Reviewer's report

Title: The interplay between healthy behaviors and health outcomes among older adults in Russia

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Reviewer: Andrew Stickley

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The interplay between healthy behaviors and health outcomes among older adults in Russia

This study uses data from the World Health Organization’s Study on Global AGEing and Adult Health (SAGE) conducted in Russia in 2007-2010 to assess the relationship between four health behaviours – physical activity, eating behaviour, smoking and alcohol consumption – and self-rated health using data from 3938 respondents aged 50+. The main findings were that more physical activity was associated with better self-rated health for both sexes, while having a better diet was important for female health. In contrast, smoking was associated with poorer health only among men.

As very little has been written to date about the health of the elderly in Russia in the post-Soviet period – especially when compared to the working-age population, this is a timely study. However, despite its relevance I think there are a number of issues that the authors need to address.

Major Compulsory Revisions

Introduction

1. I found it strange that there was no specific focus on the health of the elderly in the introduction. The main premise seems to be that as the Russian population is aging that it is important to understand how health behaviours are impacting on health for the future planning and distribution of health services. However, I would have expected some discussion about the state of health among older people in Russia. Some research suggests that the impact of transition on health has been much less pronounced among the elderly compared to the working-age population [1,2]. There are also some studies which have focused specifically on the health of older people in Russia which could have been cited e.g. [3-5] to give a better backdrop for the study.

2. I also thought the discussion of health behaviours was lacking important information. There has been a recent study which describes the prevalence of smoking in the Russian population, including those aged 60+, and how it has changed between 2001 and 2010 [6], while several earlier studies have documented the prevalence of drinking behaviour among older Russians [7-9]. These studies need to be referenced to provide a more comprehensive
background for the study.

3. There is also no attempt to link health behaviours among the elderly to health outcomes. For example, there is research which documents the impact of alcohol on mortality among older persons (aged 55-74) [10], while other studies have discussed the occurrence of malnutrition among the elderly [3]. This research needs to be discussed to make readers aware of why this topic is important in Russia.

4. I would also like a clear statement of the study aims at the end of the introduction.

Methods

5. Page 6, Lines 188-195: The physical activity variable is described as ‘normal’ if the total amount of physical/vigorous activity exceeds 150 minutes a week. However, what was the basis for this cut-off point? Has it been used in previous studies of populations in this age range? Some justification is needed for this choice.

6. On page 8, lines 216-228, the alcohol consumption variable is described. There is discussion of ‘units’ of alcohol without explaining what a ‘unit’ is. More importantly, I wonder if it is appropriate to use drinking guidelines for the UK population for Russia. Not only are there differences in the amounts of alcohol consumed between the two cultures, but the beverage mix differs. In the UK beer is the principal drink, while spirits still predominate in Russia. Given these differences I think that the use of this standard needs to be justified, or a different measure needs to be used with reference to this specific population.

7. Page 9, lines 247-273. The main sociodemographic (control) variables are described. Here is my main problem with the study. I do not understand why the authors did not control for respondents’ health status. As chronic health conditions can affect both physical activity levels and self-reported health it is possible that the main result of this study is confounded. This variable needs to be included in the analysis.

Discussion

8. Page 13, lines 374-376. The authors report that women have better self-rated health than men. To the best of my knowledge, previous research from Russia among the whole population has shown that women tend to self-report worse health than men. So, is this result unusual or is it common for older women in Russia and elsewhere to report better health? If it isn't what might account for this result in Russia?

9. Pages 13-14, lines 398-409. There is discussion of the lack of effects of alcohol consumption. If the authors’ interpretation is correct and alcohol consumption isn’t a problem among the elderly in Russia, what factors might underlie this? For example, there is a growing literature about the effects of anti-alcohol measures in Russia since 2006 e.g. [11] – this should be discussed as a possible factor.
10. Page 14, lines 422-432. The effect of fruit and vegetable consumption on self-rated health is discussed. There is a recent study which looks at the effects of fruit and vegetable consumption on psychological distress in the countries in this region [12] – this might be worth citing to help explain why women who consume fruit and vegetables have better health.

11. In the limitations section I think it’s important to mention that all of the health behaviours are self-reported. This might have led to underreporting of drinking and smoking among females.

Minor Essential Revisions

12. Page 10, lines 302-304. The issue of endogeneity is mentioned. However, it is also mentioned in the discussion of the study’s limitations and so should be removed from here.

13. Page 11, lines 321-322. The physical activity figures presented in the text and Table 1 do not accord.

14. The article is very poorly referenced throughout. Not only do the reference systems differ in the main body of the text and reference section but there are numerous references cited in the text e.g. page 1, lines 72, 76, etc., that are not included in the reference list. These mistakes need to be corrected.

15. The manuscript needs to be checked by a native English speaker.

Discretionary Revisions

16. Also, I was unsure of the value of including the working variable. The correlation matrix shows that it is highly negatively correlated with age (.55) which is hardly surprising given the retirement age splits this study population in two. It might be better to remove this variable.

17. Page 12, line 369. Here and in the title the authors use the word ‘interplay’. To my mind this suggests they are examining how the behaviours are interacting with each other to affect self-rated health. However, this is not what the study is examining. These behaviours are not being examined in terms of their co-occurrence or clustering. I would therefore suggest that this word should not be used.

References


**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests