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Studies and measurements of physical activity of the society

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Physical activity, as a very important factor conditioning ontogenesis and state of health, is the key element of a health promoting life style. Physically able individuals manifest a considerably higher motivation for work and life satisfaction, while those with low physical activity are more frequently exposed to higher mortality.

In recent relevant literature, the important role of physical activity of society is emphasized in concern for its health [1, 2, 3, 4, 5].

Adequate physical activity decreases the risk of many diseases, especially cardiovascular diseases, obesity and diabetes [6, 7, 8, 9, 10, 11, 12, 13, 14].

It is worth bearing in mind that the attitudes towards the evaluation of physical efficacy or activity has changed over the years. As early as in the AAHPERD (American Alliance for Health, Physical Education, Recreation and Dance) test, elements were introduced intended to provide information about health, including cardiopulmonary fitness, which are consistent with the tendencies in the report by Bouchard et al. [15].

In their research concerning the assessment of physical activity of societies, paid attention to the lack of an instrument for evaluation of this activity in various countries [2]. As a result of these investigations, a brief and a long version of the International Physical Activity Questionnaire (IPAQ) was developed [2, 16]. The researchers suggested that the brief version may be applied in comparative studies of societies in various countries. Further investigations have led to the present version of the questionnaire [17].

A Polish version of the questionnaire was developed by Biernat et al. [18, 19], according to the recommendations by the IPAQ scientific group.

Polish studies concerning physical activity conducted with the use of the IPAQ, to a large extent, concern schoolchildren and students. All-Polish studies of adolescents attending secondary and post-secondary schools were conducted by Piątkowska et al. [20]; in the Silesian Region by Rozpara et al. [21]; among schoolchildren in rural and urban schools in the Poznań Region by Boruczak et al. [22]; and among secondary and post-secondary adolescents in Biała Podlaska by Korpak et al. [23].

The evaluation of physical activity of university students covered the following: students of the University School of Physical Education in Poznań [24], students of the University School of Physical Education and the Silesian University in Katowice, as well as the Silesian University of Technology in Gliwice [25]. Comparative studies of physical activity among students in Poland and Turkey were conducted by Soguksu [26].

Studies of physical activity of the inhabitants of south-eastern Poland deserve mention, carried out on a large population during the period 2008-2009 [27]. The studies covered adolescents aged 14-19, and adults aged 20-50 and over.

In 'Journal of Human Kinetics' the problem of physical activity was undertaken by many researchers [28, 29, 30, 31, 32, 33, 34]. In this journal, the scope of problems pertaining to the assessment of physical activity with the use of the IPAQ was undertaken by Sigmundova [31]. The investigations were carried out during the period 2002-2009 and covered the population aged 25-60, evaluated with consideration of the BMI. The studies showed that physical activity was higher among males than females, while females had more advantageous BMI values over the entire period of study.

Nowak [32] in his report, undertook the problem of determination of the relationship between physical activity and life style of women from Western Poland, aged 20-75, in the years 1999 and 2004 (nutrition, cigarette smoking, alcohol consumption) and obesity. The study confirmed that physical activity among women was associated with the maintenance of a normal body weight (BMI) and moderate consumption of alcohol beverages. A relationship was found between health behaviours and level of physical activity.

Biernat and Tomaszewski [33] assessed physical activity among the inhabitants of Warsaw, aged 60-69. Based on studies by means of the IPAQ, the respondents were divided into those active and inactive physically, and it was confirmed that age, education level and participation in mobile recreation are very important for physical activity.

Also in AAEM, many researchers have undertaken the problem of physical activity with regard to the health of modern society [35, 36, 37, 38, 39].

Among these reports, the studies conducted with the use of the IPAQ questionnaire are especially worth mentioning. Studies of adult inhabitants of the Kielce Region, aged 45-64, indicated that physical activity was higher among the urban population and among respondents with a higher education level [38]. Special mention should be made of the report concerning the physical activity of schoolchildren and students, carried out in a group of more than 14,000 adolescents, which should be adopted as a pattern for the Polish population [39].

As many as 57% of schoolchildren and 21% of students showed low physical activity, with a lower percentage of girls than boys. Considering the place of residence, low physical activity was observed among the highest percentage of respondents living in the rural areas. The respondents' physical activity was also expressed as MET/min, where the mean value for women was 1,554 MET/min with 2,611 MET/min among males.

The presented results concerning the total physical activity expressed as MET/min open a discussion over the objectivity of the studies conducted, when authors obtain many times higher, e.g. 13,700 MET/min [20], or lower values, approx. 700

– 800 MET/min [25, 27]. There is also a group of researchers who present results on the level of over 5,000 MET/min. Such a great discrepancy of data in evaluation of the total physical activity of society in Poland creates the need for a serious discussion on the methodology of research, and perhaps also on up-dating of the IPAQ questionnaire, both its brief and long versions. I am writing these words as one of the researchers engaged in studies of physical activity of various social and occupational groups, e.g. nurses [40, 41].

Perhaps such a great discrepancy of the results in evaluation of the respondents' physical activity with the use of this instrument should evoke greater concern and be a clear reflection for researchers dealing with this problem. It seems, however, that these discrepancies are a consequence of a very subjective assessment by the respondents, which is the result of their inadequate preparation for the studies. It may be presumed with a high probability that they clearly overestimate their own activity, especially with respect to the duration of effort within the time not shorter (continuously) than 10 min., and its self-reported intensity.

In my opinion, the experience gained by the researchers engaged in the studies of this problem, and the results obtained by them concerning the level of physical activity, will contribute to further, more accurate assessments, and will become a guideline for beginners about how to properly carry out the studies.

The results of the studies to-date, which are so varied, do not allow a fully objective evaluation of physical activity of our society, nor even comparisons within the same social group, e.g. school adolescents or university students. Therefore, studies conducted at the Institute of Rural Health based on a given population should become a canvas for discussion concerning the more objective evaluation of physical activity with the use of the IPAQ questionnaire.

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