STATISTICS OF ADULT HEALTH IN VISEGRAD COUNTRIES

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Abstract

Due to the significant progress in the area of medicine and healthcare, it is nowadays probable to reach old age and to survive old age. Surviving to old age categories represents opportunities on one side and difficulties on the other side. In our research, we will concentrate on diseases typical at old ages, principally on chronic diseases and mental illnesses, as well as death rates due to chronic disorders in Visegrad countries. Mental disorders, like Alzheimer's disease, Parkinson'sdisease, vascular dementia and other forms of neurodegenerative disorders belong to the major causes of death for people aged 65 and over. From the results of dementia studies it is visible that the risk of suffering from dementia increases with the increasing age. For the future, incidence and prevalence of dementia will be one of the main topics discussed worldwide. We can talk about a global epidemic that is spreading all over the world very fast.

Key words: mental health, chronic diseases, diseases at old age

JEL Code: I15, I18, J14

Introduction

As people live longer, mental diseases are appearing more often among the elderly. Mental diseases, like Alzheimer's disease, Parkinson's disease, dementia, or depression, are directly occurring in old ages and are connected with the population ageing. Old people above 65 years represent the main risk group of the incidence of mental diseases. Alzheimer's disease and other forms of dementias belong undoubtedly among the major adult diseases in the 21st century. Chronic disorders represent in developed societies, including Europe, a challenge to health care systems and public health. All around the world, there are 36 million people suffering from dementia; 7.3 million people live in Europe. Every twentieth person older than 65 years has some form of dementia. After the age of eighty, it is every fifth person. According to projections, there will be 66 million people suffering from dementia in 2030, including Europe with an estimation of 10 million people. The treatment and social care of chronic diseases is very protracted and expensive, involving social workers and family members taking care of the

patients. In our research, we monitored Visegrad countries (V4) that belong among high income European countries (according to World Bank criteria in 2010).

There are countries that have common historical roots, and many of monitored indicators in these countries develops in a similar way. These include e.g. selected macroeconomic indicators, standard of living, and often the health status of the population. Some long-term cooperation between countries brings a number of reasons why occur the correlation between the measured indicators. It is interesting that when we compare the development of (general) mortality in recent years between the Visegrad countries (expressed e.g. by the development of age-specific death rates), we find that the indicators change very little. If we look at the selected (available) time series of development in absolute numbers (or standardized rates) of selected diseases (dementia, Alzheimer's disease, Parkinson's disease), we find that in any country the results are dramatically different than in the other countries.

1 Materials and methods

Not only in demographic analysis there are used the age-specific death rates for the comparison of health status of the population. We use them also for the purpose of life insurance, because life tables describe the dependence of mortality on the age (see e.g. Dotlačilová, Šimpach, Langhamrová, 2014 or Dotlačilová, Šimpach, 2015). The basic characteristics for their calculation are therefore age-specific death rates. In our case of life tables for one calendar year *t* are age-specific death rates calculated by the formula

