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## Health status of seniors in Europe and possible trends of its development

As early as in the year 1970 Johann Peter Frank, a reformist in health care during the Age of Enlightenment Absolutism, has rendered his "Academic speech on people's poverty as the cause of diseases" ("Oratio academica de populorum miseria morborum genetricae") in Pavia.

The relations between health status and social problems and their impact on the poverty became again the topic of current concern as late as in the second half of the 20-ieth century. Numerous epidemiologi-

cal studies disclosed all the indicators of health disorder having a sensitive reaction to the social sphere phenomena.

The relation between disease, mortality rate and poverty exists in all the countries whether developing or developed. In the year 1982, a unique multifactorial risk interventional experiment (MR - FIT) was conducted in the USA, in which more than 300 000 men participated. They were divided into 2 groups according to their income. The lower the income the higher the standardized mortality rate. The mortality rate in the group with the lowest income was twice higher than in the group of the richest (81 and 41 per 10 000, respectively).

The level of social relations significantly affects physical and mental health. Economic poverty as a stress factor affects life expectancy not only by high infant mortality rate, qualitative or quantitative analysis, infectious diseases, such as re-emergence of tuberculosis or diarrhoea in children, but by stress caused by the lack of freedom, social insecurity and fear from the future, as well.

Stress related to social relations affects also economically strong groups of society and manifests by work-related high exertion and competitive environment connected with constant fear for existence.

The decrease of adjustment abilities

Health Determinants Health	Share on health status of the population
Level of health care	15 - 20 %
Genetic predispositions of the population	10 - 15 %
Environment	20 - 30 %
Life style of inhabitants - Social determinants of health	50 - 60 %

Social determinants of health	
Individual	Social
Poverty	Social gradient - international - intrastate
Education	Unemployment
Employment	Social support
Way of living	Addictions
Structure of food	International relations
Stress	Quality of health care
Individual ethnic profile	Transport
Migration	Vulnerable groups
Sufficient rest after work	Criminal delicts
Social isolation	Work conditions
Habitation	Gender inequality
Family	

Morbidity	Mortality
Ischemic heart disease	Ischemic heart disease
Falls and accidents	Cerebrovascular disease
Cerebrovascular disease	Obstruction pulmonary disease
Depression	Pneumonia and flu
Cancer	Lung cancer
Dementia	Colorectal carcinoma
	Falls and accidents

Prevalence of chronic diseases in senior population of the USA in the year 2002 v %			
Disease	65+	65-74	75+
Hypertension	50,3	49,6	51,8
Arthritis	47,5	44,9	51,2
Chronic articular symptoms	40,9	39,5	43,3
Hearing impairments	37,1	29,7	
Cancer	21,6	14,5	46,0
Ischemic heart disease	21,2	18,7	24,5

UZIS, 2007

Selected demographic and economic indicators					
Country	Year	Gross national produktion v \$ / 1 inhabitant	Total expenses an health care in \$ / 1 inhabitant	Life expectancy Life expectancy men	Life ex pectancy Life expectancy women
Luxembourg	2005	70 600	5 352	77,0	82,2
Ireland	2005	39 019	2 926	77,3	81,8
Austria	2005	34 394	3 519	76,8	82,4
Germany	2005	30 776	3 287	76,6	82,0
CR	2005	20 633	1 479	73,0	79,3
Hungary	2005	17 484	1 337	68,8	77,2
SR	2005	15 983	1 137	70,4	78,2
Poland	2005	13 915	867	70,8	79,4

UZIS, 2007

Current and expected population in USA 1940-2040					
Year	Overall population in thousands	Population 65+	% of the total population 65+	Population 85+	% of the total population 85+
1940	132,122	9,031	6,8	370	4,1
1960	179,323	16,560	9,2	929	5,6
1980	226,546	25,550	11,3	2,240	8,8
2000	281,422	34,992	12,4	4,240	12,1
2020	335,805	54,632	16,3	7,269	13,3
2040	391,946	80,049	20,4	15,409	19,2

UZIS, 2007

associated with health and social risks serve as the model of interlinking of health and social issues, mainly in seniors.

