Mortality determinants in Western Europe: what do the SHARE[1] data tell us?

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Extended abstract

ABSTRACT

There is a notable variation in the mortality levels across the countries of Western Europe. It is believed that the country-specific factors, such as behavioral patterns, dietary habits, availability of health care resources, etc. play a major role in magnifying the difference in health and mortality between populations as well as between sexes. Using the Survey of Health, Ageing and Retirement in Europe (SHARE) data, the present study aims at exploring mortality determinants among people aged 50 years and above in ten countries of Western Europe. In particular, it focuses on the role of health-related factors (limitations in activities, body mass index, disease duration, etc.) and other risk factors such as smoking and drinking in influencing variations in mortality levels. The Cox proportional hazard model is applied to estimate the relative risk of death between the first two waves of the survey. The results indicate that disease duration, hospitalization, smoking and drinking are the major factors explaining the cross-regional variations in mortality. The gender differences are determined by the presence of limitations in activities, hospitalization, smoking, and the self-rated state of health.

INTRODUCTION

Life expectancy in Western Europe has been growing steadily for the decades. Yet, there is notable divergence across the countries in terms of mortality levels and the pace of mortality reduction. For example, in 2005, life expectancy at birth in Switzerland was 81.5 years while in Denmark on average a person was expected to live 78.3 years. Between 1991 and 2005, the increase in life expectancy in Italy constituted 4.1 years versus 2.4 years in the Netherlands. Similarly, there is no uniformity in the trends and levels of life expectancy at more advanced ages. Life expectancy at age 50 increased by 3 years in Italy versus 2 years in the Netherlands. In 2005, life expectancy at age 50 ranged from 30.3 years in Denmark to 33.3 years in Switzerland (*Human Mortality Database*[3]*).*

Regarding the gender differences in mortality, in all European countries life expectancy at birth is higher for women than for men. In 2005, female life expectancy varied from 80.5 years in Denmark to 83.8 in Switzerland but for men it ranged between 75.9 years to 78.7, respectively. In the same year, life expectancy at age 50 was about 4-6 years higher for women than for men. Meanwhile, despite the fact that men live shorter compared to women, research suggests that women tend to suffer more from poor health, severe limitations and disability *(Nathanson, 1977; Verbrugge, 1989; Macintyre et.al, 1996; Arber*

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[3] Human Mortality Database (HMD): http://www.mortality.org/

and Cooper, 1999; Börsch-Supan et al., 2005; Case and Paxson, 2005; Austad, 2006). The data from the Eurostat On Line Database[4] demonstrate a considerable difference in the percentage of life expectancy men and women live without disability. For instance, in Austria in 2006 women were expected to spend 73.4% of their life without disability, but for men the number was slightly higher (75.6%). In the same year, the difference in the percentage of life without disability in Spain varied from 75% for women to 82% for men (Appendix 1).

Although the factors associated with changes in mortality levels and their divergence across regions and between sexes have been extensively investigated, they have still remained a subject of open debates for demographers, epidemiologists and sociologists. There is a number of excellent studies providing empirical evidence on causes of the divergence in mortality determinants within and across the European countries. In general, the cross-country divergence is likely to be linked to the different stages of demographic development and epidemiological transition that countries experience even through similar period of time (West-East difference). The country-specific factors such as behavioral patterns (smoking or drinking), dietary habits, availability and affordability of health care resources, etc. all act as the major contributors to the enlargement of the differences in health and mortality between populations in Europe *(Spijker J., 2004; Avendano and Mackenbach, 2008).* The impact of individual's socio-economic status (mainly measured as the level of education, type of occupation, income or a combination of them) on mortality is also well documented *(Mackenbach et al., 1997; Marmot et al., 1991; Hoffmann, 2005).* In addition to the above mentioned acquired risk factors the gender difference in mortality is frequently linked to the biological risks and reporting biases *(Verbrugge, 1985; Macintyre et al, 1996).*

The principal aim of this paper is to examine the association between health-related and socio-demographic factors on one side and mortality on the other. In particular, it has a three-fold research objective: 1) Investigating the impact of health-related factors on the risk of death; 2) Exploring determinants of mortality among western European men and women; 3) Providing additional evidence on mortality determinants and their variation among the adults living in the countries with different welfare state regimes.

