

## Educational inequalities in health and mortality in Poland during the post-communist transition period

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### Abstract

Poland belongs to the countries of the most favourable life expectancy rates in the Central and Eastern Europe. Since the beginning of the transformation in Poland, a systematic growth in life expectancy has been observed for both sexes. From 1991 to 2006, life expectancy at birth increased by 5 years for men and 4.5 years for women to reach 70.9 years for men and 79.6 years for women in 2006. Results from two Health Surveys of Poland's Population carried out in 1996 and 2004 suggest that the health status of both males and females also improved. However, different social groups enjoyed different shares in the observed gains in the total life expectancy as well as improvement in the health status.

The review of literature on the subject, among others Shkolnikov et al. (1998, 2007), Mackenbach et al. (1999), Leinsalu et al. (2003); Martikainen et al. (2001), Stronks et al. (1997), Bobak et al. (2000) shows that a social position, an economic status and education are strongly correlated with the health status of the population in the Western and in Eastern Europe. The aim of the study is to evaluate educational patterns of both self-rated health and mortality in Poland over the period of transition.

The cross-sectional data were used to examine educational differences in the total mortality and in cause-specific mortality from 1990 and 2002. Age standardised mortality rates were calculated for men and women aged between 25 and 69 years. The education level was categorized into four classes: pre-primary and primary (ISCED 0-1), lower secondary (ISCED 2), upper secondary (ISCED 3), post-secondary and tertiary (ISCED 4-6).

The data from two *Health Surveys 1996 and 2004* were used to evaluate the self-rated health. Analyses are based on the sample of 27,235 men and women in 1996 and 19,151 of men and women in 2004. The self-reported health status was measured through the single question: "How do you assess your health status?" (very good, good, fair, poor or very poor). The age-standardised prevalence, adjusted odds ratios (OR) with 95% confidence intervals and the concentration index (CI) were calculated to measure the educational inequality in health statuses in Poland.

The obtained results confirmed a significance of the education level on the occurrence of inequalities in health of men and women. At each stage of life, the higher mortality is recorded among persons of the lower education level. Over the recent years, the educational-related differences have still deepened, especially in the male population.

For all education levels a decrease was observed in the SDR mortality from cardiovascular diseases. However, the relative mortality indicator shows an increase in the educational differences: for females with a primary education level, the SDR from all circulatory diseases in 2002 was thrice as high as for those with a tertiary education (in 1990 the RR was 2.6); for males it was 2,0 in 1990 and 2,7 in 2002.

A big education gap is observed among external causes of deaths, e.g.: for males with a primary education level the SDR by suicide was 6 times higher than that for males with a tertiary education, and three times higher than the mortality rate for due to motor vehicle accidents.

The study revealed that a low educational level is very important determinant of poor health: for women with a primary education the odds of having poor less than good health were almost four times higher than those of women with a tertiary education (OR=4,36 in 2004 and OR=3,61 in 1996); for men this odds ratio was above three (OR= 3,71 in 2004 and OR=3,16 in 1996).

The age-standardised concentration index confirms occurrence of inequalities in health related to education and concentration of health in the groups of higher-educated persons. Between 1996 and 2004 the value of the CI decreased for women from 0,107 to 0,089 and was stable for men: 0,074 vs 0,076.

Educational levels are correlated with behavioural factors and the socio-economic position. As our analyses have shown the higher education is strongly connected with the higher awareness of health and healthy lifestyle in Poland.