$$m_{x,t} = \frac{M_{x,t}}{S_{x,t}}, \tag{1}$$

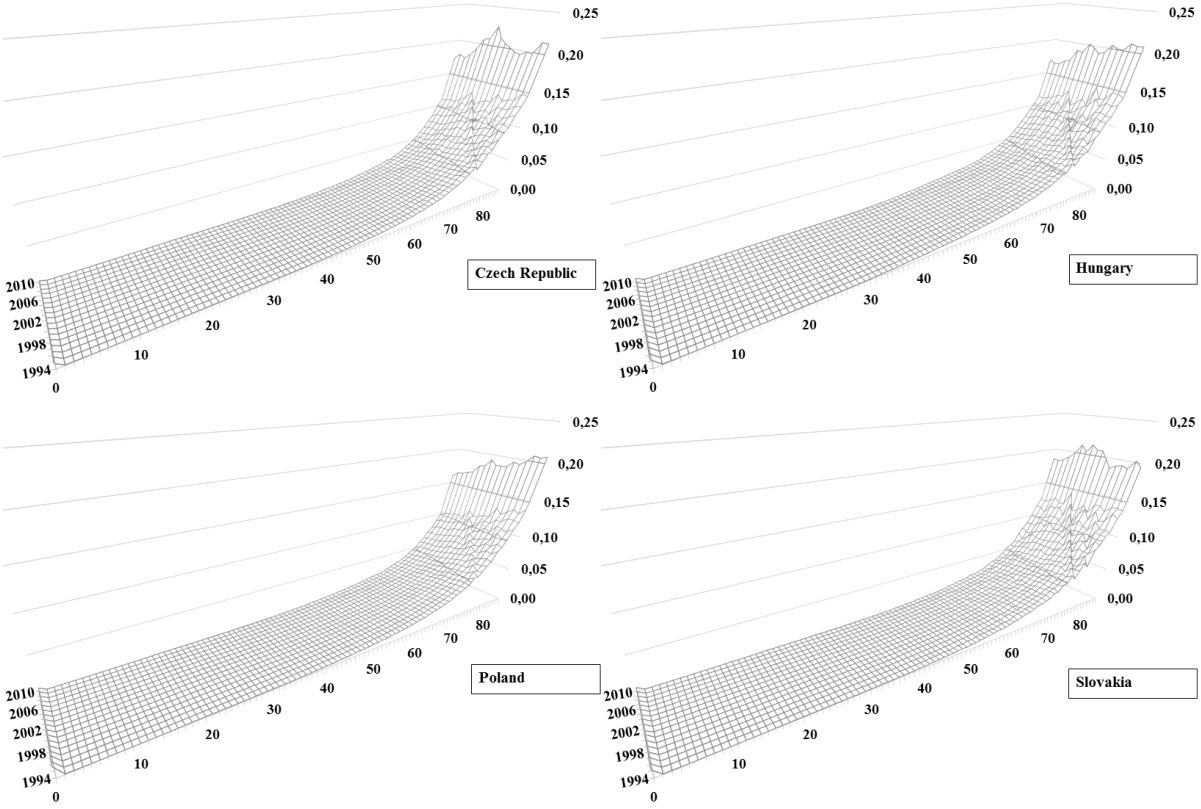
where $M_{x,t}$ is the number of deaths at age x and $S_{x,t}$ is the number of persons at age x, which is estimated as the mid-year number of the population and t = 1994–2010 for the case of the Czech Republic, Hungary, Poland and Slovakia.

Other data was collected by the World Health Organization (WHO) in 2011 and published by countries in Mental Health Atlas-2011 (WHO, 2011). We focused on the number of patients treated in mental health facilities in the Czech Republic, Hungary, Poland and Slovakia (data from Eurostat, 2009, 2015a, 2015b). We selected Visegrad countries to see the development in the Central and Eastern Europe. Furthermore, in our study we used data from Eurostat Database. We were interested in the percentage of total population reporting a chronic disease in the Czech Republic, Hungary, Poland and Slovakia.

2 Empirical results

As we mentioned in the introduction part, if we make a comparison of the last progressive development of age-specific death rates in the Czech Republic, Hungary, Poland and Slovakia, we find that in the age range of 0–85+ completed years, there was no dramatic deviation in examined indicators (see the comparison in Figure 1, where x, y and z axes has the same scale in all charts). The results are very similar, which cause that in the surveyed countries there will be similar life expectancy, which is output from the calculated life tables (and estimated separately for each age group from empirical age-specific mortality rates).