DATA

The present study is based upon SHARE data, a multidisciplinary and cross-national panel database on health, socio-economic status, and social and family networks of more than 40,000 individuals aged 50 or over. The survey is based on a complex probabilistic multistage design in all participating countries, and represents the community based (non-institutionalized) population. For the details of study design, sampling strategies, and data description see in Börsch-Supan and Jürges (2005). To obtain nationally representative estimates, the individual sample weights are used to present sample statistics (the calibration approach is used to adjust the unit non-response rate) but not when applying Cox proportional hazard model.

Ten countries are considered in the analysis: Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden and Switzerland. The data are drawn from the second release of 2004 wave of the survey and the first release of the 2006 wave. The sample used for this study is restricted to only those individuals who participated in both waves (i.e. those respondents interviewed in the first wave, who return in the second wave or who died before the second wave) and who were at least 50 year old in 2004. All observations with incomplete information on censoring or dependent

[4] http://ec.europa.eu/health/ph_information/indicators/lifeyears_en.htm

variable are omitted. In total, about 16.4 thousands cases are used in the analysis, including 465 cases referring to deaths occurred between both waves of the survey.

There is a number of data limitations that are worth considering here. The first one is related to the sample selection and its representativeness, while the second is linked to the incompleteness of the data on the deceased individuals. Since the SHARE is mainly represented by the community-based population and for the most countries excludes the institutionalized people (who have substantially higher mortality rates), there is a possible selection bias towards more healthy participants. It might be particularly relevant for the northern and continental SHARE countries, which have higher density of nursing and elderly homes compared to the southern countries *(Andersen-Ranberg K. et al., 2008).* Keeping this selection bias in mind, the results of the survey might considerably underestimate mortality levels and thus, can not be fully consistent with the official mortality statistics.

In terms of incompleteness of the data on the participants who died between the two waves, some information is available even for those who lived alone before the death (from a relative, a neighbor or a friend). However, there is no identification on how biased the results of the survey are. According to Jürges (2008) more than 60% of the cases of deceased respondents are covered by the "end-of-life interviews". These interviews are mostly missing for the participants who lived as singles. In such situations when a member of the deceased's household could be contacted, 88% of cases were covered.

In addition to the above mentioned data limitations, a variation across countries in reporting, attrition and non-response rate might also affect the cross-country difference in the incidence of diseases, disability and death *(Avendano and Mackenbach, 2008).* For the first wave of the survey (2004) the individual response rate varied from 73.7% in Spain to 93% in Denmark (Appendix 2) while the household response rate ranged from about 39% in Switzerland and Belgium to 79% in France. The rate of participation declined over the two-year follow-up, leaving from only 51.3% of participants in Germany to 74.3% in Belgium. Since this study deals with mortality determinants, it is crucial to have a sample which adequately represents the oldest-old population. The participation rate of the oldest old (aged 80 years and above) at the follow-up constituted only 54%. Among those who left the survey, 12% died, 6% declined their participation in the second wave, and 28% were with unknown vital status *(Andersen-Ranberg K. et al., 2008).* The last group may consist of the oldest old who died, been hospitalized or moved. There is a great variation among countries; with 17% in Denmark to 44% in Germany *(Andersen-Ranberg K. et al., 2008)*. The proportion of the individuals aged 80 years and above in the total number of participants ranges from about 14% in Austria, the Netherlands and Switzerland to 20% in Spain.

METHOD AND VARIABLES

To estimate the relative risk of death among people aged 50 years and above, Cox proportional hazard model (Cox, 1972) is applied. The process time is the duration between the 50^{th} birthday and death or censoring; adjustments are made to specify time under observation for every subject. Cases are censored on the date of the second interview. The model is applied for the whole sample, each sex and welfare state regimes separately. The overall models fit as well as the assumption of proportionality are checked by applying Cox-Snell, scaled Schoenfeld residuals and test on interaction with time.

The dependent variable is the risk of death. The information on death of former respondents is obtained from the "end-of-life" interviews carried out by the proxies (relatives or friends).

The baseline individual's characteristics are used as the covariates (except age), among them, the following are chosen to estimate the impact of individual's health status on mortality risk:

Degree of limitations in activities. This variable is categorized to separate those who are: severely limited, limited but not severely and not limited in activities.

Self-perceived health (SPH). The variable is based on the European version of grouping and consists of four categories: very good, good, fair, and bad or very bad health.

