EJMO

DOI: 10.14744/ejmo.2017.44153
EJMO 2017;1(2):87–91

Research Article

The Effect and Significance of Adolescent Period Sports Activities on Eating Attitudes in Prevention of Obesity

Gokhan Keskin,[1] Nurgul Keskin,[2] Arif E. Gurses[1]

[1]Maramara University Faculty of Sport Sciences, Istanbul, Turkey
[2]Department of Internal Medicine, Haydarpasa Sultan Abdülhamid Han Training and Research Hospital, Istanbul, Turkey

Abstract

Objectives: This study was intended to provide information about how the important period of adolescence can provide a valuable contribution to the protection of human health.
Methods: : A total of 160 young people (n=160) between the ages of 11 and 17 years were included in the study. Of those, 80 were engaged in sports activities and 80 were not.
Results: It was determined that those in the group who were not engaged in sports activities experienced more eating attitude disorders compared with the group who did participate in sports, and the difference was statistically significant ($p<0.05$). The results of this study verify the hypothesis that participation in sports can have a positive effect on eating attitudes.
Conclusion: Sports can be very valuable in terms of the physical health and development of growing children, as well as in terms of mental health and the formation of good character and personality. Participation in sports at a young age has also been shown to be valuable in later life in many ways, and should therefore be encouraged and supported. Proper nutrition is the most substantial factor that can be managed by the family. Adequate, balanced, and well-planned nutrition provided on a regular basis is necessary to enable young people to reap all the benefits of sports and to develop in a healthy way.
Keywords: Eating behavior disorder, obesity, sports
Cite This Article: *Keskin G, Keskin N, Gurses A. The Effect and Significance of Adolescent Period Sports Activities on Eating Attitudes in Prevention of Obesity. EJMO. 2017; 1(2): 87-91*

The risk of many chronic diseases including blood pressure disorders, cardiovascular diseases, obesity and diabetes in the society increases due to lack of awareness as to exercise, lack of knowledge regarding the benefits of sports for human health and continuously adoption of a still life each and every passing day in today's society.

Much as Hippocrates has revealed the negative effects of obesity on health for the first time 2000 years ago, the truth has been realized only in the late 20th century. In our day, obesity, is considered as a disease affecting the quality of life and duration negatively by the physiological, psychological, hormonal, metabolic, organic, systemic, aesthetic and social effects thereof.

Obesity frequency is increasing also in children and adolescents just like in adults.[1] Obesity is a frequently observed problem in adolescents in our day in line with the increase in eating attitude disorder and continues to be present in maturity in 2/3 of adolescents.[2] Factors like the effort of adolescent to be an independent individual, effects of social environment like peer groups, external appearance's coming to the forefront and active lifestyle are very influential on eating behavior and nutrition in this period. Eating

Address for correspondence: Nurgul Keskin, MD. Haydarpasa Sultan Abdülhamid Han Egitim ve Arastirma Hastanesi, Ic Hastaliklari Klingi, Istanbul, Turkey
Phone: +90 216 542 20 20 **E-mail:** keskinnurgul0206@hotmail.com
Submitted Date: May 20, 2017 **Accepted Date:** August 21, 2017 **Available Online Date:** August 26, 2017

habits which continue lifelong are gained in the adolescent period. Adolescent period is the period when anatomical and physiological changes and developments of an individual are at the maximum level and in which some problems are experienced from time to time in adapting these changes. Adolescents may experience injuries very quickly in this period due to the imbalance of strength and flexibility in their muscles and due to the overuse thereof. Again, attention must be paid in exercise programs basing on the fact that growth continues because the growth plates in the bones are not yet closed in this period. It is accepted that the overloading in sports affects growth negatively in this period. As such, the physical capacity of the individual must be known and unnecessary overloading must be avoided. The situation of the individual must be evaluated by an expert prior to commencement of making sports and a joint decision must be taken to start a sports activity which is suitable for the physical condition of the individual. Exercises performed by utilizing body weight more are recommended for the individual in this period.[3]

The main benefits of exercise performed in the adolescent period are as follows: health and feeling well, growth and development, establishing an active lifestyle for adulthood, increasing mineral density and reducing the risk of osteoporosis to be experienced in future as well as decreasing the incidence of overweight or obesity in addition to risk of chronic diseases in adulthood.[4, 5]