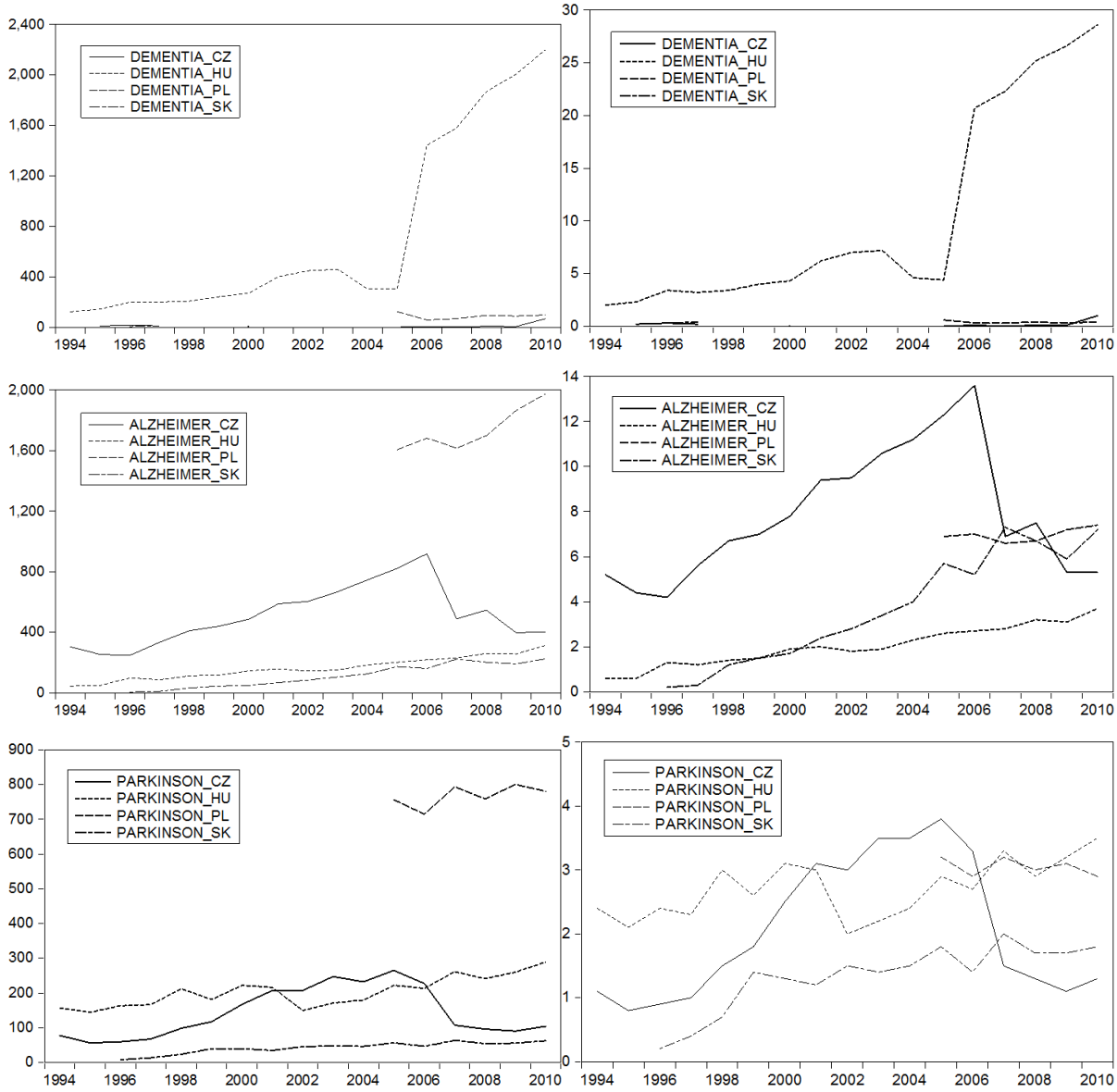
Fig. 1: Empirical age-specific death rates for the total population in the Czech Republic, Hungary, Poland and Slovakia (development from 1994 to 2010).



Source: Eurostat, 2015b; authors' construction

The evolution of mortality in Hungary in the 20th century was generally less favourable than in other Eastern European countries (see e.g. study by Tomeš, Žídek, 2008 or paper by Dabušinkas, Randveer, 2011). In the 60s, mortality was increasing, mainly caused by stress and economic and social circumstances. In 1962, total fertility rate in Hungary was the lowest among all countries. Increasing number of abortions and the expansion of contraception meant that the level of fertility in Hungary in the 60s of the 20th century was at very low levels.

Fig. 2: Causes of death (dementia, Alzheimer disease, Parkinson disease) in absolute number – (left charts) and causes of death in standardised death rate per 100 000 inhabitants (right charts) – annual data for Czech Republic, Hungary, Poland and Slovakia.