The generally accepted WHO definition of health automatically characterizes the health of seniors because it does not exclude the presence of disease but emphasizes the ability to cope with this disease. The health status of the population is significantly affected by the health determi-

nants:

Social determinants of health belongs to the most important significant factors:

The main causes of morbidity in people over 65 years include:

Unfavourable health state of population can be well demonstrated on the development of life expectancy, specific mortality and the most frequent causes of death. The health situation of the European states shows the effect of the amount

Selected economic and health indicators 1					
Country	Year	Gross National product v \$ / 1 inhabitant	Total expenses on health care in \$ / 1 inhabitant	Malignant tumours / 100 000 M	Cardiovascular and circulatory diseases /100 000 M
Luxembourg	2005	70 600	5 352	216,2	271,6
Ireland	2005	39 019	2 926	213,4	277,3
Austria	2005	34 394	3 519	215,7	287,3
Germany	2005	30 776	3 287	219,3	315,2
CR	2005	20 633	1 479	294,6	508,1
Hungary	2005	17 484	1 337	330,8	643,9
SR	2005	15 983	1 137	294,3	629,3
Poland	2005	13 915	867	296,0	492,8

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Selected economic and health indicators 2					
Country	Year	Gross National product v \$ / 1 inhabitant	Total expenses on health care in \$ / 1 inhabitant	Malignant tumours / 100 000 W	Cardiovascular and circulatory diseases /100 000 W
Luxembourg	2005	70 600	5 352	123,2	191,4
Ireland	2005	39 019	2 926	159,1	168,3
Austria	2005	34 394	3 519	132,5	203,0
Germany	2005	30 776	3 287	135,4	218,6
CR	2005	20 633	1 479	164,8	351,1
Hungary	2005	17 484	1 337	172,7	401,4
SR	2005	15 983	1 137	143,8	409,7
Poland	2005	13 915	867	155,5	304,1

UZIS, 2007

of Gross National Product and total health care expenses spent on health sta-

human age will prolong in average by 5 - 7 years. The management of hypertension and diabetes markedly reduces cardio-

Standardized mortality rate according to the causes of deaths and genders							Men / Women
Country	Year	Malignant tumours	Cardiovascular diseases	Respiratory system diseases	Digestive system diseases	External causes	
EÚ	2005	242,8/136,5	341,0/224,2	67,4/33,5	44,4/24,6	64,6/22,8	

UZIS, 2007

tus of the population.

Similar situation is being expected in the United States of America:

As regards the development of health status of senior population in the 21st century some phenomena are predictable. If we could eliminate cancer and effectively prevent the onset of atherosclerosis in the following decades of the 21st century, the

vascular mortality. Epidemiology, prevention and therapy of Alzheimer disease and of various dementias are difficult to predict.. The opinions of numerous geriatricians state that this area of problems will dominate the health problems of seniors in this century.

Major threats for health of seniors will involve dementia, depression and suicides, malignant tumours, cardiovascular

diseases, osteoporosis, incontinence and falls.

The growing number of seniors with chronic and incurable diseases that do not directly lead to death but require long-term care, rehabilitation and institutional care will undoubtedly pose a major problem that will influence the roles of geriatrics in the 21st century.

- Prophylaxis of ageing,
- Early diagnostics of elderly at risk of premature ageing,
- primary geriatric rehabilitation and secondary rehabilitation of chronically ill,
- possibility of providing long-term care and terminal care.

These tasks are mainly of organizational character and are well manageable in developed societies.

However, they are closely related not only to economic hardships but also to moral issues, such as content and character of terminal care, ethical problems, e.g. euthanasia.

Today we cannot foresee whether the situation in the 21st century will be ready for the implementation of "favourable old age" in contrast with "normal ageing" characteristic of the 20th century.

I would like to conclude the recognition of social determinants of health and

the efforts to provide sustainable development of health care will necessitate more prevention in health care and solution of social problems of inhabitants.

The above knowledge shows that in the current system of health care and the current health status of the population, well developed countries will also face the problems of financing their health care.

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## Biliary ileus – disease of old age

M. Oravský, B. Vichová, M. Schnorrer

### Summary

Biliary ileus as a rare complication of cholecystolithiasis is the disease of old age. In their paper the authors submit their experiences with the diagnostics and treatment of biliary ileus in elderly patients. They emphasize the significance of CT examination in early diagnostics and indication for surgical management.

