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PHYSICAL ACTIVITY AND SEDENTARY HABITS AMONG MACEDONIAN ADOLESCENTS FROM ALBANIAN ETHNIC COMMUNITY

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(Original scientific paper)

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Abstract

The human body is designed to move and that is why it needs regular physical activity in order to function optimally to preserve health and to improve quality of life. Many researches show that sedentary lifestyle is a risk factor for the development of many chronic diseases, including cardiovascular diseases which are the main cause of increased mortality in western world.A sample of 886 respondents at the age of 11 to 14 years divided into two subsampels - 427 male and 441 female have realized the basic research to determine the condition and gender differences in physical activity and sedentary habits among Macedonian adolescents from Albanian ethnic community. The physical activity is assessed by using the Physical Activity Questionnaire, while the sedentary habits by using a standardized quastionnarie. The obtained information were processed by analysis of frequency (F), percent (%), and to determine whether there are statistically significant differences in physical activity and sedentary habits among male and female students the χ^2 test has been applied. On the basis of the obtained results it can be concluded that boys unlike girls spend more time in physical activity ($\chi^2 = 12,753$; $p > ,000$) and work on the computer ($\chi^2 = 12,753$; $p > ,000$), while the girls spend more time watching TV ($\chi^2 = 11,797$; $p > ,003$) . The results further indicate that a large percentage of students of both genders from middle school age do not know or do not know properly to swim. This research does not confirm the statistically significant association between sedentary habits and physicl activity. The results from the research indicate the importance of preparing the national plan and program to promote the physical activity in order to help young people to change unhealthy lifestyle habits and increase physical activity, and thus improve their health.

Keyword: *adolescents, physical activity, sedentary habits*

Introduction

The human body is designed to move and therefore it needs a regular physical activity in order to function optimally to restore health and improve the quality of living. Many researches show that sedentary lifestyle is a risk factor for development of many chronic diseases including cardiovascular diseases which are the main reason of increased mortality in the western world.

Also, physical activity brings many social and psychological benefits and there is a direct connection between physical activity and the lifetime, hence physically active populations tend to live longer than inactive ones. Physically active people feel better both from physical and from mental point of view, and they have a better quality of life.

The human body, as a result of regular physical activity, is subjected to morphological and functional changes that may prevent or delay occurrence of certain diseases and increase the working ability.

Children and young people in the past were more physically active, but still their daily habits are changing due to the new models of free time (television, internet, video games), and this change coincided with increasing rates of being overweight and obesity in childhood and many postural disorders. As a result of automation and computerization in recent years, physical activity has been replaced by sedentary activities. With the increase of age, physical activity decreases more and more due to changes in lifestyle. According to available information, 40 to 60% of the EU population has a sedentary lifestyle.

On the basis of foregoing it can be concluded that the goal of this research is to determine the condition and gender differences in physical activity and sedentary habits among Macedonian adolescents from Albanian ethnic community.

Method

The research is realized on a sample of 886 Macedonian adolescents from Albanian ethnic community at the age of 11 to 14 years. The sample is divided into two subsamples and that is 427 male and 441 female.

The sample included students whose parents had given consent for their son/daughter to participate in the research, and who were psychologically and physically healthy and who regularly attended classes of physical and health education. The respondents were treated in accordance with the Helsinki Declaration. Measurements were conducted in March, April and May 2013, in standard school conditions at regular classes of physical and health education.

Physical activity is assessed by means of Physical Activity Questionnaire (Elementary School), which is constructed by Kowalski and Crocker (Kowalski and Crocker, 1997) and it has been translated and proofread by professionals and adjusted to the needs of this research.

In most previous researches it was established that the reliability of the instrument Physical Activity Questionnaire (Elementary School), is high, ranging from 80 to 89. The validity of the instrument was determined in comparison with an accelerometer (CSS), which respondents wore seven days and it has been satisfactory (r = 39 to 46). A binary variable was created based on PAQ-C mean score. Pupils with a mean score of <3.00 were classified as 'low active' and pupils with a mean score of ≥3.00 were classified as 'high active'.

The sedentary habits are assessed with a scale which is part of HBSC study (Currie, C., et al. 2000). The respondents were asked to answer a question, how much time they spend in sedentary activity such as: watching television (including video or DVD, sitting and listening to music or talking on the phone), computer work (playing computer games, chatting or surfing on the internet). The questions firstly referred to the weekdays (Monday - Friday) and then the non-weekdays.

