were people who accompanied patients also interviewed? Please specify this in the inclusion/ exclusion criteria. If so, then I would refer to all as ‘participants’ as not all were ‘patients’.

-Investigator answer: Thank you for this insightful suggestion. The word “clients” has been replaced by “participants” across the manuscript. The inclusion criteria have been updated to include “accompanying people” as potential participants.

-Reviewer comment: The abstract refers to participants as ‘elderly’. In most countries, people aged 50 are not necessarily referred to as elderly. I would suggest to be consistent and instead refer to ‘at-risk’ individuals. Furthermore, throughout the document the authors refer to participants as high-risk individuals, only defined as ‘high-risk’ by their age. This is also not appropriate as being at high-risk for CRC generally includes other factors, such as family history, smoking, etc. Therefore, I would change this to ‘at-risk population’.

-Investigator answer: Thank you for bringing this inconsistency to our attention. The word “elderly” has been replaced by “at-risk individuals” consistently throughout the text. Also, the word ‘high-risk’ was revised and replaced by “at-risk population” throughout the text.

-Reviewer comment: The results section in the abstracts needs to be revised. The authors refer to ‘mean awareness score’ and present percentages, whereas this should be the actual score, i.e. mean symptom awareness score was 3.63/9. I would suggest to adhere to this throughout the manuscript (and not to present percentages for scores – only use % when you want to say % of people were aware that blood in stool was a sign for CRC).

-Investigator answer: Thank you for this insightful observation. We have replaced the present percentages for scores by the actual mean scores throughout the manuscript as advised.

-Reviewer comment: In the introduction, please add a reference for the CRC figures presented for Qatar. Also, since many international readers may not be aware of the ethnic differences of the Qatar population, it would be interesting to add a couple of sentences either in the introduction or when describing the study setting.

-Investigator answer: Thank you for this comment. A reference was added to the CRC figures of Qatar in the introduction. Also, the ethnicity of the population in Qatar has been further elaborated.

-Reviewer comment: Please state primary and secondary objectives (i.e. assess CRC symptoms and risk factor awareness and to assess differences in awareness between population groups/ different socio-demographic characteristics)

-Investigator answer: The primary and secondary objectives have been stated as advised.

-Reviewer comment: The methods section needs to be restructured – I would suggest to remove the heading ‘research protocol’ in the middle of the methods section and have the following headings: Study design and setting/ Study population and sampling / Patient and public involvement/ Sample

size/ Data collection/ Questionnaire (or similar). Also, the authors stated the age group recruited twice in the methods, one can be removed (page 6 line 128-129).

-Investigator answer: Thank you for this suggestion. The methods section has been modified as requested. The repetition of the age group for participants has been corrected.

-Reviewer comment: Provide the reference to the original Bowel CAM. Briefly describe how the vs has been modified for use in Qatar (other than language).

-Investigator answer: The reference for the original Bowel CAM study has been added and the modifications for the version used in Qatar have been mentioned (ie: one item on tobacco use was added to the list of CRC risk factors).

-Reviewer comment: The original Bowel CAM assess prompted and unprompted knowledge of CRC. Please be specific as to what was assessed in this study (prompted) and why the authors didn't assess unprompted symptoms knowledge. Include this also as a limitation.

-Investigator answer: Thank you for this comment. The authors specified which section of the bowel CAM was used (prompted questions) and provided a justification for this. Also, this issue was added to the limitations' section.

-Reviewer comment: In your methods you refer to a score out of 9 or out of 11. In your results however, you refer to a score out of 100. It is confusing and not clear where this is coming from or how it has been calculated?

-Investigator answer: Thank you for this insightful observation. The scores have been modified throughout the paper to be out of 9 for CRC symptoms and out of 11 for CRC risk factors.

-Reviewer comment: In the results, please rephrase 'reported symptoms' to either 'recalled' or 'identified symptom/ risk factor'. 'Reported symptoms' may confuse the reader to think participants experienced the symptoms themselves.

-Investigator answer: Thank you for this insightful comment. The wording has been rephrased as advised in the results section.

-Reviewer comment: Page 10 line 194-203: where are those figures reported? Are they in any tables, if no why not? Need to state (information not shown in tables). I would argue that this paragraph could also be removed since the differences are really assessed in a more meaningful way through the ANOVA and Multivariate regression analysis.

-Investigator answer: We appreciate this comment. A new table (Table 3) has been constructed to report these figures. We believe this would be of value to the paper in addition to the ANOVA and Multivariate regression analysis.

-Reviewer comment: Please clarify what the 'overall/ total awareness score' is and please be consistent and use only one of those terms. Is this just symptom and risk factor awareness combined?