Body Mass Index (BMI). The index is defined as the individual's weight in kilograms over the square of the height in meters. For the present analysis the index values are reclassified as recommended by the World Health Organization *(WHO, Global Database on Body Mass Index)* into four groups (underweight, normal weight, overweight and obese).

Presence of limitations with activities of daily living (ADL). A dummy variable with two categories: no limitations in activities and at least one limitation. Six activities are considered: dressing, including putting on shoes and socks; walking across a room; bathing or showering; eating, such as cutting up your food; getting in and out of bed and using the toilet, including getting up or down.

Similarly to the previous variable, the covariate for *the limitation with instrumental activities of daily living (IADL)* is constructed. Seven activities are considered: using a map to figure out how to get around in a strange place; preparing a hot meal; shopping for groceries; making telephone calls; taking medications; doing work around the house or garden and managing money, such as paying bills and keeping track of expenses.

Disease duration. The variable is constructed on the basis of the respondent's age when he/she first had a "heart attack", "stroke or another heart problem", and "cancer or malignant neoplasms". These three particular health conditions are selected as they represent the main causes of death (Appendix 3). In case of presence of multiple diseases (very common for old people), the condition occurred earlier is reffered as a main disease. Three categories are formed: no disease, sick for 0-10 years and sick for more than 10 years.

The variable *being in a hospital in the last 12 months* is simply dichotomized to separate those who spent some time in a hospital 12 months prior the survey and those who didn't stay in the hospital.

Two variables (*smoking and drinking*) are added to the model in order to estimate the impact of respondent's behavioral patterns on the risk of dying. *Drinking* is split into three categories which differentiate between "not drinking at all", "not drinking more than two glasses daily or 5-6 times a week" and "drinking more than two glasses 5-6 days a week or on the daily basis". *Smoking* defines the current status of a respondent and compares those who currently smoke, never smoked and stopped smoking.

The variables such as *age*, sex and *marital status* are also considered in the analysis. A*ge* is controlled using four groups: 50-60, 60-70, 70-80 and 80 yeas and above. *Marital status* is divided into three categories: "never married", "married and living with a partner", and "divorced, widowed or married but living separate from a spouse".

A variable *welfare state* is used to contrast the countries by the state of welfare regime. A revised Esping-Andersen's typology of welfare states is assumed *(Esping-Andersen, 1990; Ferrera, 1996; Bambra, 2007; Reimat, 2009)*; the countries are divided into three welfare state regimes: social insurance-based (Denmark and Sweden), market-based (Austria, Germany, Belgium, France, the Netherlands and Switzerland) and family-based (Italy and Spain).

Summary statistics for all independent variables is shown in appendix 4. The first part of the following discussion focuses on the exploration of the impact of health-related factors on the risk of death for the whole sample while the remaining two parts deal, respectively, with the analysis of gender and cross-regional determinants of mortality.

SELECTED RESULTS

The first part of the paper focuses on the exploration of the impact of health-related factors on the risk of death for the whole sample while the remaining two parts deal, respectively, with the analysis of gender and cross-regional determinants of mortality (tables 1-4).

Even though the mortality levels computed from the SHARE data might be underestimated at the country-level, this survey provides a wide collection of comparative information on health, socio-economic status and social networks of the Western European adults. The analysis of the associations between the health-related factors and mortality confirms the consistency with the findings from previous studies.

Regardless the type of applied models (cross-regional variations or gender difference), having limitations in activities, hospitalization, and smoking have considerable direct impact on the risk of death among the people aged at least 50 years.

Mixed finding emerged from the relationship between body mass index and drinking habit on one side and mortality risk on the other. It is found that at older ages the positive association between overweight and obese categories and the risk of death does not hold. At the same time, the results suggest that being an abstainer from alcohol does not minimize mortality risk. Meanwhile, being an alcohol abstainer might be already a consequence of bad health.

In terms of gender differences in the mortality determinants, the direction and magnitude of relative risks vary for men and women in accordance with the particular condition (limitation) taken into account. After adjusting for age, marital status and several health-related indicators, smoking is found to have the strongest impact on the risk of death for men, followed by hospitalization in 12-month period prior to the survey. In case of women, the presence of IADLs and the degree of limitation play the most significant role.

