Educational health inequalities in former Yugoslavia: evidence from the South-East European Social Survey Project

Terje Andreas Eikemo1,2, Martijn Huisman3, Francesca Perlman4, Kristen Ringdal5

Background: An important gap in our knowledge of social inequalities in health is the former Yugoslavia, a region of culturally and historically diverse countries, with recent conflict. The aim of the present paper is to investigate relative and absolute inequalities in self-assessed health in former Yugoslavia (Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Slovenia and Serbia) by sex and education. Methods: The data source is the South-East European Social Survey Project fielded in December 2003 to Winter 2004, covering the former Yugoslavia with a total sample of 18481 respondents. Data from Slovenia were obtained from the 2004-wave of the European Social Survey. The health outcome variables were self-reported general health (SRH) and limiting longstanding illness (LLI). Results: Both absolute and relative educational health inequalities were present throughout the former Yugoslavia to a larger or lesser extent, although odds ratios (ORs) for LLI and SRH were not significant for Montenegrin women [LLI OR = 1.12, 95% confidence interval (CI): 0.92–1.37; SRH OR = 1.16, 95% CI: 0.96–1.40] and with respect to the reporting of LLI among Slovenian men (OR = 1.16, 95% CI: 0.96–1.44). Overall, Montenegro held the best position. Conclusions: The prevalence of poor health and the degree of relative inequality in self-assessed health in the former Yugoslavian countries were similar in order to one another, and to other East European countries during the same period. Influences on subjective health require further elucidation. Further research should study a wider range of health outcomes using larger survey samples and a wider range of cultural and other predictor variables.

Keywords: education, former Yugoslavia, health inequalities, morbidity

Introduction

Social inequalities in health continue to be a key public health problem in advanced countries, including European countries. Not only are socio-economic inequalities in morbidity and mortality reported in many European countries, they are in fact found to be substantial in all countries with available data. However, we do not yet have the full picture, as many countries remain unexplored, even within Europe. Countries for which data have been lacking until now are the countries that were part of the former Yugoslavia (Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Slovenia and Serbia).

Socio-economic health inequalities are almost universal and, considering also the former Yugoslavia’s history of cultural diversity, violent conflicts and rapid economic, political and social change, we would expect that this will also be the case in former Yugoslavian countries.

These countries have experienced several transitions: from a communist to a more democratic political system, from a planned to a market economy. Several of these countries have also experienced war as a result of their cession from Yugoslavia in the early 1990s, and more recently Serbia itself was bombed by NATO as a result of the ongoing conflict in Kosovo. These transitions and conflicts undoubtedly brought many other destabilizing influences on daily life. In addition, economic experiences have varied, with Croatia, Slovenia and Serbia amongst the more wealthy countries in the Western Balkans, and Kosovo, Montenegro, Macedonia and Bosnia-Herzegovina among the poorer.

At the same time, predicting the magnitude of inequalities in self-assessed health in these countries is difficult. Previous experiences with cross-national comparisons of inequalities in self-assessed health have shown that there can already be substantial differences between countries that are more homogeneous in terms of economic, political and religious history than the Yugoslavian countries, demonstrating that the patterns of cross-national differences in inequalities in health are highly complex.

To fill the gap in the current knowledge base of socio-economic inequalities in health in Europe, the present study aimed to investigate (relative and absolute) self-assessed health inequalities in former Yugoslavia by educational attainment.