*Key words: Biliary ileus - CT diagnostics*

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## Hyperglycemic hyperosmolality syndrome in seniors – our own results

M. Babčák, F. Németh, J. Fedačko

### Summary

Our paper focused on the acute complications of diabetes mellitus mainly on hyperosmolality syndrome (HHS) in seniors. The mathematic analysis was conducted in 52 patients: 14 men and 38 women. 14 patients were admitted for HHS, 2 patients were admitted for diabetic ketoacidosis (DKA) and 6 patients for hypoglycemic coma. In 7 cases of HHS bronchopneumonia was present, in 6 cases urosepsis and in 1 case the cause of HHS remained unknown.

Of this number 4 patients died of HHS. The cause of death was heart failure in two cases, thromboembolic disease in one case and malignant rhythm disorder in one case. Medical literature reports 10 % - 50 % mortality depending on the complications.

The area of problems of HHS in seniors is still of current concern as in this age the probability of glucose tolerance disorders is statistically increasing, whereas diabetes mellitus manifestations are less pronounced and may go unnoticed. In the majority of cases seniors come to the hospital late and accordingly the treatment is costly and time demanding.

*Key words: diabetes mellitus - seniors - mortality - hyperglycemia - hyperosmolality syndrome*

# The risk indices as a mechanism of solidarity in public health insurance – the analysis of evaluation in age group over 65 years of age

V. Švihrová, E. Kováč, T. Baška

## Summary

The authors of the article analyzed a decade during which the cost risk indices were applied to redistribution mechanism of the health care insurance in Slovak Republic in age group over 65 years of age, whose insurance fees are covered by the state. The conclusions of the analysis yield significant gradual increase in cost risk index in year 2008 as compared to the year of 1999 for women in the age group over 65 years of age and for men in the age group over 60 years of age. The analysis also revealed the increase in financial package provided for health care delivery in these age groups of patients.

*Key words:* health insurance – geriatrics – risk index – solidarity

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## Way of life of students of the 3rd Age University

H. Zavázalová, V. Zaremba, K. Zikmundová

## Summary

Gerontologists recommend for seniors various forms of activities as an appropriate tool to prevent isolation, the feeling of loneliness and uselessness. Activity delays old age, contributes to the quality of life and seniors' expectations and satisfaction. Suitable senior activities embrace lifelong education which can be achieved in Third Age Universities offering various forms of activities.

Medical Faculty of Charles University in Plzeň has been participating in the process of education at 3rd Age Universities for 20 years and by now has been attended by 120 students – seniors. The provided activities offer a wide spectrum of activities other than education or re-qualification. It should be mentioned that the students are mostly women with high school education. They learnt about the study possibilities from their friends, relatives or from media. The participation in lifelong study extends and expands their knowledge on the one hand, and keep them in contact with their colleagues and contemporaries, on the other hand. The participants are mostly healthy seniors leading active social life, good family life (they care for their grandchildren), they visit various cultural events, courses and are well informed about their health status (health awareness).

*Key words:* old age – 3rd Age University – feeling of happiness – worries – health status

## Falls in old age

Š. Krajčík

### Summary

Falls pose a common and major health problem. In elderly people they are caused by numerous factors and therefore their prevention can be effective only with multiple factor involvement. The most frequent causes include weakness of thigh muscles, balance disorders, sight and drug disorders. Muscle weakness can be caused by vitamin D deficiency whose administration decreases number of falls. The treatment of orthostatic hypotension, adjustment of pharmacotherapy, adjustment of life style, carrying aids and changes in the immediate surroundings are of great importance.

**Key words:** falls - risk factors - balance disorders - muscle weakness - vitamin D - alphacalcidol - orthostatic hypotension - osteoporosis

# Dissection of ascending aortic aneurysm - cause of cardiac tamponade

J. Šlapák, P. Weber, P. Ambrošová, H. Kubešová

## Summary

The authors describe a case of aneurysm of ascending aorta in a 76-year old woman which caused cardiac tamponade leading to rapid death of the patient. The authors discuss the diagnostics and modes of treatment of dissecting aortic aneurysm pointing at their own observation of dissecting ascending aorta resulting in cardiac tamponade. In authors' opinion this case is unusual and interesting for clinical practice, since aneurysm manifested by atypical symptoms that did not correspond to the established diagnosis. The authors stress that this diagnosis should be considered even in those cases when a relatively non-typical chest pain appears.

**Key words:** *ascending aortic aneurysm - dissection - clinical picture - diagnostics - treatment*