Scientific research also supports the fact that the benefits gained by virtue of physical activity during childhood continue at later ages. It was observed in a study conducted with students attending Harvard College in the U.S.A. that the rate of coronary heart disease in those engaged with physical activities in their childhood was significantly lower than those who did not. It was reported in the light of the results of another study that depression, suicide, drug abuse, alcohol consumption, smoking, and marijuana usage rates in the early adulthood period was lower in young people due to personality traits acquired by being engaged with sports activities.[6]

24 obese children were monitored for 3 months with application of regular exercise program and 22 obese children were monitored to create a control group without being included in the exercise program in a study carried out in Israel. There was a significant decrease in body weight, BMI, blood fat percentages, total serum cholesterol levels and LDL cholesterol levels in the sample group consisting of 24 obese children at the end of the cited 3-month program. And it was determined that this change of decrease also was observed in the measurements made at the end of the year and the good condition was maintained. Consequently, it has been observed that the benefits of the long-term exercise program have increased positively.[7]

It is required to pay attention to physical suitability and to regulate exercise programs to this end with a view to avoid the negative consequences of physical activity in children. Activity training programs in children require to include qualities which improve the child's physical suitability as well as perceptual motor and social emotional characteristics.[8]

Although physical suitability is mentioned in every section of the society, the difficulty of defining it makes the clarification of what you want to explain with this term necessary. Physical suitability is the performance capacity of a person. This capacity is based on the strength, resistance, co-ordination, quickness and performance of these factors together. It refers to the correctness of movements and the current condition of the body in relation to physical resistance according to another definition. In line with this definition, the person with the highest physical suitability can make actions for the longest time without being tired. In other words, any physical suitability is the ability to do physical activities successfully.[8]

Avoidance of obesity is based on the principle of replacing unhealthy diet and exercise habits with healthy behaviors in terms of childhood obesity. It was reported in a study carried out by Baltacı et al. that positive results were achieved by virtue of an aerobic exercise program given together with the low calorie diet in the obesity treatment of adolescents.[9]

Materials and Methods

This study has been carried out with individuals attending sports schools as well as high schools and primary schools within the structure of Ministry of Education located in Kadıköy and Üsküdar districts. Local ethics approved by the authority. Data was collected through utilization of the Eating Attitude Test scale in the study. SPSS was employed in order to analyze the obtained data. Pearson correlation analysis techniques were utilized to make the relationship analysis while t-test was conducted to determine the differentiations in the collected data. Tables were made from the results obtained and the analysis of the data was completed. The level of significance was accepted as $p<0.05$.

Eating Attitudes Test (EAT) is a self-report scale, which can be used in the general population, developed in order to evaluate the possible disorders in eating behavior both in individuals with eating disorder and in individuals without eating disorders.[10] The Turkish adaptation of the scale has been performed through Savasir and Erol (1989).[11] EAT is a 6-point Likert Scale comprising 40 items. It is filled by the individual in person and the answers are given by marking

Table 1. Eating attitude results in individuals engaged in sports activities and not engaged in sports activities

	EAT		Total
	Eating attitude disorder	Normal eating attitude	
Basketball	9	31	40
Volleyball	10	30	40
None	34	46	80
Total	53	107	160

EAT: Eating Attitudes Test.

on the scale. The patients are required to mark the most appropriate option for each item based on the eating habits thereof. Scoring is done in the following way; sometimes is represented by 1 point, rarely is represented by 2 points, and never is represented by 3 points and other is represented by 0 point for items 1, 18, 19, 23, 27 and 39. Always is represented by 3 points, very often is represented by 2 points and often is represented by 1 point, and other option is represented by 0 point for other items of the scale. The scores from each item of the scale are added in order to achieve the total score of the scale as a result. The cut-off score of the scale has been determined as 30, and the results above this score indicate the eating attitude disorder. It was determined that patients with eating disorders were well distinguished both from healthy control subjects and other patient groups in this study. Furthermore high reliability coefficients were also shown. This scale was utilized to evaluate eating attitudes in groups which were engaged in sports activities and which were not engaged in sports activities in this study.

Results

A total of 160 people (n: 160) between the ages of 11 and17, 80 of whom were engaged in sports activities and 80 of whom were not engaged in sports activities were included in the study. 60% (n: 48) of the participants were female while 40% (n: 32) of the participants were male. A 40-item eating attitude test was conducted with an eye to evaluate the eating attitude disorder in both groups classified as the ones who were engaged in sports activities and the ones who were not engaged in sports activities. It was intended also to compare the eating attitude disorder of volleyball and basketball players by randomly choosing 40 (50%) volleyball players and 50 (50%) basketball players. The mean age of the participants was 14.04±1.473 and 53.12% (n: 85) of them were female while 46.88% (n: 75) thereof were male.

33.12% (n: 53) of the total 160 people were found to have an eating disorder in this study group. No significant statistical relationship between eating attitude and gender was found ($p>0.05$).

Results consistent with the eating attitude disorder test were obtained in 23.75% (n: 19) of the individuals in the group of those who were engaged in sports activities (eating attitude test> 30). Results consistent with the eating attitude disorder test were obtained in 42.5% (n: 34) of the individuals in the group of those who were not engaged in sports activities. It was observed that the individuals in the group of those who were not engaged in sports activities had higher rate of eating attitude disorder and there was a statistically significant difference between the groups when the two groups were compared ($p=0.041$).

10 out of 19 individuals (52.6%) with eating disorder in the in the group of those who were engaged in sports activities were playing volleyball while 9 (47.4%) of them were playing basketball. There was no statistically significant difference between individuals who were engaged in both sports in terms of tendency to eating disorder ($p>0.05$).

Participating in sports were observed to yield positive results on eating attitude of children in the 11–17 age group according to the results of the SPSS conducted in the light of the questionnaire studies. It was found among the children aged 11–17 years participating in the study that children in the group of those who were not engaged in sports had more eating disorder compared to the group of those who were not engaged in sports in this study. The statistical results in this study verify our hypothesis and reveal the fact that sport has a positive effect on eating attitude. It was observed that the group of those who were not engaged in sports had more eating disorder while there was a statistically significant difference between the groups ($p<0.05$).

Discussion

There was a significant relationship between gender and high scores in the eating attitude test in the study carried by Siyez and Uz in 2009 and it was revealed that female students had higher scores compared to male students in EAT. There was no significant relationship between eating attitude and gender in our study. However, it would be appropriate to re-evaluate this case with higher number of participants.

357 students were included in the study in a study carried out through Akman and Tuzun in which male students were found to be making sports more regularly compared to girls,[12] and this finding was consistent with other studies in the literature. 52% were male and 48% were female in the group of those who were engaged in sports in this study. Further research is needed to reveal possible reasons of differences between genders.[13–15]

A certain level of regular eating attitude habit should be

Annex 1. Eating attitude test

This survey is as regards your eating habits. Please read each question carefully and place an (X) in the box that suits you best. For example; if you read the sentence "I like to eat chocolate ". Place an (X) in the box "Never" if you do not like chocolate at all. If you like to eat chocolate always then place an (X) in the box "Always".

	Always	Very often	Often	Sometimes	Rarely	Never
1. I enjoy eating with others.						
2. I cook for others, but I do not eat the food I cook.						
3. I am distressed before eating.						
4. I am very scared of obesity.						
5. I try not to eat when I'm hungry.						
6. I always think of food.						
7. There were times when I could not stop eating.						
8. I split my food into small pieces.						
9. I know the calorie of what I eat.						
10. I avoid high-calorie foods such as bread, potatoes, rice.						
11. I feel bloated after meals.						
12. My family expects me to eat very much food.						
13. I vomit after eating.						
14. I feel excessive guilt after eating.						
15. My only thought is to be slimmer.						
16. I do exercise to burn calories until I get tired.						
17. I weigh myself several times a day.						
18. I like narrow dresses which cover my body.						
19. I like to meat.						
20. I wake up early in the mornings.						
21. I eat the same food for several days.						
22. I calculate the calories I burn when I make exercise.						
23. My menstruation is regular.						
24. Other people think I'm slim.						
25. Being overweight (fat my body will collect fat) occupies my mind.						
26. My eating time is longer than others.						
27. I like to eat in restaurants.						
28. I use laxative.						
29. I avoid sugary foods.						
30. I eat dietary foods.						
31. I think food controls my life.						
32. I can control myself about food.						
33. I think that others make pressure to me about food.						
34. Thinking about food takes a long time of me.						
35. I have constipation complaints.						
36. I feel uncomfortable after eating sweets.						
37. I make diet.						
38. I like to have my stomach empty.						
39. I like to try sweet and fatty foods.						
40. I feel to vomit after meals.						

achieved and maintained for healthy growth and development. Sport also has a positive role in achieving and maintaining this habit. As such, sports participation should be supported in addition to education and health controls and this discipline should be achieved firstly in school and parents should be made more aware on this subject.