Methods

The data source is the South-East European Social Survey Project (SEESSP) based on face-to-face interviews fielded in December 2003 to Winter 2004. The surveys covered former
Yugoslavia with the exception of Slovenia with a total sample of 18,481 respondents (data from Slovenia were obtained from the 2004-wave of the European Social Survey, asking the same health questions as in the SEESSP). The SEESSP surveys measured socio-demographic and attitudinal variables related to a large number of subjects, from attitudes towards ethnic relations to questions about gender roles, and two questions about subjective health. The field organizations that were chosen were the most experienced and most used by international organizations and the SEESSP is the only available survey covering this region. Since no address registers were available, we applied a multistage cluster sampling design for each country aiming to obtain self-weighting representative samples. In addition, large ethnic minorities were overrepresented and some smaller minorities were covered in special samples. The former were down-weighted and the latter excluded from the representative samples. In each country 400–500 random geographical starting points were chosen from municipality maps (stratified by urban and rural areas), and clusters of 4–15 (20–25 in Kosovo) respondents were interviewed for each starting point. Within households, the respondent was selected from household members aged 18 and above, using the ‘nearest birthday’ method. Respondents were asked for their verbal consent to be interviewed and were told that participation was voluntary. The overall refusal rate was reported to be around 30% for all the countries, although exact refusal rates were not registered. In Bosnia-Herzegovina, the basic representative sample was actually three separate samples from different sampling frames: one from the predominantly Croat municipalities, one from the predominantly Bosniak municipalities of the Federation and one from municipalities in Republic Srpska. The selection of separate samples from different parts of Bosnia-Herzegovina was considered the best way to ensure the robustness of comparisons within the country and to obtain the best possible representative samples of the major ethnic groups. Within the predominantly Bosniak, Croat and Serb municipalities, all of the large and medium sized municipalities were included, and a random sample of the smallest municipalities was included, for a total of 114 municipalities (including Brcko) from all cantons. This sample of municipalities was agreed upon by two of the largest survey sampling organizations in Bosnia-Herzegovina, Mareco Index Bosnia and PULS. Within the selected municipalities, samples of households were selected proportional to estimated municipality size, so the unweighted sample is representative of the distribution of persons across municipalities within each of the three major sample regions. This principle of proportional selection was also applied in the other countries.

In Macedonia and Kosovo, there is a very high degree of ethnic residential segregation. For this reason, it was possible to select stratified, multi-stage cluster samples of the areas where the minorities reside, and thus obtain approximately representative samples of adults of the largest within-country minority. Including these samples in country-wide analyses improves the standard errors of estimates of statistics for ethnic Albanians in Macedonia and for ethnic Serbs in Kosovo.

In countries where recent censuses had been carried out, that is, Croatia, Serbia and Macedonia, adjustments weights by post-stratification by sex and age were applied to further reduce sampling bias. In Bosnia-Herzegovina, no census has been carried out since before the war, and there are no reliable population statistics as basis for post-stratification weights. In Montenegro, the results from the 2001 census were published too late for post-stratification weights to be computed before the data were finalized.

The overall sampling design is more thoroughly described elsewhere and the sampling designs for Bosnia-Herzegovina and Kosovo are also extensively described in two different articles.

The health outcome variables were self-reported general health (SRH) and limiting longstanding illness (LLI). SRH is a valuable indicator of people’s health status, since it predicts mortality consistently in many countries, with worsening subjective health associated with progressively higher mortality, chronic disease and behavioural risk factors. It is also a stable measure, with good test–retest reliability, and consistent reporting. SRH was measured by a question asking ‘How is your health in general?’. Eligible responses were ‘very good’, ‘good’, ‘fair’, ‘bad’ and ‘very bad’. We dichotomized the variable into ‘very good or good’ health versus ‘less than good’ health (‘fair’, ‘bad’ and ‘very bad’). As for LLI, people were asked if they were hampered in daily activities in any way by any longstanding illness or disability, infirmity or mental health problem. Eligible responses were ‘yes a lot’, ‘yes to some extent’ and ‘no’. We dichotomized this variable into ‘yes’ (regardless of whether to some extent or a lot) and ‘no’.

Education is a widely used indicator of socio-economic position within the social sciences. It is well adapted to our study because it avoids interpretation problems with respect to health-related social mobility later in life and to the widespread social mobility that followed the end of communism. The association between socio-economic position and poor health is well established and education has additional specific influences through increasing knowledge and skills that may affect cognitive function, make individuals more receptive to health education messages or more able to communicate with and access health services.

However, one limitation of level of education is that educational systems may vary considerably between countries, which hamper interpretation of observed patterns of educational inequalities across countries. Therefore, our measure of education was based on a variable describing full-time education in years (see country statistics, table 1). In comparative studies, it is important to take into account the extent of variations of reported years of education in different countries. We did this by applying a total impact measure of education. First, for each country separately, we standardized the continuous variables of educational attainment, such that the national average was equal to 0 and the standard deviation equal to 1 year of education. Second, we multiplied this variable by −1, so that higher values corresponded with lower educational levels. Next, the standardized variable was introduced as an independent variable in a logistic regression analysis, controlled for age, with health variables as the dependent variable. Finally, odds ratios (ORs) were computed as the antilogarithm of the estimated logistic regression coefficients. The ORs represent our relative health inequality measure and should be interpreted as the health difference between people with average years of education and those whose number of year of education is one standard deviation below the national average.

