Author’s response to reviews

**Title:** Assessing the Nutritional Needs of Men with Prostate Cancer

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**Version:** 1 **Date:** 06 Aug 2019

**Author’s response to reviews:**

Thank you for the opportunity to respond to reviewers. We have carefully considered the feedback and have incorporated changes into the manuscript. We believe the manuscript has been significantly improved and is more timely as a result.

Reviewer #1: The study is an important investigation aiming at identifying specific nutritional needs of prostate cancer (PC) patients in British Columbia (Canada). The study was conducted using a multi-faceted (sic) strategy, including a systematic literature review, that provides professionals and stakeholders with insightful data on the knowledge, needs and satisfaction of PC patients regarding existing nutritional services available to them in their area. Also, it emphasizes the lack of sufficient dietitians to cover the needs of all of these patients.

As a minor comment, it would be interesting to stratify results (table 1 and maybe sorting the references selected through the literature review) by Gleason score of participants, as the specific dietary needs and efficacy of nutritional or lifestyle interventions could vary according to the severity of the disease. Do the authors have information on the stage/grade of PC of selected cases to allow for comparisons according to GS?

-We agree with the reviewer that the needs of patients may vary depending on stage of disease. Information on Gleason score was not collected from men who completed the nutrition evaluation questionnaire presented in Table 1. The form was anonymous and was designed for program quality improvement and hence information collected was limited (See Page 7 lines
The PCSC program is available for all men who are diagnosed with prostate cancer and the nutrition education session spans topics relevant to men with local and advanced prostate cancer. A separate study (paper in progress) of 440 patients who attended the nutrition education session suggests that the session attracts a range of patients. 19% had a Gleason Score \(<6, 38%\) had Gleason score of 7, 10% had a Gleason score of 8 and 33% had a Gleason Score \(\geq9\).

Not all articles identified in the scoping review provided Gleason score information and thus cannot be sorted in this manner.

An additional comment is the manuscript provides little information about the search strategy made through online web browsers. Including the search chain indicated in the manuscript gives over 7 million results in Google (plus near 23 million results in Bing and Yahoo). Have the authors used additional filters to refine the search? Have web browsers other than Google been considered? Any additional information on this would be appreciated.

- Our main method of identifying existing services was through contacting provincial cancer agencies and asking them for additional contacts. This was supplemented by using Google, we did not use other search engines. Limiting results to Canada significantly refined the results.

Otherwise, the manuscript is well-written and discussed, and, apart from some typos (e.g. 'dietician') and the use of an old version of R (version 3.6 is available, whereas the use of two programs, Excel and R, to compute very basic statistics that could all be run in the same package denotes little statistical skills), I have no further comments.

- We have changed dietician throughout to read dietitian since it is the preferred spelling. Excel was initially used for descriptives as that was the format used to input and store the data. We updated the results (which are unchanged) to use R for all analyses.

Reviewer #2: COMMENTS TO THE AUTHOR

Abstract

1. Page 3, lines 26-29, background - This sentence describes how "achieving a healthy weight" could "positively impact" disease progression. Using the term "positive" here could be read as facilitating disease progression while it is contrary to the current evidence. Suggest rephrasing the sentence. Intake of balanced nutrients has many benefits, not just maintaining a
healthy weight. If the word count allows authors can incorporate some of the other benefits to the abstract/ background or have a general statement justifying the need of a nutrition assessment in this specific population subgroup.

-We have revised the sentence to “Nutrition is important for prostate cancer (PC) survivorship care to help achieve a healthy weight, reduce treatment side effects and reduce the risk of developing other chronic diseases.”

2. Suggest authors to amend the conclusion to reflect the need for standardized and validated nutrient services. Based on the comprehensive needs assessment we can see that the target population is highly satisfied with current services, majority of participants have successfully modified behaviors/outcomes and that there is a fair amount of services. Without prior evidence on the "sufficient" number/mode/type of nutrient services or the quality of perceived knowledge on nutrition among individuals, we cannot say with certainty that there is a need for more services. But there is a need for standardized services that assess long term nutritional needs.

-We respectfully disagree with the reviewer that there is a fair amount of services. While we cannot know what a sufficient number of services is, the environmental scan found only 6 organizations across Canada offered prostate cancer specific services and only 3 provinces (out of 10 provinces and 3 territories) had prostate cancer specific group education. The interventions identified in the literature review were largely research studies/trials and not care programs. Given that prostate cancer is the most common cancer among Canadian men, and there is no clear ‘best’ mode of delivery it is unlikely that the number of services is sufficient. We do however agree that nutrition services should be standardized and assess long term nutritional needs and have refined our conclusion.