The respondents are answering to each individual particle, which is fixed at 3 degrees scale, ranked 1 hour, 2-3 hours, 4 hours or more. On the basis of the obtained answers the respondents are categorized into three categories.

The obtained information were processes by analysis of frequency (F), percent (%), and in order to determine whether there are statistically significant differences in physical activity and sedentary habits among male and female students the $\chi 2$ test has been applied.

Results

Table 1 shows the percentage of male and female respondents classified as less or more physically active according to the results obtained from the instrument Physical Activity Questionnaire (Elementary School). Pupils with a mean score of <3.00 were classified as 'low active' and pupils with a mean score of ≥3.00 were classified as 'high active'.

From the review of Table 1 it can be seen that a larger percentage of girls 64.9% are classified as less physically active in regards to boys 52.9%. The values of the $\chi 2$ test show that the differences are statistically significant (p≤.000).

Table 1. Differences in physical activity among male and female respondents

	low active	high active	χ^2
Boys	52,9%	47,1%	12,753
Girls	64,9%	35,1%	**,000**

The results in Table 2 show that there are no statistically significant differences in watching TV and working on the computer between respondents classified as less or more physically active.

Table 3 shows the answers of the students on the questions related to the use of free time (watching TV and working on the computer). From the review of the table can be seen that 51.3% of male respondents on the weekdays spend one or less hours in watching TV, 41.2% of the respondents spend 2

to 3 hours in watching TV and 7.5% of the respondents spend more than 4 hours in watching TV. On the weekdays 48.1% of the female respondents spend one or less hours in watching TV, 42.6% of female respondents spend 2 to 3 hours in watching TV and 9.3% of the respondents spend more than 4 hours in watching TV.

From the values of the $\chi 2$ test it can be seen that there are no statistically significant differences between male and female respondents in the time spent on watching TV on weekdays.

Табела 2. Differences in Sedentary Behaviours According to Physical Activity Group

886	low active	high active	
TV watching (weekdays)			
≤1 hr	47,9%	52,2%	5,551
2–3 hr	44,9%	37,6%	,062
≥4 hr	7,2%	10,1%	
TV watching (weekend)			
≤1 hr	32,6%	35,7%	,976
2–3 hr	49,2%	47,8%	,614
≥4 hr	18,2%	16,6%	
Computer use (weekdays)			
≤1 hr	50,0%	54,5%	2,201
2–3 hr	38,9%	34,0%	,333
≥4 hr	11,1%	11,5%	
Computer use (weekend)			
≤1 hr	32,4%	34,0%	,412
2–3 hr	48,8%	46,6%	,814
≥4 hr	18,8%	19,4%	

At weekends (Table 3) 39.1% of male respondents spend one or less hours watching TV, 46.4% of respondents spend 2 to 3 hours watching TV and 14.5% of the respondents spend more than 4 hours on watching TV. At weekends 28.8% of female respondents spend one or less hours watching TV, 50.8% of the respondents spend 2 to 3 hours watching TV and 20.4% of the respondents spend more than 4 hours watching TV.

From the values of the $\chi 2$ test it can be seen that there are statistically significant differences between male and female respondents in the time spend watching TV at weekend. From the percentage values it can be seen that female respondents spend more time watching TV at weekends when compared to those of male respondents.

On weekdays, 45.7% of male respondents spend hour or less using a computer, 40.3% of the respondents spend 2 to 3 hours using a computer and 14.1% of male respondents spend more than 4 hours using a computer. On weekdays, 57.8% female respondents spend an hours or less using a computer, 33.6% of female respondents spend 2 to 3 hours using a computer and 8.6% of the respondents spend more than 4 hours using a computer.

The values of the $\chi 2$ test indicate statistically significant differences in time spent on using a computer on weekdays between male and female respondents. Male respondents spend more of their free time on using a computer on weekdays when compared to those of female respondents.

From the review of the results in Table 3 it can be seen that at weekends 29.0% of male respondents spend hour or less using a computer, 49.9% of respondents spend 2 to 3 hours using a computer and 21.1% of the male respondents spend more than 4 hours on using a computer. At weekends 37.0% of female respondents spend hour or less using a computer, 46.0% of the female respondents spend 2 to 3 hours using a computer and 17.0% of the respondents spend more than 3 hours using a computer.