Self-perceived health is found to have statistically insignificant impact for women which might on one side be evidence of well-known self-reporting bias by women or on the other side be affected by the other potential confounders included in the model. Additional models applied in the present work illustrate that the choice of the covariates may noticeably change the magnitude and directions of the relative risks.

Regarding the welfare states, factors such as duration of a disease, hospitalization, smoking and drinking are found to influence differently the risk of death for the adults living in these three regions. The differences might be closely linked to the variation in reporting style and attrition.

Table 1. Cox proportional hazard risks of death

Variables	Hazard ratio	95% CI
Welfare state:		
Social insurance based	1.08	0.848-1.381
Market based	1	
Family based	1.29**	1.022-1.620
Number of limitations with activities of daily living:		
No limitations	1	
At least one limitation	1.44***	1.130-1.825
Number of limitations with instrumental activities of daily living:		
No limitations	1	
At least one limitation	1.83***	1.433-2.328
Degree of limitations in activities:		
Severely limited	1.54**	1.110-2.138
Limited but not severely	1.40**	1.062-1.841
Not limited	1	
Disease duration:		
No disease	1	
Sick for 0-10 years	1.53***	1.204-1.940
Sick for more than 10 years	1.48***	1.158-1.903
Staying in a hospital in the last 12 months:		
Yes	1.44***	1.168-1.770
No	1	
Self-perceived health:		
Very good	0.42***	0.233-0.746
Good	1	
Fair	1.32**	1.013-1.713
Bad or very bad	1.75***	1.271-5.420
Body mass index		
Underweight	1.30	0.805-2.107
Normal weight	1	
Overweight	0.71***	0.574-0.882
Obese	0.65***	0.485-0.860
Current smoker		
Yes	1.85***	1.403-2.438
No, never smoked	1	
Stopped smoking	1.40***	1.108-1.770
Drinking habit		
Not drinking at all	1	
Not drinking more than 2 glasses daily or 5-6 a week	0.66***	0.529-0.816
Drinking more than 2 glasses 5-6 days a week or every day	0.67**	0.492-0.923

*Notes: Confounders are also controlled for age, marital status and gender. Flag variables for missing information were added to the regression. P<0.01 ***; 0.01<p<0.05 **; 0.05<p<0.10*. Number of subjects=16401; Number of deaths= 465; Time at risk= 450377. Log likelihood=-3962.9; LR chi^2 (degrees of freedom)= 911.9 (27); Prob> chi^2=0.000.*

Source: author's calculations from the SHARE, 2004, 2006

Table 2. Cox proportional hazard risks of death by sex

Variables	Men		Women	
Body mass index				
Underweight	0.39**	(0.19-0.82)	1.75*	(0.98-3.15)
Normal weight	1		1	
Overweight	1.93***	(1.37-2.71)	0.94	(0.67-1.32)
Obese	2.70***	(1.74-4.18)	0.77	(0.50-1.17)
Current smoker				
Yes	2.04***	(1.41-2.96)	1.63**	(1.05-2.53)
No, never smoked	1		1	
Stopped smoking	1.55***	(1.14-2.10)	1.41	(0.93-2.14)
Drinking habit				
Not drinking at all	1		1	
Not drinking more than 2 glasses daily or 5-6 a week	0.64***	(0.48-0.86)	0.61***	(0.44-0.83)
Drinking more than 2 glasses 5-6 days a week or every day	0.66**	(0.46-0.94)	0.64	(0.31-1.34)
Self-perceived health:				
Very good	0.39**	(0.19-0.82)	0.47	(0.19-1.20)
Good	1		1	
Fair	1.92***	(1.37-2.71)	0.81	(0.54-1.21)
Bad or very bad	2.69***	(1.74-4.18)	1.16	(0.74-1.81)
Number of limitations with activities of daily living:				
No limitations	1		1	
At least one limitation	1.23	(0.87-1.74)	1.74**	(1.245-2.44)
Number of limitations with instrumental activities of daily living:				
No limitations	1		1	
At least one limitation	1.69***	(1.22-2.36)	2.14***	(1.489-3.10)
Degree of limitations in activities:				
Severely limited	1.05	(0.68-1.61)	2.22***	(1.33-3.71)
Limited but not severely	1.16	(0.83-1.64)	1.85***	(1.17-2.93)
Not limited	1		1	
Disease duration:				
No disease	1		1	
Sick for 0-10 years	1.46**	(1.06-2.01)	1.62***	(1.14-2.32)
Sick for more than 10 years	1.47**	(1.05-2.04)	1.35	(0.93-1.96)
Staying in a hospital in the last 12 months:				
Yes	1.84***	(1.39-2.42)	1.02	(0.73-1.41)
No	1		1	
Number of subjects	7476		8925	
Number of deaths	256		209	
Time at risk	204656		245721	
Log likelihood	-2015.3		-1610.0	
LR chi^2 (26 degrees of freedom)	436.2		495.2	
Prob> chi^2	0.000		0.000	

