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## Original research article

# Regular physical activity amongst Czech and Slovak older adults – A pilot study



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## ABSTRACT

Regular physical activity improves both the physical and mental health of the elderly, enhances their independence and has a positive effect on their quality of life. The aim of this pilot study was to ascertain basic information about regular physical activities amongst the Czech and Slovak elderly population. A quantitative method was used: a cross-sectional study and an ad hoc non-standardised structured questionnaire with Likert scales. The sample consisted of 112 respondents aged 60 and older; 42.90% of the elderly stated they are involved in a regular physical activity. A relation between sports at a younger age and an involvement in a regular physical activity at an older age was confirmed ( $p = 0.012$ ). 28.10% of the respondents indicated that the limiting factor for a regular physical activity was their “health status”. There was a correlation between the subjective satisfaction with one’s physical fitness amongst the elderly and their regular physical activity ( $p < 0.0001$ ). Obesity was regarded as a risk factor with insufficient physical activity by 36.60%, but the relationship between the BMI values in the elderly and their involvement in a regular physical activity was not confirmed ( $p = 0.684$ ).

The pilot study suggests that Czech and Slovak elderly have deficiencies in the area of regular physical activity. They also lack sufficient information about suitable activities and programmes supporting regular physical exercise for the elderly in their vicinity. The results serve as the basis for future qualitative-quantitative research.

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## Introduction

In developed countries, the proportion of inhabitants reaching an advanced age is increasing and population ageing has become a worldwide concern [1,2]. In 2012, the “65+” category comprised 16.5% of the Czech population and 13.1% of the

Slovak population. The rapid ageing of society in both countries is caused by lower birth rate and longer life expectancy. Longevity is enhanced by improving health, the quality of life and the level of general population health care [3,4].

An active ageing process means to age with good health and to be independent in everyday life. A major contributing factor is regular physical exercise, which positively affects the

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ageing process [5,6]. Physical activity, amongst older adults, plays an important role in the prevention of diseases, in maintaining independence and improving the quality of life [7,8]. It was scientifically proven that 15-min of daily exercise of medium intensity or a 90-min exercise weekly, reduces the risk of mortality for any reason among older adults [9]. The WHO recommends adults aged “65+” to have at least 150 min of a medium-intensity, aerobic physical activity per week. The physical exercise should include leisure time activities, walking, cycling, house work, activities in daily, family, or community activities [10].

Regular exercise also has a positive effect on physical and mental health, and reduces the development and progression of chronic diseases [11,12]. Factors negatively affecting physical exercise in older adults are sedentary lifestyle, fear of injury, the absence of social support (partner, community), knowledge deficit about suitable physical activities, poor health and lack of opportunity for a physical exercise [13–15].

The aim of the pilot study was to gather basic information on regular physical activities amongst Czech and Slovak older adults. Another aim was to survey their opinions and about regular physical activities, subjectively perceived satisfaction with one's physical fitness and limiting factors preventing the physical activity.

## Material and methods

Older adults aged “60+” from Olomouc (CZ) and Trenčín (SK) took part in the pilot study. The data was collected using a quantitative cross-sectional survey, an *ad hoc* structured non-standardised questionnaire in both the Czech and Slovak languages. The questionnaire included 18 items divided into four areas. When defining the questions, we followed the WHO guidelines for physical activities and adults aged 65+. The first part of the questionnaire was focused on gathering basic information about current regular physical activity of the individual adult, the second dealt with the person's knowledge related to physical activity. The third part

consisted of questions with Likert scales focusing on the subjective opinion of the elderly adult related to her/his physical activity. The final section consisted of a batch of socio-demographic data. The consistency was tested in pre-research, which involved 20 elderly adults from Olomouc (Cronbach's alpha = 0.90). The tool's content validity is based on the WHO guidelines for physical activity and elderly adults. The pilot study was conducted in 2012 using a random selection, where the inclusion criteria were those aged “60+” and consented to participation in the research. Exclusion criteria included an obvious movement impairment in the elderly adult. The administrators approached 200 elderly adults on weekends at central squares in Olomouc (CZ) and Trenčín (SK) and then asked them to complete the questionnaire. 112 adults agreed to take part in the survey (55 in Olomouc and 57 in Trenčín), and the administrators completed the questionnaire with them. To process the results, descriptive statistics was used, the Shapiro–Wilk test of normality and the Mann–Whitney non-parametric test. The statistical significance was assessed using Fisher's exact test. The statistical processing was performed by employing the SPSS statistical software, version 15. Hypotheses were tested on a significance level  $p = 0.05$ .

## Results

### Demographic characteristics of the sample

The sample comprised of 112 older adults (100%), out of which 46.40% were men and 53.60% women. 56.30% lived with a family or a partner. The differences in these categories between Olomouc and Trenčín were minimal. To compare the categories *age*, *height*, *weight*, *waist circumference*, *hip circumference*, *waist to hip ratio (WHR)* and *BMI*, we used the Shapiro–Wilk test of normality and Mann–Whitney non-parametric test. There were no statistically significant differences ( $p > 0.05$ ) between the elderly in Olomouc and Trenčín. Table 1 shows the quantitative characteristics of the sample.

**Table 1 – Quantitative characteristics of the sample.**

	Age	Height (cm)	Waist circumference (cm)	Hip circumference (cm)	WHR index	Weight (kg)	BMI
<b>Trenčín (n = 57)</b>							
Min.–max.	60–90	145–190	57–122	68–113	0.73–1.12	42–118	18.40–36.40
Median	70	168	81.00	99.00	0.8542	70	26.667
Average	71.40	166.19	82.84	95.09	0.8680	73.60	26.303
SD	8.176	10.763	16.779	13.592	0.09174	19.034	4.6739
<b>Olomouc (n = 55)</b>							
Min.–max.	60–91	145–189	59–134	66–127	0.73–1.10	43–120	18.10–35.60
Median	69	165	82.00	99.00	0.8831	63	25.778
Average	71.36	167.55	86.47	96.95	0.8871	72.87	25.459
SD	8.545	11.323	17.775	12.849	0.0941	21.584	4.7545
<b>Total (n = 112)</b>							
Min.–max.	60–91	145–190	57–134	66–127	0.73–1.12	42–120	18.10–36.40
Median	69	165.50	81.50	99.00	0.8696	68.50	26.343
Average	71.38	166.86	84.69	96.04	0.8777	73.24	25.889
SD	8.322	11.013	17.312	13.192	0.09168	20.237	4.7115

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