Presentations of relative health inequalities may be misleading if absolute measures are not presented additionally. Both relative and absolute inequality measures are meaningful for monitoring health inequalities, provided that they are interpreted while taking into account the overall levels of the health outcomes. Thus, absolute differences in health were calculated as the age-adjusted rate difference (RD) between the higher and lower education group using the median of the total impact measure for men and women separately within each country as cut-off point. The median, minimum and maximum values of the total impact measure are reported in table 1.
Results

The prevalence in men of LLI (table 2) varied between 23% (Macedonia and Montenegro) and 33% (Slovenia), and of fair or worse health (table 3) between 30% and 41 (Slovenia and Kosovo). These figures for women were 30% and 34% and 40% and 51%.

Tables 2 and 3 further demonstrate that health inequalities were present in men and women in all countries, although ORs for LLI and SRH were not significant for Montenegrin women (LLI OR = 1.12, 95% CI: 0.92–1.37; SRH OR = 1.16, 95% CI: 0.96–1.44) and with respect to the reporting of LLI among Slovenian men (OR = 1.16, 95% CI: 0.96–1.44).

The pattern of inequalities in LLI and SRH across the countries is illustrated in figure 1. ORs and rate differences in LLI seemed to be smaller than elsewhere in Bosnia-Herzegovina, Slovenia (in particular among men) and Montenegro (in particular among women).

The results of absolute (RDs) and relative (ORs) inequalities in SRH showed the following. Among men, smallest ORs were observed in Montenegro and Kosovo, while Slovenia and Croatia exhibited the largest. Smallest RDs were found in

Table 1 Country statistics (N = 17 359)ab

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Average years of education (standard deviation)</th>
<th>Median (minimum and maximum) values of total impact measurec</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Bosnia-H</td>
<td>11.83 (2.88)</td>
<td>10.73 (3.63)</td>
</tr>
<tr>
<td>Croatia</td>
<td>11.70 (1.94)</td>
<td>10.82 (4.23)</td>
</tr>
<tr>
<td>Kosovo</td>
<td>10.95 (3.50)</td>
<td>8.14 (4.21)</td>
</tr>
<tr>
<td>Macedonia</td>
<td>10.95 (3.64)</td>
<td>9.37 (3.86)</td>
</tr>
<tr>
<td>Montenegro</td>
<td>11.54 (3.36)</td>
<td>10.87 (3.34)</td>
</tr>
<tr>
<td>Serbia</td>
<td>10.93 (3.83)</td>
<td>10.39 (4.36)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>11.64 (3.49)</td>
<td>10.88 (3.57)</td>
</tr>
</tbody>
</table>

a: All people are aged 25 or more
b: After listwise deletion
c: Standard deviation = 1, mean = 0

Table 2 ORs (95% CI), prevalence rates and rate differences (95% CI) of limiting longstanding illness according to education in former Yugoslavia (N = 17 359)ab

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Men</th>
<th>Women</th>
<th>Men</th>
<th>Women</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia-H</td>
<td>7.6 (7.4–7.9)</td>
<td>1.34 (1.21–1.47)</td>
<td>10.3 (9.9–10.7)</td>
<td>1.37 (1.24–1.52)</td>
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</tr>
<tr>
<td>Croatia</td>
<td>17.6 (16.4–8.7)</td>
<td>1.63 (1.38–1.93)</td>
<td>13.5 (12.7–14.2)</td>
<td>1.66 (1.41–1.95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kosovo</td>
<td>10.1 (9.5–10.7)</td>
<td>1.45 (1.24–1.70)</td>
<td>19.9 (18.8–21.1)</td>
<td>1.54 (1.33–1.79)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macedonia</td>
<td>12.2 (11.5–12.9)</td>
<td>1.65 (1.41–1.93)</td>
<td>18.2 (17.2–19.3)</td>
<td>1.65 (1.43–1.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td>6.9 (6.5–7.4)</td>
<td>1.31 (1.10–1.57)</td>
<td>5.4 (5.0–5.8)</td>
<td>1.12 (0.92–1.37)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>13.7 (13.1–14.4)</td>
<td>1.54 (1.36–1.75)</td>
<td>11.6 (11.1–12.2)</td>
<td>1.63 (1.43–1.87)</td>
<td></td>
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</tr>
<tr>
<td>Slovenia</td>
<td>0.4 (0.3–0.5)</td>
<td>1.18 (0.96–1.44)</td>
<td>10.4 (9.6–11.2)</td>
<td>1.33 (1.08–1.65)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a: All people are aged 25 or more. Prev = age-adjusted prevalence of ill health. RD = age-adjusted rate difference (percentage) between high and low socio-economic group
Correlation tests (Pearson’s r). Significant associations boldfaced.
RD OR: 0.64 (men), 0.90 (women)
RD Prev: 0.26 (men), 0.17 (women)
OR Prev: −0.05 (men), −0.40 (women)