-Investigator answer: Thank you for this comment. The overall awareness score has been clarified in the text. (ie: the overall awareness score ranged from 0 to 20 by combining the scores of sections B and C).

-Reviewer comment: Add figures/numbers to paragraph 'predictors of CRC awareness'

-Investigator answer: Thank you for this observation. Numbers have been added to the paragraph of the CRC awareness predictors.

-Reviewer comment: Report p-values as <0.001 instead of 0.000

-Investigator answer: P-values have been reported as advised.

-Reviewer comment: Figure 1 doesn't add much, would take it out (also as I mentioned don't report the scores as percentages, report the mean scores instead).

-Investigator answer: Figure 1 has been removed from the paper as suggested.

-Reviewer comment: In the discussion, you use the expression 'decreased knowledge' several times, please change this to 'low awareness' (as only awareness was assessed and 'decreased' suggests that it was at some point higher than it is now).

-Investigator answer: Thank you for this comment. The word "decreased" has been replaced as advised in the discussions section.

-Reviewer comment: Page 13, line 249 – what do you mean by type?

-Investigator answer: The word “type” has been removed as it was inadvertently added to the text.

-Reviewer comment: I would suggest to report the figures from the original study in the UK. Compare the UK findings and findings from the countries you have reported – the authors state that they are all low but there are differences between the countries. Why? Also, it would be interesting to pull out a couple of symptoms/ risk factors that were best recalled and those that were not – why would that be? Is it in line with other countries?

-Investigator answer: Thank you for this suggestion. Figures from the UK study have been added to the discussion as advised. Also, we have mentioned the best and the least recalled symptoms/risk factors and compared them with the UK study.

-Reviewer comment: Page 14 line 268: ‘In addition ... ‘ the sentence does not fit in.

-Investigator answer: The word has been removed as advised.

-Reviewer comment: It is not scientifically correct to say findings ‘correlate’ with findings from another study – please change this in the discussion

-Investigator answer: The word correlated has been removed as advised.

-Reviewer comment: In the conclusion, there is no need to state the findings again. Also change ‘elderly’ as mentioned before.

-Investigator answer: Thank you for this observation. The conclusion has been revised as recommended.

-Reviewer comment: Change ‘ethical’ to ‘ethics’.

-Investigator answer: “Ethical” was changed to “ethics”.

-Reviewer comment: Previous reviewers asked to address ‘lack of CRC family history assessment’ as a limitation – this is still missing from the limitations section.

-Investigator answer: This limitation has been added as advised.

-Reviewer comment: The authors completed the STROBE statement, however, the following information is still missing from the protocol: missing information (how many for the different questions and how was missing information handled); reason why people refused participation (non-participation: in the table you stated N/A but in the results section you did mention that some people refused participation); add line number for background/rational; main results – you need to provide unadjusted AND adjusted beta coefficients in Table 4.

-Investigator answer: The STROBE statement has been revised as advised by the reviewer.

- There was no missing information in the current study as it was an interview-based study (the previous answer on STROBE statement was a typo)
- Regarding why people refused to participate, the answer was modified to reflect the information in the results section.
- Page number was added to the background and rationale sections.
- The unadjusted and adjusted beta coefficients were provided as advised.

### VERSION 2 – REVIEW

<b>REVIEWER</b>	Mukhtiar Baig King Abdulaziz University, Jeddah, KSA
<b>REVIEW RETURNED</b>	30-Mar-2020

<b>GENERAL COMMENTS</b>	<p>The study objective was to assess the awareness of (CRC) symptoms and risk factors among Qatari population. However, in the present study, there are only 24% Qatari people and 76% were non-Qatari. There is a repetition of the sentence that "this is the first study in Qatar." Pls avoid repetition.</p> <p>It seems a little bit odd.</p> <p>The sample size is not adequate enough to generalize the results. The results mentioned in the conclusion are only related to percentages and frequencies while the researchers have used the chi-squared test, ANOVA test, and multiple linear regression</p>
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	analysis. so pls rephrase the conclusion of your study by adding a sentence about the association of these factors.
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<b>REVIEWER</b>	Désirée Schliemann Centre for Public Health, Queen's University Belfast, United Kingdom
<b>REVIEW RETURNED</b>	24-Apr-2020

