Author's response to reviews

Title: Marginalisation and cardiovascular disease among rural Sami in Northern Norway: a population-based cross-sectional study

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Author's response to reviews:

Dear Editors

I hereby resubmit the manuscript entitled Marginalisation and cardiovascular disease among rural Sami in Northern Norway: a population-based cross-sectional study.

BMC Public Health has a special focus on the social determinants of health. The effects of marginalisation on health in indigenous peoples in the Arctic have received increasing attention among researchers and indigenous politicians. Research that specifically operationalizes marginalisation as an explanatory variable is however lacking.

Referee 1:

One minor comment, you mention physical activity and diet as intermediate predictors, but more is the question of these predictors confounding factors, if I have understood table 4 correctly, not much confounding was seen.

Response: We agree that physical activity and diet may also be perceived as confounders and not as intermediate factors in the causal chain. As physical activity was independent of marginalization status, we have changed this: paragraph 1 on page 11: “A moderate intermediate effect of leisure-time light physical activity was observed”, changed to “A moderate confounding effect of leisure-time light physical activity was observed”.

It is still somewhat unclear to me how you adjusted in the full model, for marginalization the footnote is correct but for other predictors you adjusted for remaining factors in the full model? You should consider to adjust accordingly.

Response: The full model is as described in the footnote. All variables in the full model are mutually adjusted for each other. We’ve added this sentence in footnote ‘b’ in Table 4: All variables are mutually adjusted for each other.
Referee 2:

I have no major comments to the revised manuscript, however, punctuation should be carefully revised. Commas and semi colons are missing.

Response: We believe this is now corrected. We have included semicolons where this has been considered appropriate.

Needs some language corrections before being published.

Response: The manuscript has been proof read by a professional on two occasions. We believe the language is appropriate and good enough.

We have however somewhat specified and rewritten paragraph 2 on page 14.

A few misspellings have also been corrected.

Referee 3:

The sum of n-numbers in the tables 1,2 of the defined prevalence cases are not identical with the n-numbers in table 3. I don’t compare total crude numbers since they are only in table 3. But if I compare the total age-adjusted n-numbers in table 3 (for example: 27 unexposed women in Majority - the sum of the corresponding cases in table 1 (9+14+8=31) should not be the same as both are age-adjusted? The same occurs with all other n-numbers.

If there is a reason for the differing n-numbers it should be explained in the text or under the tables. If a mistake is underlying it should be corrected and shown before giving permission to publish the article.

Response: Persons with cardiovascular disease often have several related conditions. For example, everyone having had MI has usually also had angina. Some of these have even had a stroke too. Thus, when these three variables are combined as total CVD, the total rate, adjusted or unadjusted, will not correspond to an artifact sum of total rates based on the respective number of angina, MI and stroke. We do not believe that this needs a special stipulation in the text or in a footnote.

Additional changes:

Paragraph 3, page 15: “The sample is representative for the general population in the region” changed to “With the exception of Nordland county, the sample is representative for the general rural Sami population in the region.”

Paragraph 2 on page 14 as described above.

The total n in Table 4 (full model) is corrected. It was originally (n=3471). It is now (n=3467). We apologise.

I thank the referees for invaluable and very helpful feedbacks!
Yours sincerely,
Bent-Martin Eliassen
PhD student