Participation in sports is particularly beneficial for children's health development. Regular physical activity leads to important differences in terms of healthy development and

growth of children and youngsters, getting rid of bad habits, socialization, protection of adults from various chronic diseases, or treatment or support of the cited diseases, ensuring an active aging of the elderly, in other words, increasing the life quality throughout the whole life.

It is very substantial to develop and carry out health-care activities for adolescents. Health professionals have a significant role as counselors in launching preventive programs and encouraging positive life behaviors. Schools are important opportunity areas for conducting all the cited works. Professionals engaged in the field of school health can convey correct messages to children and adolescents and ensure family and school work partnerships by organizing programs on nutrition and exercise within school health education programs from the kindergarten period to the end of university education.

It has been reported in a study conducted on physical activity and public health that children are more inactive and obese compared to previous years which increases the risk factors like diabetes, hypertension and cardiovascular disorders, and these adverse events are related with sedentary lifestyle.[16]

Starting sportive activities in adolescent period helps to decrease the incidence of obesity and the incidence of chronic disease in adulthood and protects the health by affecting eating habits in a positive way.

Disclosures

Ethics Committee Approval: The study was approved by the Local Ethics Committee.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

References

1. Taşcılar M, Hacıhamdioğlu B, Soyarslan M, Abacı A. The prevalence of metabolic syndrome and frequency of cardiovascular risk factors in obese children. Gulhane Med J 2010;52:32–5.
2. Lobstein T, Baur L, Uauy R; IASO International Obesity TaskForce. Obesity in children and young people: a crisis in public health. Obes Rev 2004;5 Suppl 1:4–104. [CrossRef]
3. Gallahue DL. Understanding motor development in children. New York: Wiley; 1982.
4. Bradney M, Pearce G, Naughton G, Sullivan C, Bass S, Beck T, et al. Moderate exercise during growth in prepubertal boys: changes in bone mass, size, volumetric density, and bone strength: a controlled prospective study. J Bone Miner Res 1998;13:1814–21. [CrossRef]
5. İri R, Eker H. 10–14 Yaş Grubu Galatasaray Yaz Futbol Okuluna Katılan Çocukların Antropometrik Özelliklerinde Meydana Gelen Değişimlerin İncelenmesi. Selçuk Üniversitesi Beden Eğitimi ve Spor Bilim Dergisi 2008;10:10–8.
6. Rigotti NA, Moran SE, Wechsler H. US college students' exposure to tobacco promotions: prevalence and association with tobacco use. Am J Public Health 2005;95:138–44. [CrossRef]
7. Nemet D, Barkan S, Epstein Y, Friedland O, Kowen G, Eliakim A. Short- and long-term beneficial effects of a combined dietary-behavioral-physical activity intervention for the treatment of childhood obesity. Pediatrics 2005;115:e443–9.
8. Saygın Ö, Polat Y, Karacabey K. Çocuklarda hareket eğitiminin fiziksel uygunluk özelliklerine etkisi. Fırat Üniversitesi Sağlık Bilimleri Dergisi 2005;19:205–12.
9. Parlak A, Çetinkaya Ş. Çocuklarda obezitenin oluşumunu etkileyen faktörler. Fırat Sağlık Hizmetleri Dergisi 2007;2:27–33.
10. Garner DM, Garfinkel PE. The Eating Attitudes Test: an index of the symptoms of anorexia nervosa. Psychol Med 1979;9:273–9. [CrossRef]
11. Savasir I, Erol N. Yeme Tutum Testi: Anoreksiya Nevroza Belirtileri Indeksi. Psikoloji Dergisi 1989;7:19–25.
12. Akman M, Tüzün S, Ünalan PC. Adolesanlarda sağlıklı beslenme ve fiziksel aktivite durumu. Nobel Medicus Journal 2012;8.
13. Özmen D, Çetinkaya AÇ, Ergin D, Şen N, Erbay PD. Lise öğrencilerinin yeme alışkanlıkları ve beden ağırlığını denetleme davranışları. TSK Koruyucu Hekimlik Bülteni. 2007;6:98–105.
14. Vadiveloo M, Zhu L, Quatromoni PA. Diet and physical activity patterns of school-aged children. J Am Diet Assoc 2009;109:145–51. [CrossRef]
15. Sur H, Kolotourou M, Dimitriou M, Kocaoglu B, Keskin Y, Hayran O, et al. Biochemical and behavioral indices related to BMI in schoolchildren in urban Turkey. Prev Med 2005;41:614–21.
16. Booth FW, Roberts CK, Laye MJ. Lack of exercise is a major cause of chronic diseases. Compr Physiol 2012;2:1143–211.