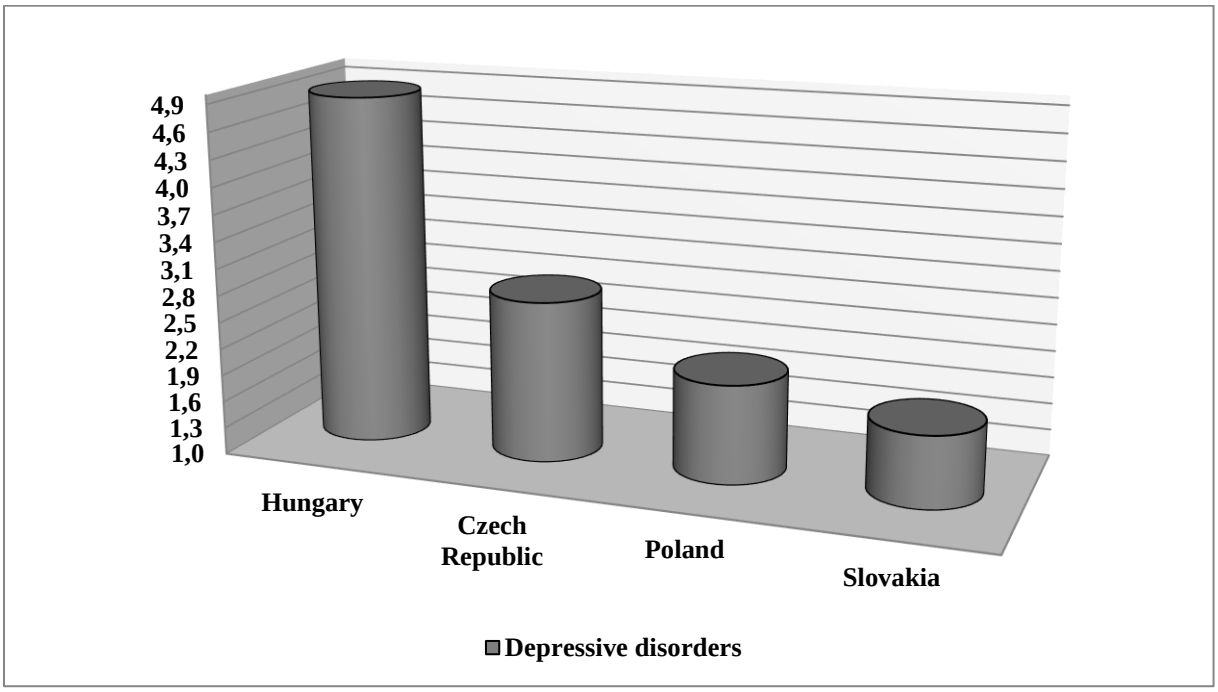
Source: Eurostat, 2015a; authors' construction

Differences in life expectancy at birth increased during the 80s. While in Western Europe during the 80s there was an increase in life expectancy (about 3 years), in the former socialist countries, especially in Hungary, life expectancy was typically decreasing. In 1980, the life expectancy of men was 65.5 years and the life expectancy of women was 72.7 years. The difference between the life expectancy of men and women in the period 1981–1985 was nearly eight years (Tomeš, Žídek, 2008).

Until the end of the 90s, the differences in life expectancy in Hungary and other European countries were significant – on average, in almost each country men live 10 years longer and women seven years longer than people in Hungary. Until 1995, the high mortality in Hungary was warning. Life expectancy of men in Hungary has never been as low as in 1994. Since 1996, there has been a visible increase in the life expectancy of men. Current situation is endangered by poverty rates – Hungary ranks 6th worst place among the EU member states. In case of seniors aged 65 and older, pension means in the majority of cases the only source of their income. That is warning from the view of public sector costs.

