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Mental health inequalities in 9 former Soviet Union countries: Evidence from the previous decade

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ABSTRACT

In the previous two decades, countries of the former Soviet Union underwent substantive economic and social changes. While there has been some limited evidence on the relationship between socioeconomic well-being and mental health in the developing and transitional economies, the evidence on economic inequalities in mental health has so far been scarce. In this paper, we analyse two unique datasets collected in 2001 ($N = 18{,}428$) and in 2010 ($N = 17{,}998$) containing data on 9 countries of the former Soviet Union, exploring how mental health inequalities have changed between 2001 and 2010. Using regression analysis, as well as the indirect standardization approach, we found that mental health appears to have substantially improved in most studied countries during the past decade. Specifically, both the proportion of people with poor mental health, as well as wealth-related inequalities in poor mental health, decreased in almost all countries, except Georgia. Hence, we did not find evidence of a trade-off between changes in average and distributional mental health indicators between 2001 and 2010. Our findings give ground for optimism that at least on these measures, the most difficult times associated with the transition to a market economy in this region may be coming to an end.

1. Introduction

People living in the countries of the former Soviet Union have experienced an extremely troubled transition. The new political and economic regimes created some winners, such as the oligarchs, but also many losers (Balabanova et al., 2003). Guaranteed employment became a thing of the past and the communist era social safety nets were torn apart (Field and Twigg, 2000). These changes had profound implications for mental health, with suicides rates rising dramatically, especially in the regions undergoing the most rapid pace of transition (Brainerd, 2001; Pietila and Rytkonen, 2008; UNICEF, 2001; Walberg et al., 1998; WHO/Europe, 2013).

Two decades after the transition, relative stability has returned, albeit with intermittent interruptions, such as the ongoing economic crisis since 2008, events in Ukraine in 2014, the 2010 disturbances in Kyrgyzstan, and the 2008 conflict between Georgia and Russia. Each country has made the transition to some form of market economy, however imperfect. Yet, as is apparent from the continuing toll of suicides, poor mental health is widespread (Ferrari et al., 2013; IHME, 2013; WHO/Europe, 2013). It seems likely, given experience elsewhere (Friedli, 2009; Patel et al., 2013), that mental health is socioeconomically patterned, with those whose position is most precarious at greatest risk. A recent study on psychological distress in the former Soviet Union indicated that the prevalence of high psychological distress had declined across the region between 2001 and 2011, but that socially and economically marginalized populations continued to bear the brunt of poor mental health in the region (Roberts et al., 2012a). However, that study did not look in detail at the distribution parameters of poor mental health and their relationship with overall levels in the population. In this paper we take advantage of two unique datasets to explore these issues in depth, assessing in particular the question of if and how mental health inequalities have changed in different countries between 2001 and 2010. We also briefly ask whether there is a trade-off between inequalities and average levels of mental health. Indeed, there is a widely held notion, based on

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empirical literature, that health improvements "on average" may be accompanied by increases in health-related socioeconomic inequalities (Wagstaff, 2002; Wagstaff et al., 2014), as those who have the greatest social and educational resources are best placed to take advantage of emerging opportunities to improve their own health while others, less advantaged, are left behind (Mackenbach et al., 2003; Rumble and Pevalin, 2013; Singh, 2003). Therefore, we ask the following question: are those countries that do well in terms of average mental health the ones that do poorly in terms of its socioeconomic distribution? Or do both go hand in hand?

2. Methods

2.1. Data

The data used in this paper come from two nationally representative surveys: the 2001 Living Conditions, Lifestyles and Health (LLH) study; and the 2010–2011 Health in Times of Transition (HITT) study. The LLH survey was conducted in eight countries (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, and Ukraine) while the HITT survey added Azerbaijan. The two survey instruments were designed to be as similar as possible, although with the HITT instrument drawing on lessons learnt with LLH. Both surveys collected information using standardised questionnaires on a range of health outcomes, health behaviours, and demographic, socio-economic and environmental characteristics. The surveys were cross-sectional in nature, and therefore they can be combined to enable a pooled cross-sectional design.

The overall sample size in the LLH survey was 18,426, with about 2,000 in each country except for the Russian Federation (4,006) and Ukraine (2,400). The subjects were adults (aged 18 years and older) not living in institutions. Samples were selected using multi-stage random sampling with stratification by region and rural/urban settlement type. Response rates varied between 71% and 88% among countries. For more details on the survey, see www.llh.at.