*Notes: Controlled for age and marital status. The impact of the welfare states is found to be statistically insignificant and dropped from the analysis. Flag variables for missing information were added to the regression. P<0.01 ***; 0.01<p<0.05 **; 0.05<p<0.10**.*
Source: author's calculations from the SHARE, 2004, 2006

Table 3. Cox proportional hazard risks of death by sex

Variables	Model 1		Model 2		Model 3		Model 4		Model5	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Body mass index										
Underweight	1.11 (0.51)	2.23*** (0.66)	0.91 (0.42)	1.75* (0.52)	1.04 (0.48)	1.78* (0.53)	0.99 (0.46)	2.15*** (0.63)	0.93 (0.43)	1.76* (0.53)
Normal weight	1	1	1	1	1	1	1	1	1	1
Overweight	0.56*** (0.08)	0.99 (0.17)	0.56*** (0.08)	0.97 (0.17)	0.57*** (0.08)	0.98 (0.17)	0.57*** (0.08)	0.96 (0.16)	0.58*** (0.08)	0.95 (0.16)
Obese	0.56*** (0.11)	0.89 (0.19)	0.56*** (0.11)	0.78 (0.17)	0.63** (0.13)	0.82 (0.18)	0.57*** (0.11)	0.84 (0.18)	0.59*** (0.12)	0.78 (0.17)
Current smoker										
Yes	1.98*** (0.37)	1.66** (0.37)	1.98*** (0.37)	1.65** (0.37)	2.10*** (0.39)	1.66** (0.37)	2.05*** (0.40)	1.61** (0.36)	2.11*** (0.40)	1.67** (0.38)
No, never smoked	1	1	1	1	1	1	1	1	1	1
Stopped smoking	1.60*** (0.25)	1.46* (0.31)	1.60*** (0.25)	1.49* (0.31)	1.71*** (0.27)	1.44* (0.30)	1.56*** (0.24)	1.36 (0.29)	1.56*** (0.24)	1.40 (0.30)
Drinking habit										
Not drinking at all	1	1	1	1	1	1	1	1	1	1
Not drinking more than 2 glasses daily or 5-6 a week	0.58*** (0.08)	0.58*** (0.09)	0.62*** (0.09)	0.63*** (0.10)	0.51*** (0.08)	0.58*** (0.09)	0.60*** (0.09)	0.56*** (0.09)	0.58*** (0.09)	0.59*** (0.09)
Drinking more than 2 glasses 5-6 days a week	0.58*** (0.11)	0.58 (0.22)	0.62*** (0.11)	0.60 (0.22)	0.53*** (0.10)	0.53* (0.20)	0.61*** (0.11)	0.61 (0.23)	0.61*** (0.11)	0.61 (0.23)
Self-perceived health:										
Very good	0.34*** (0.13)	0.35** (0.17)	0.35*** (0.13)	0.40* (0.19)			0.39** (0.15)	0.44* (0.21)		
Good	1	1	1	1			1	1		
Fair	2.48*** (0.40)	1.37* (0.26)	2.23*** (0.37)	1.03 (0.20)			2.03*** (0.35)	0.90 (0.18)		
Bad or very bad	4.87*** (0.87)	3.39*** (0.65)	3.47*** (0.69)	1.71** (0.36)			3.25*** (0.70)	1.62** (0.36)		
Limitations with ADLs:										
No limitations			1	1	1	1			1	1
At least one limitation			1.23 (0.22)	1.91*** (0.33)	1.63*** (0.29)	2.21*** (0.37)			1.35* (0.24)	1.83*** (0.31)
Limitations with IADLs:										
No limitations			1	1	1	1			1	1
At least one limitation			1.77*** (0.29)	2.48*** (0.46)	2.56*** (0.42)	2.93*** (0.53)			1.93*** (0.33)	2.21*** (0.41)
Disease duration:										
No disease							1	1	1	1
Sick for 0-10 years							1.45** (0.24)	1.67*** (0.30)	1.60*** (0.26)	1.65*** (0.30)
Sick for more than 10 years							1.47** (0.25)	1.39* (0.27)	1.65*** (0.28)	1.40* (0.26)
Staying in a hospital in the last 12 months:										
Yes							1.82*** (0.26)	1.11 (0.18)	1.87*** (0.26)	1.02 (0.17)
No							1	1	1	1
Degree of limitations in activities:										
Severely limited							1.29 (0.27)	3.28*** (0.82)	1.85*** (0.37)	2.46*** (0.59)
Limited but not severely							1.23 (0.22)	2.20*** (0.50)	1.68*** (0.28)	1.93*** (0.43)
Not limited							1	1	1	1