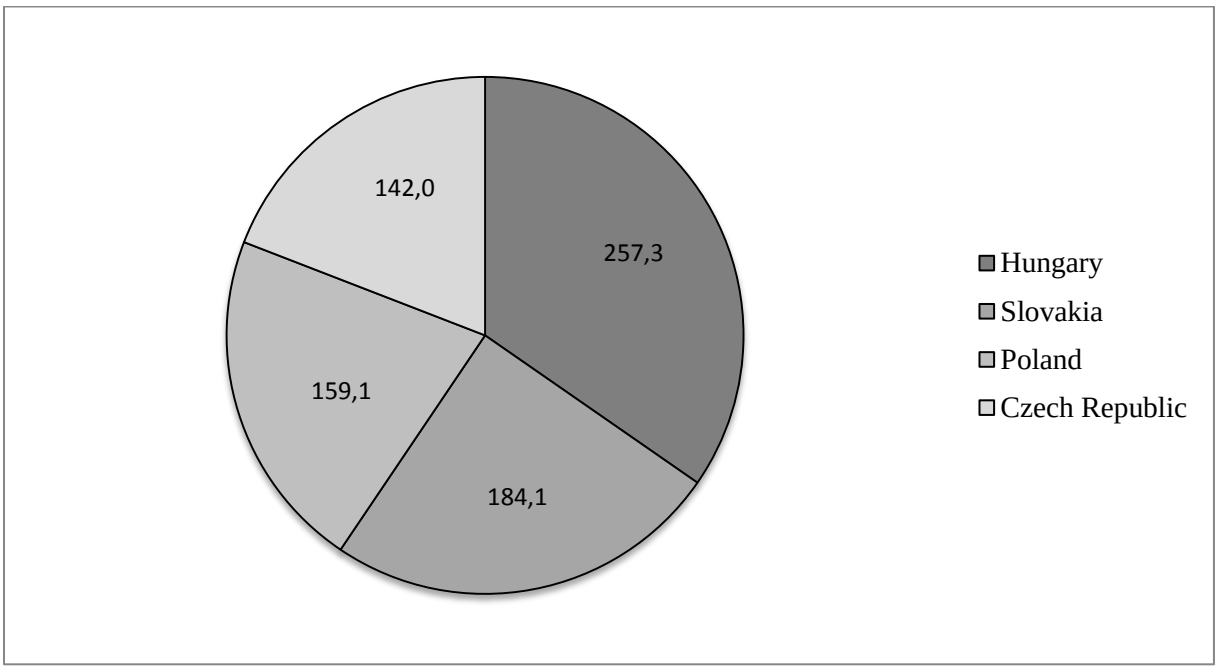
When we display the development of the available time series of deaths for selected diseases (dementia, Alzheimer's disease and Parkinson's disease) in the number of cases in a single year (left charts in the Figure 2) or as standardized mortality rate for this cause, calculated per 100 000 inhabitants of the population (right charts of the Figure 2), we find greater differences in the compared countries. Although some country has not already submit to Eurostat the complete database (some values are missing), but even so, it can be seen, that the worst situation is developing in Hungary, which has probably the most comprehensive data base and its statistics are seriously provided.

Fig. 3: People reporting a chronic disease in Visegrad countries in 2009 (%).



Source: Eurostat, 2009; authors' construction

Fig. 4: Death rate due to chronic diseases in Visegrad countries in 2009 (per 100 000 persons).



Source: Eurostat, 2009; authors' construction

From Figure 3 it is visible that the percentage of people reporting a chronic disease was the highest in Hungary (almost 5%). From Figure 4 it is visible, that death rate due to chronic diseases is the highest in Hungary (almost 258 people from 100 000 persons died on chronic disease in 2009). Another authors who describe mortality at older ages and health status of the elderly are e.g. Fiala, Miskolczi (2014), Langhamrová, Cséfalvaiová, Langhamrová (2014), or Šimpach (2012). Mental diseases are more precisely described in Bódi (2012).

The situation which occurs in Hungary about the development of specific mental disorders (dementia, Alzheimer's disease, Parkinson's disease), creates a space for deeper examination of the reasons why the reality in this country of the Visegrad Four group occurs and why is this situation less significant in the rest of the V4. The situation in Slovakia is interestingly discussed e.g. on server Alzheimer.sk (Alzheimer.sk, 2014). The differences that currently exist between Hungary and the other Visegrad countries may worse the health situation in Hungary to the future and therefore make the impact on the social system of this country.

Conclusion

Nervous system diseases, like Parkinson's disease, Alzheimer's disease, dementias, depressions and chronic illnesses, (such as diabetes, heart disease, cancer or stroke) represent the major

causes of death of adults in the world. In general, civilization diseases will represent leading illnesses in the 21st century (Cséfalvaiová, Langhamrová, Langhamrová, 2014, Alzheimer.sk, 2014). At present, there is no definite treatment and the costs of treatment are very high. In the future, treatment of mental disorders will be the key issue among ageing populations. It is difficult to diagnose and treat these illnesses, not to mention the part of financing. In our future research we would like to continue with the issue of the health status of the elderly, primary to focus on mental and neurocognitive disorders. We see challenges and opportunities for many areas of life and experts working in this field of research. It is important to study the mortality patterns of the adults and to understand the secret of surviving to 100, and under what circumstances (Anson, 2013).

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