Peer Review Report

Review Report on Is following a cancer-protective lifestyle linked to reduced cancer mortality risk?

Original Article, Int J Public Health

EVALUATION

Q 1   Please summarize the main findings of the study.

Using cancer prevention score summarized from the menuCH survey and Swiss mortality data, the association of the score with mortality in Switzerland was explored. Higher cancer prevention scores may associate with a lower mortality from all-cause, all-cancer, upper aero-digestive tract cancer, and prostate cancer.

Q 2   Please highlight the limitations and strengths.

Apart from the limitations stated in the Discussion section, the study results may be weakened by using multiple sources of data. Only 2057 participants were included to represent 4,627,878 Swiss residents may not reliable, especially when these data were stratified by sex, age, and district group in the Quasipoisson regression models.

Q 3   Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

Major comments:

1. In the Quasipoisson regression models, it's not clear how cancer prevention score being included. Do you assign a corresponding score to the hierarchy of each outcome? As such, you will get very limited observations in the model. As a consequence, is the model being robust to give ratio rate estimates?

2. I have concern about the reliability of the RR value obtained with limited survey data combined with an ecological design. The results of each cancer also showed the possible uncertainty of this analysis. In WCRF/AICR, colorectal cancer, which is considered to be more related to dietary and lifestyle, has not revealed a significant RR, while liver cancer, which is more related to infection, has revealed a significant RR. How to interpret these results?

Minor comments:

1. Dose the data meet the assumptions required by Moran'I statistics?

2. Why Quasipoisson regression model, rather than Poisson regression model, being used? Because the data were over- over- and underdispersion?

3. Dose the Quasipoisson regression models fitted to grouped data or individual-level data? As you used number of residents as the offset, I assumed you used grouped data.

4. Dose the INLA model fitted by the INLA package in R software? As far as I know, the INLA package has not been updated for many years and it contains some bugs. Please verify the model output.

5. How is the correlation matrix defined in the INLA model?

6. Dose the districts with missing data affect the hot spot detection of GeoDa software?

PLEASE COMMENT

Q 4   Is the title appropriate, concise, attractive?

Partial.

Q 5 Are the keywords appropriate?

Yes.

Q 6 Is the English language of sufficient quality?

Yes.

Q 7 Is the quality of the figures and tables satisfactory?

Yes.

Q 8 Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Yes.

QUALITY ASSESSMENT

		Rating
Q 9	Originality	■ ■ ■ ☐ ☐
Q 10	Rigor	■ ■ ■ ☐ ☐
Q 11	Significance to the field	■ ■ ■ ■ ☐
Q 12	Interest to a general audience	■ ■ ■ ☐ ☐
Q 13	Quality of the writing	■ ■ ■ ■ ☐
Q 14	Overall scientific quality of the study	■ ■ ■ ■ ☐

REVISION LEVEL

Q 15 Please make a recommendation based on your comments:

Major revisions.