<b>GENERAL COMMENTS</b>	<p>The authors have done a great job at addressing the comments and improving the manuscript. There are still a few points that I would encourage the authors to address before publication:</p> <ul style="list-style-type: none"> <li>- Abstract (results): the authors state that educational level was an independent predictor of CRC awareness, it would be useful to know whether lower or higher education was associated with better CRC awareness.</li> <li>- Introduction: you mention the national colorectal cancer screening programme that was launched in 2016 and then go into outlining that the objective of this research is to assess CRC awareness. This can be confusing for the reader since your research does not seem to be related in any way to the campaign (ie you are not evaluating the impact?!). Therefore, I would suggest to include the information about the campaign in the discussion (eg that might be why knowledge is higher in Qatar than other countries) but remove it from the introduction.</li> <li>- It seems the authors have separated 'red and processed meat consumption' and assessed/ reported it separately. This was one item in the original CAM. Why did you change that?</li> <li>- Methods: why did you only adjust for gender, nationality and level of education in your regression analysis? What about age, employment and marital status?</li> <li>- Response rate: how was the 87% calculated?</li> <li>- Results: I encourage the authors to change the way the tables are presented, i.e. present n (%) rather than % (n). It is also uncommon to present the unstandardized and standardized beta coefficient from a regression analysis. I would expect to see unadjusted / unadjusted difference in mean as well as 95% CI for each and p-values.</li> </ul> <p>I would also encourage the authors to add more information to the results section, i.e. rather than referring to the tables, describe all significant results. Right now the results section is very short.</p> <ul style="list-style-type: none"> <li>- How were missing variables treated?</li> <li>- Discussion: You have referred to other studies that have similar or different findings from yours. For some of the studies, I would like to see some more detail, e.g. the study in Bahrain, what is low awareness, how do their results actually compare to yours? Also, right now you are presenting differences or similarities between findings from different countries. I would encourage you to add some further discussion, i.e. why are there differences? You included the statement 'this could be explained by the difference in the study settings and the characteristics of the participants'. That's right, but why? What are the differences in these settings/populations, do they have better health care systems, a longer history of cancer education campaigns, do people receive better education, etc?</li> <li>- A couple of grammar mistakes: Page 25, line 25 '... among females. Morevoer, ...' (punctuation after females). Page 27, line 10 'given a brief orientation about the study and WERE invited to participate'. Page 30, line 12 'low fruit and vegetable INTAKE'.</li> </ul>
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## VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name

Mukhtiar Baig

Institution and Country

King Abdulaziz University, Jeddah, KSA

Comment #1: The study objective was to assess the awareness of (CRC) symptoms and risk factors among Qatari population. However, in the present study, there are only 24% Qatari people and 76% were non-Qatari.

Response: Thank you for this comment. The primary objective of our study was to assess the awareness of CRC symptoms and risk factors among individuals at risk. The aforementioned objective has been modified to read: "the primary objective of the current study was to assess the awareness of CRC symptoms and risk factors among the at-risk population (aged 50-74) visiting the primary healthcare centres in Qatar". Please see "objectives" section of the abstract (lines 24-26) as well as in the introduction section of the submission (lines 100-101). We never mentioned that the study was only among Qatari. We reviewed it and made sure that the wording in the manuscript is not misleading.

Comment #2: There is a repetition of the sentence that "this is the first study in Qatar." Pls avoid repetition. It seems a little bit odd.

Response: Thank you for this observation. We have removed the sentence from the discussion section as advised. Thus, the sentence is only mentioned once in the strengths section of the discussion as well as in the "Strengths and limitations" section in the abstract.

Comment #3: The sample size is not adequate enough to generalize the results.

Response: Thank you for your comment. Please note that our sample size was calculated based on the relevant sample size calculation formula. It was based on a 95% confidence interval, precision of 5%, a hypothesis that 50% (+/-5%) of participants were aware of CRC symptoms and risk factors and a non-response of 20%. We acknowledged in the limitation section that the results are not generalizable to the entire population due to non-probability sampling. The sample size was computed in order to control the width of the confidence interval and was reached.

Comment #4: The results mentioned in the conclusion are only related to percentages and frequencies while the researchers have used the chi-squared test, ANOVA test, and multiple linear regression analysis. so pls rephrase the conclusion of your study by adding a sentence about the association of these factors.

Response: Thank you for this insightful suggestion. We have modified the conclusion in the abstract and in the conclusion section of the manuscript. Please see lines 44-46 in the abstract and lines 287-289 in the conclusion section of manuscript.

Reviewer: 2

Reviewer Name

Désirée Schliemann

Institution and Country

Centre for Public Health, Queen's University Belfast, United Kingdom

The authors have done a great job at addressing the comments and improving the manuscript. There are still a few points that I would encourage the authors to address before publication:



Comment #5: - Abstract (results): the authors state that educational level was an independent predictor of CRC awareness, it would be useful to know whether lower or higher education was associated with better CRC awareness.

Response:

Thank you for your comment. The multivariate linear regression identified tertiary education to be associated with better CRC awareness. We have modified this throughout the manuscript. Please see line 42 in the abstract and line 225 - 228 in the results section.

