**Title**: Associations between health behaviours and self-related health among immigrant eldelry population in comparison to population in sending and receiving countries

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1. **Background**

Phenomenon of relatively poor health typical of the Russian minority in the CIS is well described but not explained enough. Ethnic differences in health are mostly scrutinized on mortality data (Värnik et al 2006; Baburin et al 2011; Guillot et al 2011). Healthy lifestyle is expected to be the main reason for the differences.

Self-rated health is an integral indicator of health status and an effective predictor of mortality in old age (Mossey&Shapiro 1982). It can be used to gain knowledge on health inequalities in the moment when poor outcome can be prevented.

Contrary to a relatively long history of studies of self-rated health in Estonia (Abuladze 2017; [Kasmel](javascript:;) et al 2014; [Reile](https://sciprofiles.com/profile/501052)& [Leinsalu](https://www.mdpi.com/search?authors=Mall%20Leinsalu&orcid=)2014; [Reile](https://sciprofiles.com/profile/501052) et al2014), in Russia they are not numerous. The researches in Russia are mainly focused on the working-age population or general population (Carlson 2000; Bobak et al. 2000; Carlson 1998; Bobak et al 1998; Назарова 2014; Канева 2016). Only some works are devoted to elderly population (Selivanova&Cramm 2014). There are articles comparing health of elderly living in cities in Russia and other countries (Bobak et al 2004; Palosuo et al 1998; [Dubikaytis](https://equityhealthj.biomedcentral.com/articles/10.1186/1475-9276-13-39#auth-Tatiana-Dubikaytis) et al 2014) but separate consideration of natives and migrants was not in the research programs.

The current research aims at assessing the differences in self-rated health in Russians living in Estonia and in Russia, as well as Estonians in Estonia. The other objective of the research is to explain the nature of the differences.

1. **Data and Methods**

The SHARE (Survey of Health, Aging and Retirement in Europe) conducted in Estonia in 2010-2011 and the SAGE (The Study on Global Ageing and Adult Health) carried out in Russia in 2007-2010 were used as an empirical base for the research.

To analyse the health status of the three population groups, ordered regression models were tested for the male and the female population. 5-item scales for health rating from SHARE and SAGE (however of different modes) were recorded in 3-item comparable scale with values “good”, “fare/moderate” and “poor/bad”.

Following Guillot et al (2011) we expected that the ethnic and cross-country differences could be the result of specific “Russian” healthy lifestyle and peculiarities of social ties. To test the hypotheses, variables indicating bad habits and poor health behavior as well as quality of contacts a person has were included in the regression models.

As wealth and level of education are typical reasons for health inequalities, variables of economic status (material satisfaction, possessions and employment status) and total years of education were added to the models.

There are some specific factors of health in old age. Firstly, health status of an elderly person is a result of numerous positive and negative effects he or she faced during his or her life. To reflect this in the models, we used variables of father’s and mother’s key socio-demographic characteristics as proxies to respondent’s social status in childhood. Secondly, the researchers argue that mental health problem (including depression) may be additional reason for deterioration of health in old age. Variable of depression was also included to the regression models.

Though social transformations of 1990s could also affect today's seniors in Estonia and Russia, the data we used does not give the opportunity to control for these factors of health status. We were not able to include material, social and mental shocks in the analysis. And it is an important limitation of the research.

Gender, age, marital status and type of settlement were used as control variables in the model.

1. **Preliminary Results**

According to the SHARE and the SAGE data, Estonians have the best health in old age. Russians residing in Estonia have poorer health and those residing in Russia have the worst (see Fig.).

Figure – Distribution of self-rated health in population 50+, %

Regression analysis indicated that national and cross-countries differences in health status can be explained by differences in economic status (especially among women) and in health behaviour, prevalence of depression in old age, respondent’s level of education, parents characteristics (significant for men). Type of settlement and quality of social ties are unlikely to be the important predictors.

All the parameters listed above explain the part of the differences but the majority of it remains unexplained. One possible reason for such unexplained variation is cultural difference in rating health with the tendency to underestimate health that may be typical of the Russians (Vuorisalmu at al. 2008).

Our further work will be devoted to adjusting the regression models (to increase the explanation power) and looking for additional cross-country data to test our hypotheses.

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