

PHYSICAL ACTIVITY PROFILES ON A SAMPLE OF ROMANIAN ADULTS

GEORGESCU Luminita Ionela¹, TUDOR Mariana Ionela¹

¹Departament of Kinesitherapy, University of Pitesti, ROMANIA

Abstract

Purpose. With this study we pursue to describe the prevalence and characteristics of physical activities among Romanian adults.

Methods. We applied a Physical Activity Questionnaire designed to analyze physical activity data on four domains: work, active transportation, domestic and garden and also leisure time. We had one study group represented by active working adults (N = 30, sex ratio 1/1, average age: 44 years) and they were asked to complete the questionnaire. Based on the score that they obtained, we determined total physical activity of the participants in terms of energy expenditure (MET –minutes/week), but also as a categorical level: low, moderate and high. Before completing the questionnaire, the subjects were asked to include themselves in a category based on their perceived level of total activity as: inactive, active and very active.

Results. We had 23,3% of subjects who self-reported as being inactive, 60% considered that they are active and only 16,6% said that they are very active. The questionnaire's scores showed that 30% of the investigated adults had a low level of physical activity, 53,3% reached a moderate level and the percent of those with high level of physical activity remained the same. There is a significant difference ($p < 0,01$) on how men appreciate their activities, comparing with women's perception.

Conclusions. Despite the importance of physical activity and the continuous recommendations for being more active, the magnitude of sedentary is still high. There is also a discrepancy between what people think of being physically active and what it really means according to international standards. Efforts are needed for a better understanding of the amount of physical activity recommended for a healthy and active life.

Key words: Physical activity, profile, sample, adult.

Introduction

Every year more and more evidence give a warning to the population about the enlarged burden of the chronic diseases related with physical inactivity. This has become the second most important risk factor for ill health in industrialized countries, after tobacco smoking, and is estimated to be related to about 2 million deaths per year worldwide (L.B. Andersen et al, 2000).

At the socio-economic level the implications of sedentary are represented by the arising costs from the increasing of chronic diseases, such as coronary heart disease, diabetes and hypertension, in addition to obesity and overweight, which also affect children. Some studies have shown that, when obesity is included, the economic costs of physical inactivity can be assigned to poor energy expenditure which directly leads to medical conditions or alternatively the accumulation of adiposity and then contributes to excess morbidity and mortality.

The great challenge for the health care providers is how a physically active lifestyle can be reintroduced into many people's lives, especially with the increasing presence of technology at home, in workplaces and in transport that is designed to save people's labor.

However, there were developed different preventive strategies and they seems to be not only effective but also very simple and easy to do as engaging in about 30 minutes per day of moderate physical activity, such as walking or cycling.

The alarming severity of the health effects of physical inactivity and the substantial potential for cost-effective prevention led international health organizations to conceive plenty of strategies to make policy-makers and citizens aware of the risks related to physical inactivity and of very effective strategies that individuals and communities can use to influence their health and wellbeing (WHO, 2000).

Many documents summarized a lot of scientific evidence on the negative health effects of physical inactivity and on the benefits provided by moderate levels of physical activity, especially walking and cycling. They highlights the interaction between strategies for health promotion and the role of transport and land-use policy in providing environmental conditions that can facilitate and enable people deciding to walk and cycle for transport (WHO, 2002).

The potential reduction in the costs of treating heart disease if sedentary adults walked

regularly has been calculated in some countries and it seems that a lot of money would be saved annually if 10% of adults began a regular walking program. The cost savings from walking would be especially high for men aged 35–64 years and for women aged 55–64 years (M. Hamer, 2008).

Also, the study says that increased physical activity prolongs life in middle-aged people of up to 10 years, after an adaptation period.

Physical activity is probably one of public health's best allies, having the following benefits (G. Lippi, 2006):

- a 50% reduction in the risk of developing coronary heart disease, non-insulin dependent diabetes and obesity;
- a 30% reduction in the risk of developing hypertension, a decline in blood pressure among hypertensive people;
- helping to maintain bone mass and thus protecting against osteoporosis;
- improving balance, coordination, mobility, strength and endurance;
- increasing self-esteem, reducing levels of mild to moderate hypertension and promoting overall psychological wellbeing.

Most of the middle-aged people know which the recommendations for having a healthy and fit life are. They are aware about the necessity of being active and they realize that this activity will help control their weight, strengthen their muscles and bones, improve balance and help prevent or improve many of the problems and conditions associated with passing years.