Table 3 ORs (95% CI), prevalence rates and rate differences (95% CI) of poor self-assessed health according to education in former Yugoslavia (N = 17 359)ab

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Men</th>
<th>Women</th>
<th>Men</th>
<th>Women</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia-H</td>
<td>8.9 (8.6–9.3)</td>
<td>1.49 (1.34–1.65)</td>
<td>17.4 (16.8–18.1)</td>
<td>1.66 (1.49–1.85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>20.6 (19.2–21.9)</td>
<td>1.80 (1.52–2.14)</td>
<td>18.9 (17.9–19.9)</td>
<td>1.81 (1.54–2.14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kosovo</td>
<td>10.5 (9.9–11.1)</td>
<td>1.24 (1.07–1.44)</td>
<td>15.4 (14.5–16.3)</td>
<td>1.40 (1.22–1.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macedonia</td>
<td>16.2 (15.2–17.1)</td>
<td>1.50 (1.30–1.73)</td>
<td>13.2 (12.5–13.9)</td>
<td>1.49 (1.30–1.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td>8.7 (8.1–9.3)</td>
<td>1.27 (1.07–1.50)</td>
<td>6.5 (6.1–7.0)</td>
<td>1.16 (0.96–1.40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>13.7 (13.0–14.4)</td>
<td>1.38 (1.23–1.56)</td>
<td>18.3 (17.4–19.2)</td>
<td>1.79 (1.56–2.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td>19.0 (17.4–20.6)</td>
<td>1.77 (1.42–2.20)</td>
<td>10.7 (9.9–11.6)</td>
<td>1.49 (1.21–1.83)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a: All people are aged 25 or more. Prev = age-adjusted prevalence of ill health. RD = age-adjusted rate difference (percentage) between high and low socio-economic group
Correlation tests (Pearson’s r). Significant associations boldfaced.
RD OR: 0.64 (men), 0.90 (women)
RD Prev: 0.26 (men), 0.17 (women)
OR Prev: −0.05 (men), −0.40 (women)
Montenegro, Bosnia-Herzegovina and Kosovo, while they were clearly largest in Slovenia and Croatia. Among women, Montenegro had by far smallest ORs and RDs, while Croatia and Serbia demonstrated the largest ORs and RDs.

The ranking of countries according to absolute and relative inequalities were largely in agreement and strongly correlated (table 2). There were no significant associations between RDs and prevalence rates, nor between ORs and prevalence rates (table 3).

Discussion

Summary of findings

As expected, educational health inequalities were present throughout the former Yugoslavia. There were differences between countries in the magnitude of these inequalities, where Montenegro seemed overall to be holding the best position, and Croatia the most unfavourable one. It should be noted, however, that Croatia had large, but not largest OR of LLI among men, nor largest RD of LLI among women. Before these results will be discussed several study limitations should be addressed.

Limitations of the study

First, the sample size of Slovenia is smaller for this country as compared to the other countries, while the sample for Bosnia-Herzegovina is much larger (see table 1 for an overview). However, the confidence intervals are not wider than those observed for the other regions except Croatia and Bosnia-Herzegovina. Furthermore, the data were not collected from the South-East European Social Survey Project, but from the European Social Survey. However, exactly the same questions about health were asked (the LLI and SRH measures of SEEESP were actually based on the ESS) in both surveys at the same time. Moreover, the design and procedure of the SEEESP were similar to those of the ESS, but the results for Slovenia should for the above reason be interpreted with care.

Second, due to the cross-sectional character of the study, it is not possible to fully elucidate the inequality effects of health over the life course.17

Third, absolute estimates are always problematic when self-reported survey data are used from several different countries. The prevalence level typically varies a lot (table 1) and the reasons are manifold. However, we have analysed neighbouring countries and their similarities should not be overlooked.

