Psychosocial determinants of cardiovascular disease (CVD) and aging. Prospective study of a cohort of men and women at age 60-84 years

Population aging is a global problem, which increasingly affects Central and Eastern Europe, including Poland. The Polish Central Statistical Agency forecasted continuous increase of the size of population at age over 65 years and an increase of the share of this part of the population. The proportion of Poles aged 65 years and older is expected to increase to over 30% in 2050; of these, about one third with be aged 80 years and over. There are important regional and social inequalities in health indicators including life expectancy, and available evidence suggests that such inequalities are not fully explained by differences in access to modern treatment methods or by the differences in exposure to other factors like classic cardiovascular disease (CVD) risk factors. The coincidence of the increase in life expectancy in Poland and other Central and Eastern European countries with the profound political, social and economic changes in this region is striking. Recent studies in Poland confirmed that the strength of the association between the psychological traits (reflecting chronic psychosocial stress) and the risk of death from CVD is similar as that observed for classic CVD risk factors, such as smoking, hypercholesterolemia and hypertension. Given these observations, and given the close association between CVD and physical and cognitive functions of older persons, we propose a comprehensive longitudinal study to assess the biological and psycho-socio-economic determinants of healthy aging with a particular focus on interactions with chronic diseases and CVD in particular.

The proposed project has the overarching aim to investigate the biological and psycho-social determinants of cardiovascular disease (CVD) and patterns of aging in well-defined Polish population.

We hypothesise that the age-related decline in neurocognitive and physical functions is faster in lower socio-economic groups, and that social differences in aging trajectories (changes in health and functioning domains that occur with age) are at least partly explained by psycho-social factors, health behaviours, and biomarkers of metabolic dysregulation. We will also investigate the contribution of chronic conditions (comorbidity).

Brain is situated in the central position of the model linking social environment with health. To affect the health of an individual, own socioeconomic status has to be recognized, converted into chronic psychosocial stress that affects systems and organs and finally leads to chronic metabolic disturbances and development of a disease.

The general goal is to study interaction between chronic diseases, CVD in particular and psycho-socio-economic factors which are related to the decrease of physical and cognitive function and to shortening of healthy aging.

The proposed longitudinal, prospective study will be established by collecting new data on participants of an existing study of over 7000 men and women who were examined in 2002-2005. This approach will allow assessment of healthy aging trajectories over approximately 15 years in a large sample of elderly men and women.. The proposed new data collection will use standardized methodology, including computer assisted interview and objective examination, covering socio-demographic data, health, psychosocial factors, health behaviours, mental health, quality of life, blood pressure, anthropometry, lung function, arterial stiffness and collection of blood sample for the assessment of biomarkers.

The evidence base about aging-related health outcomes in Poland is limited, not least because of the lack of longitudinal aging studies. By filling this evidence gap, the proposed project will have a major impact on the area of CVD, neuropsychology and healthy aging research. We expect that besides od the psycho-scio-economic determinants this project will indicate biological factors related to healthy or unhealthy aging. The challenge is building the multidimensional model of healthy aging. Such knowledge is crucial for designing health system and social care strategies that aim to preserve cognitive and physical function and to improve healthy life expectancy, life-satisfaction and quality of life of old people.