Conversely, only a few of those are acting upon their knowledge of the imperative need to be physically active. Unfortunately, many midlife and also older adults pay a high price of their negligence in terms of disease, disability and premature death. Recent reports show that the number of deaths per year due to obesity (and so to sedentary) are faster approaching to those linked with smoking.

Physical inactivity and related obesity and overweight are direct contributing factors to the most prevalent and disabling diseases and conditions, such as diabetes, heart disease, stroke, some kinds of cancer, arthritis and osteoporosis (D. Wartburton, 2006).

Regarding the Romanian health policy of promoting physical activity for preventing or reducing the negative effects of noncommunicable diseases, there are a lot of evidence about the amounts, intensity and frequency of physical effort and even of environmental facilitations. Instead of this there are no feedback responses about how people view their own health, what they know about physical activity and fitness, and what they are really doing to maintain their own health and fitness.

The purpose of this study is to draw into attention the prevalence and characteristics of physical activities among middle-aged Romanian adults.

Method

We designed a transversal study in order to obtain an image about what being physically active is considered to mean and what different people do to increase their activity, after the intense mediatization from the latest years.

Physical activity is defined as any body movement that results in energy expenditure. As such, it includes sports but also such activities as walking, cycling, playing, skating, cleaning house, dancing or climbing stairs. This means that it can be part of daily life (WHO, 2002).

Recent studies pointed the major role of environmental interventions in promoting physical activity like walking or cycling.

Being a rhythmic, dynamic and aerobic activity, walking is also the oldest mean of transport accessible to the vast majority of people despite of age, gender or social status. In order to benefit from it the only condition is to provide appropriate environmental conditions for making it also safe, enjoyable and convenient.

According to the new physical activity guidelines, in order to achieve the most health benefits, the recommendations are to do two types of physical activity each week: aerobic activity and muscle-strengthening.

Prior procedures for increasing the physical activity level and improve cardio-respiratory fitness integrated the participation in vigorous-intensity activity (at least or more than 20 minutes per day and at least or more than 3 days per week). It is obvious that transportation-related physical activities, different household and various leisure time activities can be taken into account.

Nowadays, most of the physical activity recommendations for young adults (18-65 years) include (W. L. Haskell, 2007):

- 30 minutes of moderate-intensity physical activity 5 days per week;
- or 20 minutes of vigorous-intensity physical activity 3 days per week;
- or an equivalent combination of moderate- / vigorous-intensity physical activity;
- and 8-10 muscular strengthening exercises (8-12 repetitions) at least 2 days per week.

For many people, 150 minutes of physical activity each week might seem a lot of time, but the fact is that positive results were observed at a moderate or vigorous effort for at least 10 minutes at a time.

There are differences between people regarding the various forms of being physically active and also the intensity of effort. Thereby the intensity of physical activity depends on an individual's previous exercise experience and their relative level of fitness (W. L. Haskell, 2007).

There are also different ways of evaluating one person's physical activity.

In many surveys, metabolic equivalents (METs) are commonly used to express the intensity of physical activities. One MET can be

definite as the ratio of a person's working metabolic rate relative to their resting metabolic rate. One MET is defined as the energy cost of sitting quietly and is equivalent to a caloric consumption of 1kcal/kg/hour. It is estimated that compared with sitting quietly, a person's caloric consumption is three to six times higher when being moderately active (3-6 METs) and more than six times higher when being vigorously active (>6 METs) (WHO, 2002).

For our study's practical purpose, we applied a Physical Activity Questionnaire designed to analyze physical activity data on four domains: work (paid work), active transportation (walking or cycling), domestic and garden and also leisure time. We had one study group represented by active working adults (N = 30, sex ratio 1/1, average age: 44 years) and they were asked to complete the questionnaire.

Each person had to respond about their physical activity per week, considering the last month.

The participants were asked whether and how much: they were physically active at work, they cycled or walk to work, they were physically active in their leisure time, and they participated in sport activities.

Based on the score that they obtained, we determined total physical activity of the participants in terms of energy expenditure (MET – minutes/week), but also as a categorical level: low (less than 600 METs/week), moderate (600-1500 METs/week) and high (1500-3000 METs/week).

Before completing the questionnaire, the subjects were asked to include themselves in a category based on their perceived level of total activity as: inactive, active and very active.

These self-reported levels of physical activity were compared with the observed levels.

Results

All the participants responded that they understand and value the benefits of exercise and physical activity.

Nevertheless, only 53,3% of the subjects had a moderate level of physical activity, cumulating an average of 1200 METs per week. From our questionnaire results we observed that one third (30%) of the respondents didn't achieve a minimum of 600 METs per week and only 16,6% of them reached a high level of total activity – about 2500 METs per week.