Comment #6: - Introduction: you mention the national colorectal cancer screening programme that was launched in 2016 and then go into outlining that the objective of this research is to assess CRC awareness. This can be confusing for the reader since your research does not seem to be related in any way to the campaign (ie you are not evaluating the impact?!). Therefore, I would suggest to include the information about the campaign in the discussion (eg that might be why knowledge is higher in Qatar than other countries) but remove it from the introduction.

Response: Thank you for your insightful suggestion. We have removed the information about the campaign from the introduction and added it in the discussion section as advised. Please see lines 260 - 263.

Comment #7: - It seems the authors have separated 'red and processed meat consumption' and assessed/ reported it separately. This was one item in the original CAM. Why did you change that?

Response: Thank you for this comment. The results of our pilot study showed that most participants were confused about such a question when it was asked as a single item; where most participants reported 2 answers for the same question. For instance, they answered (No) to the first component of the question (red meat) and (Yes) for the second component (processed meat). Therefore, we decided to separate the question into two components. This would provide a better idea of the participants' perception about the risk of consuming red meat and processed meat. Table 2 shows that almost half (53.3%) of the participants identified red meat consumption as a risk factor for developing CRC while a higher percentage (71.7%) identified processed meat consumption as a risk factor. Such results will help in the tailoring of future awareness campaigns in our community.

Comment #8: - Methods: why did you only adjust for gender, nationality and level of education in your regression analysis? What about age, employment and marital status?

Response: Thank you for your insightful comment. In our previous regression analysis, we had excluded (age, employment and marital status) from the model because they were insignificant in the univariate analysis. However, we have now included them in the full model as seen in the modified table 5. Please see also lines 171-173 in the methods section.

Comment #9: - Response rate: how was the 87% calculated?

Response: Thank you for this question. Our response rate was calculated by dividing the number of those who completed the interview (448) by the number of all individuals who were invited to participate (515), and multiplied the result by 100; i.e.:  $(448) / (515) * 100$ . We have modified this in the manuscript. Please see line number 178. The calculation of sample size was performed to obtain a sufficiently precise estimate of the minimum number of study participants to ensure study power. Please see lines 128-129 in the methods section.

Comment #10: - Results: I encourage the authors to change the way the tables are presented, i.e. present n (%) rather than % (n). It is also uncommon to present the unstandardized and standardized beta coefficient from a regression analysis. I would expect to see unadjusted / unadjusted difference in mean as well as 95% CI for each and p-values.

Response: Thank you for this insightful observation. We have modified the presentation of numbers in the tables as advised. Regarding the linear regression analysis, we have removed the previous table

5 and constructed a new one that includes unadjusted / adjusted difference in mean with their 95% CI and p-values.

Comment #11: I would also encourage the authors to add more information to the results section, i.e. rather than referring to the tables, describe all significant results. Right now the results section is very short.

Response: Thank you for your comment. We have added more information to the results' section as recommended. Please see lines 195-196 and lines 219-221 in the results section.

Comment #12: - How were missing variables treated?

Response: Thank you for this insightful question. Since our study was based on interviewing the participants by trained data collectors, we had a very small number of missing information. The missing information: Gender (n = 1), Nationality (n = 2), Level of education (n = 1), Employment (n = 1). Please see the footnote of table 1. In the analysis, listwise deletion was used for missing data.

Comment #13: - Discussion: You have referred to other studies that have similar or different findings from yours. For some of the studies, I would like to see some more detail, e.g. the study in Bahrain, what is low awareness, how do their results actually compare to yours? Also, right now you are presenting differences or similarities between findings from different countries. I would encourage you to add some further discussion, i.e. why are there differences? You included the statement 'this could be explained by the difference in the study settings and the characteristics of the participants'. That's right, but why? What are the differences in these settings/populations, do they have better health care systems, a longer history of cancer education campaigns, do people receive better education, etc?

Response: Thank you for this insightful comment. We have added further clarification regarding the results of the Bahraini study (see lines 242-244). Also, more explanation was added on the difference between our results and that of the Malaysian study (see lines 267-270).

Comment #14: - A couple of grammar mistakes:

Page 25, line 25 '... among females. Morevoer, ...' (punctuation after females).

Page 27, line 10 'given a brief orientation about the study and WERE invited to participate'.

Page 30, line 12 'low fruit and vegetable INTAKE'.

Response: Thank you for your observations. All mistakes have been corrected as advised.

### VERSION 3 – REVIEW

<b>REVIEWER</b>	Mukhtiar Baig Faculty of Medicine, Rabigh, King Abdulaziz University, Jeddah, KSA
<b>REVIEW RETURNED</b>	22-May-2020
<b>GENERAL COMMENTS</b>	The authors have substantially modified the manuscript and its quality is far better than the first submitted form. So I recommend its publication.