Reviewer’s report

Title: Lifestyle behaviors, obesity, and perceived health among men with and without a diagnosis of prostate cancer: a population-based, cross-sectional study

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Reviewer: Michael Leitzmann

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Lifestyle behaviors, obesity, and perceived health among men with and without a diagnosis of prostate cancer: a population-based, cross-sectional study

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BMC Public Health Research article

This manuscript examines potential differences in lifestyle and behavioral characteristics between men with and without a diagnosis of prostate cancer in a cross-sectional analysis using data from the BRFSS. The main findings are that men with a diagnosis of prostate cancer are more likely to consume five or more servings per day of fruits and vegetables and to report poor or fair health than men without a diagnosis of prostate cancer.

This appears to be one of the first studies to compare lifestyle behaviors between men with and without prostate cancer. As such, the current investigation represents a novel contribution to the literature; the question posed by the authors is well defined. According to my judgment, the manuscript adheres to the relevant standards for data reporting. The title is appropriate and the abstract accurately conveys the main study finding. The manuscript is well written.

The major strengths of the current report are its large sample size with 2,524 cases of prostate cancer, and its broad generalizability. One limitation of the current study is its cross-sectional design, which precludes an evaluation of whether observed lifestyle differences preceded or were the result of being diagnosed with prostate cancer. The authors appropriately acknowledge this shortcoming in the discussion section of the manuscript.

Discretionary Revisions

The abstract overstates the inverse association of obesity in the subgroup of men older than 65 years because the 95% confidence interval of that risk estimate includes the null value of 1.0 and is therefore not statistically significant.

In table 3, please show the numbers of cases in each cell. This would enable an evaluation of whether statistically non-significant results are due to a true lack of an association or small numbers of cases.
It would be nice to see whether apparent differences across strata are statistically significant based on formal tests for heterogeneity.

Minor Essential Revisions
The assessments of exposures and endpoints were based on self-reports and there appears to be no available data regarding the validity and reproducibility of these assessments. This limitation and its implications regarding the results could have been made clearer in the discussion section. Specifically, what are the consequences of an imperfect specificity or sensitivity of the case ascertainment method in the current study?

The discussion section would benefit from a brief mention of the possibility that multiple comparisons in table 3 may have resulted in statistically significant associations by chance in some instances.

It would have been interesting to investigate whether differences in lifestyle factors between men with and without prostate cancer varied according to time since prostate cancer diagnosis and primary prostate cancer treatment. Is such information available in the BRFSS data?

Major Compulsory Revisions
The methods employed are adequately described. However, the statistical analyses involved multivariate adjustment for only a small number of variables: race, age, education, and urbanicity. No adjustments were made for smoking, alcohol use, sedentary behavior, or body mass, factors that could conceivably have confounded the associations observed. For example, the main study finding of a positive relation of fruit and vegetable intake to prostate cancer diagnosis could likely have been over-estimated due to confounding by smoking. Please re-run the main analyses to rule out the possibility of confounding by smoking, alcohol use, sedentary behavior, and body mass.

Likewise, the results from the stratified analyses shown in table 3 could have been affected by residual confounding. For example, the analyses of lifestyle factors according to men aged <=65 years and >65 years are not adjusted for age within the two strata defined by age.

Conclusions
Based on my assessment of the validity of the manuscript, I am unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

I rate the article as one whose findings are important to those with closely related research interests.

It is not essential that this manuscript be seen by an expert statistician.

I declare that I have no competing interests in relation to the current paper.

I am happy for my signed report to be posted on the BMC Public Health website.
as part of the pre-publication history of this article.