Interpretation of key findings

One of the main pictures emerging from this study is unexpectedly small inequalities in SRH and LLI as compared to previous comparative European studies. For example, ORs for morbidity according to education ranged between 1.5 and 2.5 in the 1997 study by Mackenbach et al.18 and between 1.2 and 1.7 (relative index of inequality) 10 years later by the same research group.5 In our study, ORs were never larger than 1.8. This comparison to previous studies raises the key question why inequalities are not larger in former Yugoslavia. A similar finding was presented in a previous study, in which class-related health inequalities were not observed larger in Eastern Europe as compared to Western Europe.19
the West.\textsuperscript{15} It was suggested that mortality selection and negative experiences of the communist regimes, which eventually lead to lower expectations to health and healthcare, causing less complaining of ill health among people with low education, could explain the comparatively low inequalities in the East. Whilst less complaining about ill health amongst the less educated could be an explanation for the low inequalities in our study, it is also possible that the better educated are less likely to report good health, especially since the prevalence of reported ill health is higher than many surveys in Western Europe (and more similar to Russia)—whether this relates disease prevalence or cultural influences on reporting is unclear. Furthermore, former communist countries emphasized an egalitarian ideology in the past, which might be still persistent in the social structure. These explanations could also account for the comparatively low inequalities found in the former Yugoslavian countries.

However, there are also some unexpected findings from within the studied region. It might have been expected that educational inequalities would be larger, and self-assessed health worse, in areas with mixed religious affiliation, greater political instability and low GDP per capita (i.e. Kosovo, Montenegro and Bosnia-Herzegovina), but this was not what our findings demonstrated. Whilst the generally high prevalence of LLI and poor SRH in Kosovo could be expected in a poor country with ongoing unrest, the similar finding in the relatively wealthy and peaceful Slovenia was surprising. The relatively good health and narrower inequalities in the comparatively poor Montenegro, and the intermediate findings in previously conflict-ridden Bosnia-Herzegovina are also not in agreement with this expectation. However, numerous studies have demonstrated that socio-economic inequalities in health may not always be smaller in affluent and even egalitarian societies,\textsuperscript{16–19} which may be deeply rooted in structural inequalities exemplified by social class, education and income differences.

Overlapping confidence intervals added to uncertainties in the pattern of inequalities, with the exception of Montenegro, where relative health inequalities were clearly lower than in some of the other countries.

Differences in reporting subjective health, especially in relation to education and culture, could account for some of the inconsistencies. First, people with higher education may emphasize different dimensions when rating their health.\textsuperscript{20} For example, if the lower educated included the stressors of daily life in their rating, this might weaken the association between subjective health and subsequent mortality compared with higher educated individuals. Recently, several studies have assessed how education moderates the association of SRH with mortality, which may be regarded as partially testing this possibility.\textsuperscript{21–23} Results were mixed, with some studies reporting no socio-economic differences in the predictive power of self-rated health on mortality and others reporting that the predictive power is stronger in higher socio-economic groups,\textsuperscript{21,22} and one reporting that the predictive power is greater in the lower socio-economic groups.\textsuperscript{23} Also in cases where the ecological approach has been used to compare the magnitude of socio-economic inequalities in SRH with the magnitude of inequalities in mortality, results have been inconsistent.\textsuperscript{26–28} However, education, in contrast with other determinants, predicted self-rated health and mortality to a similar degree within a Russian study,\textsuperscript{29} whilst results of this single study suggest a degree of stability; overall it is possible that SRH may give different estimates of socio-economic inequalities compared with other health outcomes.

Second, reporting variations may also result from the wide cultural and ethnic diversity in countries of the former Yugoslavia, although within-country variations in ethnic composition make this difficult to study. There are international variations in the typical value for SRH,\textsuperscript{12} and whilst this is partly related to life expectancy, there may be other influences. There has been little data on the comparability across cultures, but a study in Finland and Italy showed that although SRH is a useful summary of physical health, it may be sensitive to cultural environment.\textsuperscript{30} Thus, health expectations may vary according to culture (the greater levels of inequality in the relatively wealthy Slovenia could be related to higher expectations among the higher educated). Direct cultural comparisons of SRH outcomes in general should therefore be made with caution. It should be noted, however, that this issue is of greater concern with respect to the (age-adjusted) prevalence of ill health, as compared to odds ratio measures of inequality that are reported here.