Background

3. Page 4, lines 72-80- Minor comment- higher rates survival among prostate cancer patients may be due to improvements in early detection, slow growth rate of tumor, and current prostate cancer management procedures (not just advancements in treatment). Also suggest revising the following statement: "Due to high success rates of treatment for PC, men are more likely to die from cardiovascular or respiratory diseases, rather than from PC itself"

-We have amended these sentences to “Over the past decade there have been substantial improvements in cancer care including earlier detection, management and treatment” and “Due to enhanced PC care, men are more likely to die from cardiovascular or respiratory diseases, rather than from PC itself”
4. Page 4, line 78 - Minor comment - revise "diagnosis and therapy including sexual and urinary dysfunction" as "diagnosis and therapy for sexual and urinary dysfunction"

-Done

5. Page 4, lines 81-83 - Minor comment - suggest authors to consider moving this sentence on feasibility of dietary modifications/interventions to page 4, line 91 after describing the need for dietary advice.

-Done

6. Page 4, lines 84-86 - add a statement to reflect how prevalent chronic diseases and unhealthy behaviors (obesity, non-adherence to alcohol intake recommendations etc.) are among persons with prostate cancer, compared to the general population or other cancer survivors. Also, clarify the relationship between ADT and chronic disease risk briefly when introducing in line 86.

-We have amended the statement to: “… particularly with the use of androgen deprivation therapy (ADT) which is associated with increased fat mass and insulin resistance (14-16). For instance, a study of over 73,000 men with prostate cancer found those treated with ADT had a 44%, 16%, 11% and 16% increased risk of developing diabetes, coronary heart disease, myocardial infarction and sudden cardiac death, respectively

7. Page 4, line 93 - Minor comment - emphasize on survival advantage and quality of life rather than just saying "benefit their health"

-Changed to “…PC to provide the knowledge and support needed to make lifestyle changes to improve quality of life and minimize the effects of PC and related treatment.”

Methods

8. Evaluation of the PCSC Program's "Nutrition for Prostate Cancer Patients" Education Session-

Include the list of questions in the supplemental section.
9. Existing nutritional services for men with PC- Page 8, line 165- any changes to the number/quality of nutrition services after 2017? Suggest updating at least through a simple web search.

- We have updated the online Google search as suggested. We have found one additional service – a previously identified organization now includes educational videos for men with prostate cancer.

10. Scoping review-Page 8, line 172 - Authors have conducted a comprehensive literature search and commend the effort in describing the search strategy, inter-reader reliability etc. However, by limiting the search up to May 2017, authors might have missed recent articles. Suggest authors to see if there are new additions during the past year 2018 at least.

- We have updated the scoping review to include 2018 as suggested. We identified five additional studies that have been included in table 2 and 3 as well as described in the results. The scoping review flow diagram in the supplemental material has also been updated.

11. Page 9, line 201- suggest summarizing all findings and not limiting to significant findings of the literature review

-We agree, the sentence as was written was misleading. We have revised it as we did not limit the findings to those that were significant e.g. Table 1 O’Neil “At 6 months the intervention arm demonstrated significant improvements in body composition, dietary intake, functional capacity but not fatigue, stress or QoL.” And Carmody et al. “No significant changes were observed for PSA velocity.”

12. Analysis Page 10, lines 210-214 - Minor comment- Authors could have used R program to conduct all statistical tests, rather than using Excel and R. Any reason why it was done this way?

-We have updated our analyses using R (results remain the same).

13. Page 10, line 208- Minor comment- throughout the manuscript be consistent and use environmental scan or review of services.
- We have corrected this throughout and use environmental scan consistently

14. Evaluation of Nutrition Education sessions - Page 10, line 223- explain briefly the realist qualitative method, the use of thematic analysis, and the statistical software utilized to conduct the thematic analysis. Same apply for the thematic analysis done for the BC health professional survey (Page 11, lines 234-235).

- We have added additional information about thematic analysis methods, software used and use of thematic analysis. To prevent duplication we continue to refer to this explanation when reporting the methods for the health professional survey.

15. BC Health Professional Survey - Page 10, lines 228-230- give the readers an idea about the context of these questions.

