I. ФІЗИЧНЕ ВИХОВАННЯ РІЗНИХ ГРУП НАСЕЛЕННЯ

CORRELATION BETWEEN SUBJECTIVE HEALTH SELF-ASSESSMENT, PHYSICAL ACTIVITY AND SOCIO-DEMOGRAPHIC FACTORS IN KAUNAS MIDDLE-AGED POPULATION

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Аннотация

Цель исследования – выяснить у жителей г. Каунаса среднего возраста субъективную оценку здоровья, уровень двигательной активности и социально-демографических факторов. Сравнительный анализ данных опроса показал, что жители с отсутствием двигательной активности, низким уровнем образования и социального положения в 2,6 раза хуже оценивают свое состояние здоровья. С возрастом также ухудшается и субъективная оценка здоровья.

Annotation

The research is aimed at revealing the correlation between self-perceived and assessed health, physical activity and socio-demographic factors in Kaunas middle-aged population. The comparative analysis of the data showed that people of lower social status, less educated ones and insufficiently physically active respondents tend to assess their health 2.6 times worse. Subjective health self-assessment deteriorated with increasing age.

Relevance. Subjective health self-assessment and its perception is an ambiguous concept which correlates with personal health status and its determinants (Rėklaitienė and others, 2004). The latter may have a positive or a negative impact on personal health perception. In turn, personal health perception and its assessment, being an intermediate variable between objective health problems and self-perceived quality of life, can determine personal disposition to health care. For example, it is stated that a person with negative health self-perception is more willing to take drugs and comply with the health care regime (Aadahl et al., 2007). Subjective health self-assessment also allows to predict the state of health. For example, the application of the multidimensional logistic regression model helped to state that there is an interface between chronic non-communicable disease risk factors and subjective health self-assessment: men's obesity and insufficient physical activity, and women's arterial hypertension, obesity is associated with worse assessment of personal health (Armonaitė, 2006). Subjective health self-assessment might be more acceptable when analyzing the effectiveness of public health programs than mortality and morbidity statistics (Rohrer, 2004). Aiming at the programs of preventive character for the reduce of the prevalence of health risk factors, it is important to take into account factors likely to influence personal health self-perception. Determination of such factors is in particular important for the prevention of non-communicable diseases, as for the application of various preventive programs it is important not only to consider the prevalence of risk factors, but other personal characteristics that may increase or reduce the impact of measures, as well. Such characteristics could be socio-demographic factors. The disclosure of socio-demographic factors as well as the other health risk factor – insufficient physical activity, and their links to the self-perceived health is the object of this survey. When planning the study we appealed to the initial assumption that the perception of one's health depends not only on the person-specific health risk factors (in this case, the physical activity during the leisure) but on socio-demographic factors, as well. Among the latter we predicted the importance of age, gender, education and social status. The aim of the research – to reveal the correlation between self-perceived and assessed health, physical activity and socio-demographic factors in Kaunas middle-aged population.

The methodology and the contingent. The target sample consisted of 916 randomly selected Kaunas citizens aged 35-64 (392 men and 524 women). All subjects were divided into three age groups: 35 – 44 years (n=259), 45 – 54 years (n=321),

55 – 64 years (n=336). The main method of the research – a written survey. The following options were given for the subjective health self-assessment: 1 – very good 2 – good 3 – average, 4 – poor 5 – very poor health. Physical activity was assessed by indicating the frequency (the number of times a week) of physical activity of a person (physically active group consisted of people who exercise every day, 2-4 times a week and are physically active for at least 30 minutes so as to perspire and to increase the rate of respiration, and physically inactive – once a week, month or even less).

Statistical analysis. SPSS 12.0 for Windows program was applied to structure and process the data of the research while the statistical reliability of the data was assessed by Pearson's chi-square (χ^2) criteria. Statistically reliable were the cases when $p < 0.05$. The relationship between subjective health self-assessment, socio-demographic factors and physical activity was assessed by odds ratio (OR) using a binary logistic regression. The 95% confidence level was selected in the case of confidence interval (CI).

Results. The examination of the self-perceived health in Kaunas middle-aged population (aged 35-64) revealed that 25,1% of the respondents well-evaluated their health, 61,7% reported it as average and 13,2% assessed it as poor and very poor. Compared with males, females were less likely to rate their health as good or very good (29,8% and 21,4%, $p < 0,01$) and men were less likely to evaluate it as average (57,7 and 65,0%, $p <0,05$). 13,6% of women and 12.5% of men assessed their health as poor and very poor. The examination of physical activity during leisure time, assessed in terms of frequency, showed that 23,8% of the respondents were physically active. When comparing the data in terms of age, it was observed that the youngest respondents (35-44 years) were more physically inactive than other age groups ($p < 0,001$).

Kaunas citizens aged 55-64 were the most physically active (42,7%). In terms of frequency of physical activity, men are more physically active than women (58,0 and 42,0%, $p < 0,01$). Subjective health self-assessment data was compared with the respondents' age, their attitude towards physical activity, social status and education (in this analysis, male and female data were combined). The comparative analysis showed that 35-44 years subjects perceived and assessed their health much better than people aged 55-64 ($p < 0,001$). Smaller difference between groups was observed in assessing health as being average. Meanwhile, 19,6% of the oldest and just 6,3% of the youngest group respondents assessed their health as poor and very poor ($p < 0,001$). The age group of 45-54 years evaluated their health worse compared with the one of 35-44 years. According to the social status, there were more civil servants and entrepreneurs who rated their health as good or very good than pensioners, the unemployed and the disabled (respectively 29,9 and 9,3%, $p < 0,001$). The same percentage of entrepreneurs, civil servants and workers reported their health as good or very good. Pensioners, the unemployed and the disabled, in comparison with workers, entrepreneurs and civil servants, were the most negative in the perception and assessment of their own health (respectively 34,7 and 7,7%, p <0,001 and 34,7 and 6,8%, p <0,001).

