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Original article

PHYSICAL ACTIVITY PREVALENCE OF HIGH SCHOOL STUDENTS

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Abstract*

Aim. This study has been conducted in order to determine physical activity prevalence of adolescents.

Methods. This research is a descriptive type and it has been conducted by interviewing with 186 high school senior students, receiving education in a high school under the ministry of national education, face to face. Socio-demographic information form, international physical activity questionnaire have been used in collecting data. Number and percentage distributions have been used for evaluating demographic data of the study, chi-square has been used for evaluating correlation between socio-demographic characteristics and International Physical Activity questionnaire.

Results. The average age of the students is 16.25 ± 1.23 , it has been found that 65.5% of them is male, 37.3% of them has normal weight (VKI:18.5-24.99). It has been found that 26% of male students and 14% of female student smoke. Total physical activity score and walking score of smokers are significantly higher than non-smokers ($p < 0.05$). The physical activity levels of students have been determined according to "International Physical Activity" questionnaire and it has been found that 8.7% of them is very active (>3000 METmin/week), 19.2% of them is minimally active (600-3000 MET-min/week) and 72.1% of them is inactive. As a result of a statistical analysis, it has been found that 40.0% of male students and 83.4% of female students are not active or have inadequate activity levels and physical activity level of male students is significantly higher than female students ($p < 0.05$).

Conclusions. As a result of our study, it has been seen that physical activity level of high school senior students is very low. It has been revealed that females and ones whose body mass index is normal are under risk in terms of physical activity. Identification and evaluation of physical activity levels of adolescents are very important in terms of arranging services that will be offered to them.

Keywords: Students, physical activity level, prevalence.

Introduction

The adolescence period is the period which starts with the sexual and psycho-social maturity caused by physical and emotional processes and which ends with the achievement of independence, sense of identity and social productivity by the individual.

This period is characterized by the biological, psychological and social developmental alterations (Sebire et al., 2016).

In adolescence, the biological development is determined by the rapid growth in skeletal system and sexual development; the psychological development is determined by the characteristics of cognitive and sense of identity development; in social terms, adolescence is the period when the individual is getting prepared for being a young adult (Kelder et al., 1994).

In the literature review related to the effects of regular physical activity performance on the high school students who experience the tension and weaknesses of puberty on its highest level, it is detected that regular exercises protect

the young individuals from important diseases like heart diseases, high tension, obesity and 2nd type diabetes; diminish the depression levels of youngsters and adults and have positive influences in terms protecting the youngsters and adults from emotional disorders (Staiano et al., 2013).

Moreover, as a result of the study on a program which is developed for the overweighted and depressive young people with anxiety disorder and which includes thinking, emotion-development, exercise and nutrition related trainings, it is seen that both physical and mental problems diminish (Graham et al., 2014).

Additionally, it is detected that the girls living in metropolitan cities are more inclined to emotional disorders and anxiety than boys, that the optimization of social conditions diminish the tendency to depression, that the boys who play volleyball on a regular basis have lower depression levels than those who do not play and that the physical activities influence the successes in social, personal and academic fields

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(Saunders et al., 2012).

Therefore, the objective of this study is to determine the physical activity levels of the high school students.

Methods

The research is planned as a descriptive relational type. It is conducted in a high school which is linked to National Ministry of Education in Kepez county of Antalya city.

Sampling is not performed for this study and 186 (86%) high school students who accept the research are included in the sampling of the research.

For collecting the data, an information form which is prepared by the researchers and which questions the socio-demographic information of the students and "International Physical Activity Questionnaire" are used.

International Physical Activity Questionnaire

In this study, the short form of International Physical Activity Questionnaire (IPAQ) is utilized in order to determine the physical activity levels of the individuals.

For this questionnaire, the international validity and reliability tests of which are performed by Craig et al., the validity and reliability studies in Turkey are performed by Öztürk on university students.

The questionnaire includes 7 questions in total. The first and second questions examine the status related to time period spent by the individual for intense activities, third and fourth questions for medium level activities, fifth and sixth questions for walking and the seventh question for sitting. The criteria field is that each activity be performed for at least 10 minutes.

By multiplying the values; minute, day and MET (Metabolic Equivalent), a score as "MET-minute/week" is provided. The physical activity levels are categorized as 'physically non-active' (<600 MET-min/week), 'physically less active' (600 - 3000 MET-min/week), and 'physically active enough' (beneficial for the health) (>3000 MET-min/week).

For calculating the energy consumptions related to the physical activities, the weekly duration (minutes) of each activity is multiplied by MET energy values which are comprised for the International Physical Activity Questionnaire. Therefore, the energy consumption for each individual related to intense, medium, walking, sitting and total physical activity is obtained in MET-min/week¹⁰.

Data Collection

The data of this research is collected from senior high school students. The research is initiated after the ethical approval and official permission are received.

This study is conducted in accordance with the Helsinki Declaration 2008 principles. Data is collected by the researchers via face-to-face interview method within the classroom environment.

The researcher makes the students who accept participating in the research read the consent form during the data collection and the researcher explains them the objective and scope of the research; after that if the individual accepts participating in the research, he/she undersigns the form and it is tried to create a silent environments which includes less distractors during the application of the forms.

Analyzing the Data

For the evaluation of the demographic data of the research, number and percentage distributions are used; for evaluating the relationship between socio-demographic features and International Physical Activity Questionnaire, Chi-square test is used. The results are evaluated with $p < 0.05$ significance level.