- Details on the questions are included in the Methods section - Page 7 lines 147-156 and the questions are included in the Supplementary Material. The section the reviewer refers to is provided with the purpose of describing the statistical analysis. We have expanded this to e.g. explaining what question three queried instead of “question three had 1 non-response”. If we misinterpreted the reviewers comment please let us know.

Results


- Changed to “…which asked if the inclusion of partners was valuable. The vast majority of patients (92%), partners (99%) and patients with partners (98.5%) responded ‘yes’ and thus cell counts for ‘no’ were too few for comparison.”

17. Page 12, lines 267-268 - 12% or 5% indicating a need for more nutrition services is not sufficient to say that there is an urgent need for more services. May need a justification in the discussion section.

- We are basing our conclusion of indicating a need for more nutrition services from the summation of all perspectives in our paper. That is the 12% to 5% who want more despite already having access to nutrition services, the scarce offerings of PC specific education programs across Cancer, the perceived need for services from healthcare professionals and the
evidence from research studies that show nutrition and lifestyle support can be effective. We have clarified this in the lines mentioned in comment 19 below. “Findings from all multiple perspectives suggest that men with PC have an unmet need for nutritional information during supportive care. For instance, a need for additional nutrition services and support was identified by respondents to the BC health professional survey, few services for men with PC exist and even among those with access to nutrition education, there was indication of wanting more support.”

18. Scoping Review Pages 15 and 16 - Other than the limitations/strengths reported in the reviewed articles, did the authors find additional limitations/strengths?

- We have included additional strengths and limitations found in the scoping review. See page 16-17 lines 360-366.

Discussion

19. Page 16, lines 356-358- suggest toning down the conclusive remarks as mentioned earlier in comment 2 and 17. Justify why only the results from health care professions survey was used to arrive at this conclusion.

-The results from all 4 perspectives were used to draw our conclusion for the need for more services. Please see our response to comment 17 above.

20. Page 17, lines 361-362- discuss further how results from the scoping review suggested a need for standardized nutrition services

-The sentence now reads “Although generally, nutrition interventions were effective, nutrition interventions for men with PC published in the literature are heterogeneous with respect to design, mode of delivery and content, making it difficult to identify best practices. Standardized approaches would facilitate discovery and potentially implementation of effective PC care, however, the complexity of such an undertaking would be substantial.”

21. Page 18, lines 400-401 (and page 5, lines 94-95)- were there any other barriers reported in literature/surveys? As an example, barriers to implement nutrition services, transportation issues for participants etc.
- We have included additional barriers such as “Health professionals specified a lack of funding (n=2, 6%) and dietitians resources (n=1, 3%) as barriers to implementing nutrition services for men with prostate cancer”. See page 14 lines 303-306. We have also included additional barriers identified in the scoping review - see comment 18.

22. Page 18, lines 404-405- it should be "projected" or "expected" number of cancer cases. Reference 60 does not specify the increase in prostate cancer incidence but overall cancer cases- "The average annual number of cancer cases in 2028 to 2032 is projected to be 79% higher than it was in 2003 to 2007."

-It now reads “…is projected to more than double”. Reference 60 provides overall cancer cases and projected increases in prostate cancer incidence and by other cancer types (Figure 7.5 on page 84)

23. Page 20, lines 431-432- clarify what the authors meant by "specific expertise". The sentence now reads “…expertise providing care for men with PC”

Conclusion

24. Suggest revising the conclusion, see comment 2.

-Please see responses above

Supplemental Material

25. Include the survey questions from the Evaluation of the PCSC Program's "Nutrition for Prostate Cancer Patients" Education session, include tables summarizing the thematic analysis results and the flow diagram of the scoping literature review selections (comment 8).

- Done

26. Supplementary table 2: what is the unknown category? Authors specify that the health professionals were invited to provide their perspective, meaning their profession was known.

- Surveys were completed anonymously to encourage open feedback. Two respondents did not select an option to indicate their profession, so we only know that they are one of the 5
professions that were invited but do not know which (e.g. researcher or dietitian). We have clarified in the footnote to the table:

Tables and Figures

27. Table 1: Question 3 is not a yes or no response, revise the table column headings.
   - Question 3 was asked as a yes or no questions with “yes” indicating that participants found the sessions either too long or too short and “no” indicating that the session length was suitable. We have included the education session evaluation form in the supplementary form 6.

28. Add a summary table for the scoping review (% of studies by type, mode of delivery etc.)
   - Done – see table 3 in the main text.

References

29. There were only a few recent research articles. Consider updating the references.
   - We have updated the scoping review as requested and more recent articles are now referenced.