The sample size in the HITT survey was 17,998, again including non-institutionalised adults aged 18 or older. Multi-stage random sampling with stratification by region and rural/urban settlement type was used. Each country had 1,800 respondents, except in Russia ($N = 3{,}000$) and Ukraine ($N = 2{,}000$) to reflect their larger and more regionally diverse populations, and in Georgia ($N = 2{,}200$) where a booster survey of 400 additional interviews was undertaken in November 2010 to ensure a more representative sample. Response rates varied from 47.3% in Kazakhstan to 83% in Moldova. For more details, see www.hitt-cis.net.

The ethical approval for both LLH and HITT datasets was granted by the Ethics Committee of the London School of Hygiene and Tropical Medicine.

2.2. Variables

In this paper, mental health was measured using a 12-item scale developed for use in former Soviet countries. This has been described previously (Cockerham et al., 2006) and used in several previous studies in this region (Goryakin et al., 2014; Roberts et al., 2010, 2012a). Each respondent was asked if he or she had recently experienced a number of symptoms (giving yes/no responses). The 12 symptoms include: (1) feelings of stress, (2) feeling lonely, (3) inability to concentrate, (4) insomnia, (5) feeling constantly under strain, (6) feeling you couldn't overcome your difficulties, (7) losing confidence in yourself, (8) often shaking or trembling, (9) frightening thoughts coming into your mind, (10) getting spells of exhaustion or fatigue, (11) feeling an impossibility to influence things, and (12) feeling that life is too complicated. The instrument was forward and back translated and piloted in each of the study countries and showed good internal consistency with a Cronbach's alpha score of 0.84 in the LLH 2001 survey and 0.82 in the HITT 2010 survey.

In the present study, poor mental health was defined as having 6 or more distressing mental health symptoms. This level was selected to make sure that it was meaningful, in a sense that it was neither too general (i.e. it did not include people with only mild deviations from normal mental health), nor too specific (i.e. that it did not exclusively apply to people with very serious mental health problems). Approximately 32% of respondents belonged to this group in 2001, and 22% in 2010. However, in order to avoid relying exclusively on this definition of mental health, we also made use of the whole range of the mental health score, treating it as an ordinal variable, as part of a sensitivity analysis.

Our measure of living standards is the country and year-specific asset score index, estimated by principal component analysis, using the approach suggested in (Filmer and Pritchett, 2001; O'Donnell et al., 2008; Vyas and Kumaranayake, 2006). The items included in the two surveys differed as follows. The items included in 2001 were whether the household had a television, washing machine, phone, personal computer, dishwasher, motorbike, bicycle, video recorder, video camera, or car. In 2010 they were whether the household had a television, washing machine, mobile phone, computer, dishwasher, fridge, car produced before 2005, car made after 2005, automatic washing machine, or home cinema. Households were then ranked on asset scores and divided into country and year specific quartiles, with dummy variables for each of them.

Ideally, the two asset scores would have had identical compositions but this was decided against in view of the considerable changes in household possessions between the two surveys, not least as a result of economic and technological progress between 2001 and 2011. Consequently, only three variables were the same in both surveys. However, this is less of a limitation than it seems as the analyses are based on the ranking within each survey.

2.3. Analyses

2.3.1. Simple and standardized prevalence

We start our analysis by estimating the prevalence of poor mental health for each country, year and asset quartile. This gives us a descriptive snapshot, for each year and country, of how wealth may be related to mental health, although it does not allow us to formally compare the magnitude of inequality, either between countries or between survey years. Next, we account for the possibility that demographic profiles of countries may be quite different, by taking controlling for the age and gender distribution of the respondents in each country. Specifically, we use an indirect standardisation methodology, by calculating age and sex standardised rates of poor mental health in people in each asset class (O'Donnell et al., 2008). This controls for the correlation of both gender and age not only with mental health, but also with socioeconomic status.

More formally, in the first step, we estimate the parameters in the following regression (separately for each survey and country):

$$Y_{it} = f(b_0 + b_1 X_{it} + b_2 Z_{it} + e_{it}) \quad (1)$$

where Y_{it} is the health outcome variable of interest (either binary, as in the case of poor mental health, or count, as in the case of the number of mental health symptoms), X_{it} is the vector of our standardizing variables (age and gender), and Z_{it} is the vector of non-confounding variables for which we do not want to standardize, but rather to control for in order to obtain partial correlation coefficients with the confounding variables contained in the X_{it} vector (O'Donnell et al., 2008). Specifically, we want to partial out the effect of the following variables: education, household size, being