About one half (46,6%) of women seems to have a low level of physical activity, while men (86,6%) are more physically fit.

We questioned our subjects on four important domains of physical activity: work, transportation, housework and leisure time. Considering this, work domain requires the most of vigorous energy expenditure (73%), while transportation and leisure time are more responsible for the moderate physical effort (62%). The lowest level of physical effort is attained during housework, maybe because all the

persons that we evaluated are living in the city and they don't do gardening or yard work.

Regarding the repartition of physical activity by gender, women are significantly more engaged in moderate or low intensity activities, but for a larger period of time (10-12 hours/day) and men are responsible most of the heavy works. This result is according to the recommendations for people who currently have low intensity activities to perform them for more than one hour per day.

Also women were those most interested to enhance their physical activity at home and this included everything from housework to a jog around the neighborhood or simply taking a brisk walk.

None of all survey respondents deny the value of physical activity, but there were 4 respondents who need to be clarified about what moderate and vigorous activity means.

Considering the self reported physical activity we had the following results: 23,3% of them said that they are mostly inactive, 60% believed they are physically active and only 16,6% objectively evaluated themselves as being very active.

Among participants who considered themselves active, working and walking were by far the most cited activities.

For the entire study group and for both sexes, 65% said they walk regularly, briskly enough and long enough to meet the recommended values for physical activity.

From those people who say they engage in vigorous activity, 74% mean at work and smaller percents doing more structured activity such as exercising or cycling (26%). Only 3% of the total respondents considered housework being a vigorous activity.

Taking into account the results of many previous studies, it an unanimous opinion that walking and cycling used as a mean for daily transport has even more potential than leisure activities for getting people physically active. Our results showed that walking is more preferred by women (80%), instead of cycling that do most of men. Some research discovered that, compared with walking, the health benefits of cycling are somewhat greater because the intensity of effort is greater. Also when cycling, people use their large skeletal muscles of the body in a rhythmic pattern, with periods of active work alternating with rest periods (WHO, 2002).

More than 30% of the adults we questioned are not sufficiently active in their daily life and this level is similar to with that of entire Europe's population with the tendency of continuing decline. According to some studies physical inactivity is the second most important risk factor for poor health, after smoking, in industrialized countries.

Comparing the percent of those people who said they are inactive (23,3%), the 30 % of those really inactive and 16,6 % of those very active it

became obvious an over self-evaluation from those who considered themselves as having a moderate level of physical activity. Men seems to be more objective and accurate in their evaluation, while there is a significant difference ($p < 0,01$) between women perception of physical activity and it's real level.

Discussion and conclusion

Most of the strategies for promoting physical activity sustain active transportation (walking and cycling) to become the major support for increasing the levels of physical activity, but for this to happening there is a need of corroborated effort between health, transport and environmental sectors. Also physical activity should be reintegrated into the routine of everyday life (H. Besson, 2008).

This study represents, at a small scale, a feedback answer for the romanian health providers and it also highlights some opportunities for improvement in physical activities participation among adults. The cumulative findings of this study may shorten the gap about the physical activity profile of active working category of romanian adults , who will be the old category in 20 years from now.

Most of mid-aged people are aware of the importance of physical activity for health benefits and they know that it should be strenuous enough to cause at least a small increase in heart rate and breathing.

Our findings, but also the results of other studies showed that some people not only they recognize the value of physical activity, but they also take measures to increase their level of physical activity and to improve their health. Unfortunately, the number of those who take no action is still high.

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Having this problem, scientists must find out what is the motivation of people to become and remain active and identify the impediments that stopped so many others from taking this step. Some clues for effective strategies to improve participation can be found in the values of exercise cited by those who do exercise, like: improved health, increasing self-esteem, decreased anxiety and depression.

Those are some of the reasons why people participate in different physical activities. From the variety of activities, it seems that walking is the activity of choice, maybe because it is the safest, enjoyable and convenient.

According to WHO guidelines', walking is the main form of transport for journeys under 1.6 kilometers and can become an important part of intermodal transport in urban settlements if linked with efficient public transport. Walking has been also associated with a lower risk of death in middle-aged men and specifically with a reduced risk of heart disease (WHO, 2000).

There are also an important number of people who exercise to improve flexibility, strength, and balance.

Despite the importance of physical activity and the continuous recommendations for being more active, the magnitude of sedentary is still high. There is also a discrepancy between what people think of being physically active and what it really means according to international standards.

Efforts are needed for a better understanding of the amount of physical activity recommended for a healthy and active life.

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