Notes: All models are controlled for age and marital status. Flag variables for missing information were added to the regression. Figures in parentheses are standard errors.
*P<0.01 ***; 0.01<p<0.05 **; 0.05<p<0.10*.*
Source: author's calculations from the SHARE, 2004, 2006

Table 4. Cox proportional hazard risks of death in three welfare state regimes

Variables	Social-insurance based		Market based		Family based	
Number of limitations with activities of daily living:						
No limitations	1		1		1	
At least one limitation	1.30	(0.35)	1.79***	(0.32)	1.14	(0.26)
Number of limitations with instrumental activities of daily living:						
No limitations	1		1		1	
At least one limitation	1.73**	(0.46)	1.73***	(0.31)	2.19***	(0.50)
Degree of limitations in activities:						
Severely limited	2.06*	(0.78)	1.50*	(0.34)	1.99**	(0.68)
Limited but not severely	2.10**	(0.65)	1.16	(0.23)	1.91**	(0.53)
Not limited	1		1		1	
Disease duration:						
No disease	1		1		1	
Sick for 0-10 years	1.26	(0.35)	1.90***	(0.33)	1.32	(0.30)
Sick for more than 10 years	1.46	(0.40)	1.89***	(0.34)	1.20	(0.30)
Staying in a hospital in the last 12 months:						
Yes	1.94***	(0.44)	1.35**	(0.21)	1.38	(0.27)
No	1		1		1	
Self-perceived health:						
Very good or good	1		1		1	
Fair	1.51	(0.41)	1.30	(0.25)	1.75*	(0.51)
Bad or very bad	2.30**	(0.78)	1.45	(0.35)	2.37***	(0.78)
Body mass index:						
Underweight	0.39	(0.29)	2.10**	(0.64)	1.54	(0.84)
Normal weight	1		1		1	
Overweight	0.70	(0.17)	0.63***	(0.10)	0.99	(0.21)
Obese	0.44**	(0.18)	0.81	(0.16)	0.57**	(0.15)
Current smoker:						
Yes	1.91**	(0.55)	1.91***	(0.38)	1.73*	(0.54)
No, never smoked	1		1		1	
Stopped smoking	1.61*	(0.41)	1.06	(0.18)	2.00***	(0.49)
Drinking habit						
Not drinking at all	1		1		1	
Not drinking more than 2 glasses daily or 5-6 a week	0.97	(0.25)	0.62***	(0.10)	0.52***	(0.12)
Drinking more than 2 glasses 5-6 days a week or every day	1.15	(0.46)	0.64*	(0.15)	0.58*	(0.16)
Number of subjects	3248		9948		3205	
Number of deaths	101		224		140	
Time at risk	92792		261847		95738	
Log likelihood	-685.4		-1810.6		-963.4	
LR chi^2 (24 degrees of freedom)	224.0		414.7		299.4	
Prob> chi^2	0.000		0.000		0.000	

*Notes: All models are controlled for age, gender and marital status. As the number of cases for some categories on SPH is small, it is reclassified into three categories: "very good or good", "fair" and "bad or very bad". Flag variables for missing information were added to the regression. Figures in parentheses are standard errors. P<0.01 ***; 0.01<p<0.05 **; 0.05<p<0.10*.*

Source: author's calculations from the SHARE, 2004, 2006

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