The study confirms the importance of leisure time physical activity (which was noted in literature sources) to subjective health self-assessment: the higher is the frequency of physical activity, the better are the results in person's health self-assessment. The respondents who were physically active every day or 4-6 times per week, assessed their health as good or very good more often than people who stated to be physically active less than once per month, or inactive at all (respectively 33 and 21,1%, p <0,2005). The most negative assessment of health, compared with those who exercise daily or 4-6 times per week (12,8%) and those who do so 2-3 times per week (6,6%, p<0,001), was noticed in the group of insufficiently physically active subjects who stated to be physically active less than once per month, or who were not physically active in general (17,0%). Statistically significant correlation was observed between subjects' education and subjective health self-assessment (Table 1).

In the first table the data shows that the subjects with university or higher education self-assessed their health better than those with incomplete secondary or primary education. The data of logistic regression analysis showed a statistically significant correlation between subjects' health self-assessment, their attitude towards physical activity, and such independent variables as age, gender, social status and education (Table 2).

Table 1.

Subjective health self-assessment in education groups

Education	Subjective health self-assessment					
	Very Good or Good		Average		Poor or Very poor	
	n	%	n	%	n	%
University education	76	29,2	163	62,7	21	8,1
Higher	76	26,5	179	62,4	32	11,1
Secondary	64	23,5	166	61,0	42	15,4*
Incomplete secondary	7	11,5**	37	60,7	17	27,9***
Primary	1	7,7	7	53,8	5	38,5

Note. * °P <0,05, ** ° p <0,01, *** ° p <0,001, compared with the subjects of university education.

The second table shows the following probability: physically inactive middle-aged people tend to evaluate their health 1,5 times worse than those who are physically active. Most expressed probability to self-assess health as being poor and very poor was stated in terms of the social situation: the lower social status individuals are more likely to perceive and evaluate their health even 2,7 times worse than those with higher social status. The likelihood of negative health self-assessment is notable in the aspects of age and gender (the latter predicts less positive women's subjective health self-assessment than men's). There is a tendency for lower education individuals to assess their health worse than those with higher education.

Discussion of the results. Studies by other authors also confirm that women subjectively perceived and assessed their health worse than men (Rėklaitienė and others, 2004). The different attitude towards health in gender groups is associated with the changes caused by menopause in women and with the resultant emotional and physical problems (Outram et al., 2004). Women suffer from more chronic diseases, their body's response to stress is stronger, which then shows in depression, and men more often suffer from acute illnesses, which often come to death (Leinonen et al., 1998). According to the literature sources, smoking, obesity, lack of women's physical activity condition 10 times greater likelihood of poor health (Meurer et al., 2001). The data of other researchers shows that risk factors and behavioral characteristics are not essential in the determination of persons' attitude towards their own health. More often this attitude can be affected by the health status and functional capacity of the organism of the subject. In addition, it is considered that there is a possibility to judge about the persons' quality of life from their attitude towards health, which reflects subjective health self-assessment. (Armonaitė,

2006). The difference in health assessment could have been caused by objectively worse older people's health. Physical activity is a key factor for the development of many chronic diseases (heart, diabetes, colon cancer and increased blood pressure), particularly among older people (NCEP, 2002). The data of logistic regression analysis in our research on the social status and subjective health self-assessment suggest that middle-aged people of higher social status tend to evaluate their health better and ones of lower social classes are more likely to assess it even 2,7 times worse. The comparison of the subjective health self-assessment and education data revealed the tendency that lower educational level of the population leads to the worse self-assessment of health. Higher socio-economic status (higher education and better-paid job) is associated with more positive health self-assessments. This correlation may be explained

as follows: higher educated people usually have more knowledge about healthy lifestyles (physical activity, diet, smoking and the damage caused by alcohol), and higher income allows a better health care, i.e. varied choices of food, the consumption of fresh fruit and vegetables, exercise (Nilsson, Orth-Gomer, 2000). The correlation between subjective health self-assessment and psycho-social factors was established by other researchers, as well. They also pointed out that more positive in their health assessment are physically active people, ones in good mental-emotional state, and individuals with fewer complaints and better social-economic situation (Astrom, Rise, 2001).

Conclusion. Statistically significant correlation between such variables as subjective assessment of health and physical activity was stated in this research, i.e. more often people are physically active during leisure time, more likely they

Table 2

Average, poor and very poor subjective health self-assessment opportunities and the correlation between attitude towards physical activity and socio-demographic factors

Characteristics analyzed	Average/ poor and very poor health OR (95% CI)
The frequency of physical activity Every day/ 4-6 times a week/ 2-3 times a week/ once a week	1
Less than once a month/ never	1,522 (1,097—2,111)*
Social status Civil servant/ **entrepreneur/ worker**	1
Pensioner/ unemployed/ disabled	2,666 (1,546—4,596)***
Education University education/higher/ secondary/ incomplete secondary	1
Primary	1,428 (0,636—3,206)
Gender Male	1
Female	1,666 (1,202—2,308)*
Age From 35 to 54 years	1
From 55 to 64 years	2,355 (1,750—3,171)***

Note. * ° The odds ratio is statistically significant (p <0.05) *** ° odds ratio is statistically significant (p <0,001), OR (95% CI) ° the odds ratio (95% confidence interval).

tend to the better assessment of their health. The comparison of the attitude towards health and physical activity in the groups of socio-demographic variables revealed that people of a lower social status, the older ones and women tend to the worse health self- assessment.

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