From the structure of the answers and the values of the $\chi 2$ test it can be seen that there are statistically significant differences in answers between male and female respondents. Male respondents spend most of their free time at weekends using a computer when compared to the female respondents.

Table 3. Differences in sedentary habits between male and female respondents

	≤1 hr	2–3 hr	≥4 hr	χ^2
TV watching (weekdays)				
Boys	51,3%	41,2%	7,5%	1,393
Girls	48,1%	42,6%	9,3%	,498
TV watching (weekend)				
Boys	39,1%	46,4%	14,5%	11,797
Girls	28,8%	50,8%	20,4%	**,003**
Computer use (weekdays)				
Boys	45,7%	40,3%	14,1%	14,517
Girls	57,8%	33,6%	8,6%	**,001**
Computer use (weekend)				
Boys	29,0%	49,9%	21,1%	6,680
Girls	37,0%	46,0%	17,0%	**,035**

From Table 4, which shows the results of how much percent of students can/cannot swim it can be seen that 55% of students of both genders cannot properly or cannot generally swim. From the structure of the answers in the table it can be seen that 48.2% of male respondents cannot swim , while 61.6% of female respondents cannot swim properly or cannot swim at all. Given the number of surveyed students the percentage of nonswimers is big and presents a worrying fact.

The values of the $\chi 2$ test indicate statistically significant differences between male and female respondents. It is statistically significant that a higher percentage of female respondents cannot swim in regards to male respondents.

Table 4. Differences in the swimming knowledge between male and female respondents

	cannot swim	can swim	χ^2
Boys	48,2%	51,8%	15,599
Girls	61,6%	38,4%	,000

Discussion

Understanding the factors that influence the physical activity and sedentary way of behavior of the population level is a relatively new area of research in Kinesiology (Owen N, et al.. 2000).

On the basis of the obtained results it can be concluded that boys unlike girls spend more time in physical activity and computer use while the girls spend more time watching TV.

This research does not confirm the statistically significant relation between sedentary habits (watching TV and using the computer) and physical activity. The fact that students of both genders, much of their free time spend watching TV and using a computer is concerning. The World Health Organization and the Commonwealth Health Organization (Commonwealth Department of Health and Ageing, 2004) recommend that „children and young people should not spend more than two hour per day watching television or using a computer (surfing, chatting or playing computer games)". The research results show that large percentage of respondents of both genders daily on weekdays and weekends spend more than two hours of work in electronic media which is a worrying fact. The researches show that the chances for an adolescent to have a metabolic syndrome, factors for future cardiovascular disease or for diabetes, increase proportionally with each additional hour on watching TV regardless of physical activity (Mark A.E., et al. 2008).

The results further indicate that a large percentage of students of both genders from middle school age in Tetovo cannot swim properly or cannot generally swim, and this is more expressed among women. Knowing the benefits of swimming as an activity that positively affects the development of multiple organs and organ systems, development of motor and functional skills it is necessary, even form the earliest age for students to focus on learning and adopting the techniques of swimming.

Research results indicate the importance of preparing the national plan and program to promote the physical activity in order to help young people to change unhealthy lifestyle habits and increase physical activity, and thus improve their health. These strategies, plans and programs should take into account the specifics of environment, customs and cultural characteristics of the region.

There is evidence that whoever increases the level of physical activity, even after extended periods of inactivity, may have health benefits, regardless of age. It is never too late to start exercising.

Changes can be achieved through a broad change in policy and practice, in particular by increasing the cross-sectoral cooperation and the adoption of new roles of various entities that are already well established and respected in their area of jurisdiction. Basically, it takes minor changes in policy and practice in order to promote and increase physical activity among young population.

„Mens sana in corpore sano“ (healthy mind in a healthy body) is a saying that is easily forgotten. The regular use of sports and recreational activity should enter into the daily schedule of young people. Particular attention should be paid to students who show interest in engaging with physical activity and sport.

Conclusion

On the basis of the obtained results it can be concluded that boys unlike girls spend more time on physical activity and computer use, while the girls spend more time in watching TV. The results further indicate that a large percentage of Macedonian adolescents from Albanian ethnic community of both genders cannot properly swim or cannot swim at all. This research does not confirm the statistically significant relation between sedentary habits and physical activity. Research results indicate the importance of preparing the national plan and program to promote physical activity in order to help young people to change unhealthy lifestyle habits and increase physical activity, and thus improve their health

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