The Restriction of the Research

This research is limited to the students of a high school which is linked to National Ministry of Education in Kepez county of Antalya city who are open to communication and accept participating in the research.

Results

The age average of the students who participate in the research is detected to be 16.25 ± 1.23 , 65,5% of them are male and 37,3% of them are normal weighed (BMI: 18.5-24.99). It is detected that 26% of the male students and 14% of the female students smoke. Out of them, 6,6% of them state that they consume half package in a day, 7% of them one package in a day and 0,2% of them more than one package in a day.

The physical activity levels of the students are determined according to the "International Physical Activity" questionnaire; 8,7% of them are very active (>3000 MET-min/week), 19,2% of them are minimally active (600-3000 MET-min/week) and 72,1% of them are non-active (Table 1).

Table 1. The Physical Activity Levels of Students

The Physical Activity Levels	Number	%
Inactive (<600 MET-min/week)	20	8,7
Minimally Active (600-3000 MET- min/week)	35	19.2
Very Active (>3000 MET- min/week)	133	72.1
Total	186	100.0

Comparing the socio-demographic features with the physical activity levels of the students, it is found out that 83,6% of the girls and 40% of the boys are non-active ($\chi^2=78.428$, $p=0.00$), 28,5% of the non-smokers and 10,7% of the smokers are non-

active ($\chi^2=21.822$, $p=0.00$), 16,2% of those with normal body mass index and 18,4% of those who are slightly overweighed are non-active ($\chi^2=25.312$, $p=0.000$) (Table 2).

Table 2. Physical Activity Levels with socio-demographic characteristics of students

	Inactive (<600 MET-min/week) n (%)	Minimally Active (600-3000 MET- min/week) n (%)	Very Active (>3000 MET- min/week) n (%)	Test value
Gender				
Girl	56 (83.4)	5 (7.4)	7 (9.2)	$\chi^2=78.428^{**}$ $p=0.00^{*}$
Boy	48 (40)	53 (44.1)	19 (15.9)	
Somoking				
Uses	20 (10.7)	47 (25.2)	22 (11.8)	$\chi^2=21.822^{**}$ $p=0.00^{*}$
Can not use	53 (28.5)	35 (18.8)	9 (15.0)	
Body Mass Index Classification				
Normal weight (18.5- 24.9)	30 (16.2)	21 (11.3)	18 (9.8)	$\chi^2=25.312^{**}$ $p=0.00^{*}$
Overweight (25.0- 29.9)	34 (18.4)	60 (32.3)	25 (12.0)	

* $p<0.05$

** It is smaller than the number observed in 25 eyes Yates-corrected because chi-square analysis was performed.

Discussion

The physical activity levels among the adolescents have been decreasing in recent years. The decrease in physical activity leads to the incidence of several chronic diseases (especially diabetes) on early ages.

Sufficient participation in life-long physical activity and protecting the normal

weight are very efficient in terms of protection against several chronic diseases such as obesity, cardiovascular diseases, hyper tension, 2nd type diabetes, and lung and colon cancers.

Moreover, the physical activities provide some psychosocial benefits like increase in self-confidence, self-respect and academic success and decrease in depression symptoms.

Therefore, it is highly important to determine the physical activity levels of high school students and to support them in this direction.

Therefore, this study is carried out in order to determine the physical activity levels of high school students.

In this study, it is found out that 8,7% of the students are very active (>3000 MET-min/week), 19,2% of them are minimally active (600-3000 MET-min/week) and 72,1% of them are non-active.

In the study by Kelder et al., (1994), it is stated that most of the adolescents (51,3%) are physically non-active; in the study by Webb et al. (2013) it is stated that 42,8% of the female students are non-active; in the study by Sebire et al., (2016) it is stated that most of the female students are physically non-active and in the study by Staiano et al., (2013) it is stated that 73,2% of the adolescents are physically non-active.

The findings of these studies show similarity to the findings of our study. Logan et al. (2016) state in their study that 63,2% of the adolescents are physically active. This finding does not show similarity to our study.

Comparing the socio-demographic features with the physical activity levels of the students, it is found out that 83,6% of the girls and 40% of the boys are non-active ($\chi^2=78.428$, $p=0.00$), 28,5% of the non-smokers and 10,7% of the smokers are non-active ($\chi^2=21.822$, $p=0.00$), 16,2% of those with normal body mass index and 18,4% of those who are slightly overweighted are non-active ($\chi^2=25.312$, $p=0.000$).

Graham et al.. (2014) in their study state that girls are physically less active than boys; Webb et al. (2013) in their study state that those who are slightly overweighted are physically more active than those with normal weights.

The studies by Staiano et al. (2013) and by Logan et al. find that the smokers are physically more active than the non-smokers. The findings of these studies show similarity to the findings of our study.

Conclusions

As a result of the study findings, being a girl, having normal body weight and non-smoking are the risk group in terms of physical activity.

The adolescence period is a developmental crisis period. In recent years, the participation in activities by the adolescents is dramatically decreasing due to the increase in the

sedentary activities like watching television/video and using computer.

However, for the health of both children and society in the long term it is very important to encourage the adolescents towards an active life-style.

The physical activity has important benefits such as protecting the normal weight and protection against chronic diseases like obesity, cardiovascular diseases and cancer.

Accordingly, the society should be encouraging and incentive for the children to get into the habit of a lively, active and regular exercise performing.

It is necessary to arrange reliable social sports and entertainment programs which are proper for their development, can support the adolescents for being active for at least 60 minutes a day and which can address to all children and adolescents.

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