Reviewer's report

Title: Association between physical and mental health-related quality of life and adverse outcomes; a retrospective cohort study of 5,272 Scottish adults

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Reviewer: Cyrille Delpierre

Reviewer's report:

This is an interesting paper aiming at studying the relationship between Health related quality of life (HRQoL) and subsequent health (mortality, incident cancer and CVD). Finding good predictors of health and mortality, easy to measure and use is an important topic for researchers involved in the study of health determinants. Because of the interest of the paper’s objective, I would have some suggestions to improve the message and the key findings of this article.

Major comments

In the introduction it seems important to me to distinguish the several subjective health indicators that can be used and studied. As an illustration, self-reported health (SRH) and HRQoL are not identical, do not measure the same aspect of health and do not vary in the same way according to socioeconomic status (Delpierre et al. BMC Public Health 2012): in the third paragraph, authors talk about SRH and to me this is different of HRQoL. Thus this introduction should clarify that several indicators exist and that this paper analyses specifically HRQoL.

In the fifth paragraph it could be useful to precise how BMI is considered by authors: as a mediator between HRQoL and health or the opposite?

In Result, second and last paragraphs: I think that authors should be more specific regarding result for MCS (tables 1 and 3): for many variables (BMI, deprivation, education) the relationship with MCS is not linear but in U shape. Then people with high MCS and low MCS show similar proportions of obese, comorbid, not deprived and high educated people. This phenomenon could explain partly the fact that for cancer and CVD, people reporting lower MCS could have a lower probability of cancer and CVD that people reporting high MCS. The ageing, social, comorbidity and obesity gradients do not exist for MCS and should be presented.

As a consequence, in the discussion, the difference concerning results observed with PCS and MCS should be discussed and argued. In particular the determinants of these 2 measures that could explain differences and also that could have been omitted in the analyses as confounders.

Minor comments:

In Methods: indicated classes built for alcohol consumption.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

no conflict of interest