The prevalence and socio-economic distribution of other causes of ill health may also vary between countries. Evidence from the EUROTHEINE study, a large European-wide study on the magnitude of socio-economic inequalities in health and health-related behaviours, suggests that despite universal inequalities in objective health across Europe, some causes may be more important in different countries. For instance, the social patterning of health behaviours varies between European countries,\textsuperscript{31} and several of these explain an important part of variations in health inequalities across Europe.\textsuperscript{5,15,32} Future studies aiming to unravel the causes of cross-country variations in health inequalities in former Yugoslavian countries have the hard task of considering a multitude of factors, ranging from (but not limited to) welfare systems to smoking, and from income inequality to access to healthcare.

The prevalence of LLI and SRH and the magnitude of inequalities in LLI reported in this study for the former Yugoslavian countries correspond to those that have been reported before for other Central Eastern European countries. The prevalence was broadly similar to that in the Czech Republic, Estonia, Hungary, Poland and Slovakia, which were reported in the study of Eikemo et al.,\textsuperscript{4} which used exactly the same measures of health and education, collected at approximately the same time (2002–2004). Regarding the size of the relative inequalities, the ORs of LLI and poor SRH in the former Yugoslavian countries typically varied between 1.2 and 1.7 (1.8 for SRH), similar in order to other Eastern European countries,\textsuperscript{4} although wide confidence intervals in this study limit exact comparisons. Ranking countries when differences between point estimates are small leads to missing the big picture that there may not be meaningful differences in the magnitude of inequalities between countries in the first place. We therefore performed sensitivity analyses to formally test whether health varies by education between the countries, by fitting interaction terms between countries and education (with respect to both health indicators) in pooled analyses. These results showed that the interaction terms added significantly to the models only containing education and single countries (controlled for age), suggesting that there are indeed meaningful differences between the countries. Next, we tested the significance of each interaction term (in several steps using different reference countries). The picture that emerged is that although the interaction terms contribute to the models as a whole, differences between pair of countries are not always significant (Supplementary tables SA and SB). More solid conclusions about cross-country differences can be drawn when point estimates are further apart, when patterns of inequalities across countries are consistent across several health outcomes, and/or when patterns are consistent in terms of absolute and relative inequalities.
Health inequalities in former Yugoslavia

Given the unique experience of war in some of the former Yugoslavian countries we should have indeed expected that inequalities in these countries would be similar, or larger, but definitely not clearly smaller, than in other Central Eastern European countries. However, the survey took place some years after the conflict ended, and we do not know how this might have affected the results. Whilst the adverse consequences to self-rated health and psychological well-being can persist for many years after war, the amount of research of this type is very limited. In summary, these results fill up the gap in the current knowledge about the magnitude of health inequalities in European countries.

Conclusion

Educational health inequalities were present throughout the former Yugoslavia (except among Montenegrin women). The countries with the most unfavourable histories of conflict, and/or the largest income inequalities, and/or the largest religious heterogeneity, i.e. Kosovo, Montenegro and Bosnia-Herzegovina, did not exhibit consistently large inequalities as compared to the other countries from former Yugoslavia. Further research should study a wider range of health outcomes using larger survey samples and a wider range of cultural and other predictor variables to fill further gaps in the knowledge base of socio-economic inequalities in health in Europe. Efforts should be made to include these countries in broader European overviews of inequalities in health.

Supplementary data

Supplementary data are available at EURPUB online.

Funding

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Conflicts of interest: None declared.

Key points

- Substantial socio-economic inequalities in morbidity and mortality have been reported for all European countries with available data.
- The size of inequalities in morbidity varies internationally but the situation in many countries remains unexplored, even in Europe.
- Until now, data from former Yugoslavian countries have remained unexplored. Mapping and explaining health inequalities in this region is particularly important given its recent history of cultural diversity, violent conflicts and rapid economic, political and social change.
- Educational health inequalities were present throughout the former Yugoslavia. Inequalities seemed to be generally large in Croatia and small in Montenegro.
- Educational inequalities in health were not larger, and self-rated health was not worse, in parts of former Yugoslavia with mixed religious affiliation, greater political instability and low GDP per capita.
- Also in times of great political transitions, conflicts and war, educational attainment is of considerable benefit to people’s health.

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