

## PREFACE

The population of people living in our planet is getting older and older. It is estimated that within the next 25 years the total number of elderly people (over 60 years old) will grow from 605 million in 2000 to 1.2 billion in 2025. Today, in many developed countries there are more 60-year old and older people than children below 15. So the proportion of the number of the elderly in the population is changing rapidly. It is expected also that in some large developing countries such as Brazil, China or Nigeria the number of people over 60 will double in the next 25 years.

People not only want to live longer, but they also want to maintain independence and good quality of life until a very old age. Many scientific studies have been focused on prevention of premature, functional insufficiency and lowering of occurrence of diseases as well as increasing life expectancy and improvement of life quality. The research is being carried out, among other things, on the effect of physical activity in reducing heart diseases, obesity, hypertension, diabetes, osteoporosis, depression, falls and various injuries. Physical activity which improves muscular strength and endurance may have exceptional significance in case of older people with various limitations of their fitness. Research carried out in the USA in Centre for Disease Control (CDC) indicates that each dollar invested in physical activity (time + equipment) saves 3.20 dollars which would be paid for medical care. In the CDC declaration it was accepted that "a sedentary lifestyle is hazardous to your health". In 1999, the International Year of the Elderly, the world Health Organisation (WHO) propagated a global initiative of presenting the benefits of walking for the elderly.

The latest scientific works draw our attention to an exceptional role in reducing risk factors and increasing chances for longer life through: (1) food restriction (undernutrition), (2) general activity level and (3) physical exercise programmes. The most significant issue discussed was the analysis of significance of physical activity in order to improve at least some of the detailed indicators of health, fitness, physical function and quality of life. It is estimated that if the society was physically active, the number of premature deaths could be lowered by 25-33%. Lowered physical activity of the elderly is thought to be a factor as dangerous as hypertension, smoking tobacco, obesity or increased level of cholesterol. Researchers show that limited physical activity is an independent risk factor of premature death rate.

The following social justification for increasing physical activity has been indicated:

- Reducing the costs of health and social care. Lack of physical activity and sedentary life decrease

independence and cause many chronic diseases. Active lifestyle may help in delaying the occurrence of physical weakness and diseases, significantly reducing the costs of health and social care.

- Increasing capacity to work of people of advanced age. Elderly persons may greatly contribute to social life. Physically active life helps the elderly maintain functional independence and optimises the level in which they are actively capable of participating in society.
- Promoting positive and active image of elderly persons. The society which is in favour of active lifestyle of the elderly may better benefit from wealth of experiences and knowledge of elder members of the society (World Health Organisation).

With the tendency of life expectancy to increase, a growth in economic level and growing social aspiration, also the needs for the development of scientific research on the role of physical activity among the elderly are growing.

In scientific research many basic questions relating to the impact of physical exercise on quality and length of life remain unanswered. The questions relate to type, intensity and volume and individual differences in effective physical activity that is also optimal from the point of view of health needs.

The International Scientific Conference "Aging and Physical Activity: Application to Fitness, Sport and Health" was held in Rydzyna (near Leszno, Poland) on 15-17 of September 2006. Simultaneously, 14<sup>th</sup> Conference "Physical Education and Sport in Scientific Researches" took place. Almost one hundred of scientists from ten countries participated in the Conference.

This supplement includes scientific reports presented during the Conference. Part I contains the materials connected to issue "Aging and Physical Activity". Six articles of keynote speakers are followed by selected reports of participants arranged in alphabetical order. Part II contains selected materials of the 14<sup>th</sup> Conference "Physical Education and Sport in Scientific Research".

Papers presented at the Conference have been selected for this publication at the discretion of reviewers appointed exclusively by editors of "Studies in Physical Culture and Tourism".

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