

A Comprehensive Review of the Therapeutic Effect of Regular Exercise in Solving the Problem of Being Overweight in Children and Adolescents

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Abstract

Background: This study aims to emphasize that physical activity habits to be acquired during childhood can contribute positively to prevent obesity and overweight problems by improving the development of basic movement skills and motor skill competence, with positive effects on children's motor development.

Materials and Methods: In the search for scientific literature for this review, data from the US National Library of Medicine (PubMed), MEDLINE, and SportDiscus were used, and the terms "sedentary lifestyle", "children and adolescent health", "obesity and overweight", "physical activity", and were used. The relevant literature has also taken its source from the research of relevant articles from reference lists derived from data searches.

Results: Especially sportive activities such as athletics, gymnastics, swimming, walking, volleyball, football, basketball, and tennis, which can be determined after basic movement training, can make significant contributions to the development of children's anatomical and physiological characteristics. For this reason, it is of great importance to raise the awareness of parents and teachers that regular physical activity can increase the chances of success in the prevention and treatment of health problems such as obesity and overweight, which are likely to be seen in childhood and adolescence.

Conclusion: Obesity and being overweight, which poses a risk to the child and adolescent health has become widespread in recent years. Regular exercise for the prevention of obesity can provide a highly rational treatment in terms of its therapeutic effects, which can also prevent and treat many chronic diseases. Maintaining and improving overall health through regular physical activity for a healthy life will also lead to successful weight management.

Key Words: children and adolescent health; physical activity; obesity and overweight; sedentary lifestyle

Introduction

The constructive effects of physical activity habits are of great importance for motor development, which can be defined as the capacity to perform the movements required in daily life. Motor development can be considered as a period in which important physical activities such as feeding, walking, writing and playing games develop and take shape in children (Nazario & Vieira 2014). Overweight and obesity, which are defined as chronic diseases

by the World Health Organization, remain serious all over the world as a health problem that occurs due to excess body fat and can be seen in childhood and adolescence and cause many health problems (World Health Organization., 2000). However, it is known that the increase in sedentary lifestyle, which has been frequently observed in children and young people in recent years, threatens the motor development of children and young

people and the development of motor skills related to the musculoskeletal system and may lead to an increase in the incidence of many other health problems, especially obesity and overweight. In addition, regular exercise habit, with the effective weight control it provides, increases the self-confidence of children and young people with the development of physical structure, prevents the occurrence of depression and generalized anxiety problems that may occur during adolescence and can increase their success and educational performance in their educational life. While the positive effects of regular exercise on the physical development of children and adolescents have been demonstrated in many scientific studies, it has also been shown that the habit of physical activity in school life, physical education classes and extracurricular sports activities is of great importance for the psychological health of children and adolescents. For this reason, it is emphasized that it is very important to establish scientific strategies that aim to encourage regular physical activity habits for children and adolescents to grow up healthy and free from problems such as obesity and overweight (Hills et al., 2007, Queiroz et al., 2014).

Materials and Methods

It is recommended that children and adolescents aged 5-18 years should be able to engage in moderate to vigorous physical activity for at least 60 minutes a day in order to develop regular exercise habits for healthy physical, mental and psychological development of children and adolescents (Myer et al., 2015). The high interest in computational technological activities, the large amount of time devoted to new media habits shaped by computer and internet addiction cause children and young people to not find enough time for physical activity and exercise and thus increasing the problem of overweight and obesity. Therefore, it is a scientific consensus that sedentary time and especially time spent in front of screens for entertainment purposes should be limited in order to ensure physical activity habits. Raising awareness of teachers and parents about the positive effects of physical exercise and its potential benefits on children's health, especially in school-age children, will be a very useful practice in terms of establishing regular exercise habits in children (Cox et al., 2010.; Lassi et al., 2015; Oral, 2023).

Physical activity and sport play an important role not only in weight control and physical development, but also in the physical and mental development of children and adolescents. Participating in regular physical activity and sport has been shown to have numerous psychological benefits, including improvements in self-esteem, mood and cognitive functioning. In addition, physical activity and sport can help prevent the onset of mental health problems and help to address existing mental health problems. In particular, self-esteem is an important aspect of mental health and participation in physical activity and sport is known to have a highly constructive and positive effect on self-esteem in children and adolescents (Vansteenkiste et al., 2004).

Discussion

A study by Lu et al. (2015) investigated the effects of physical activity on body composition and cardiovascular health in overweight and obese adolescents. The results showed that physical activity was associated with significant improvements in body composition, including a reduction in fat mass and an increase in lean body mass. In addition, physical activity improved cardiovascular health by reducing blood pressure and improving lipid profile.

Physical activity and sport participation can also have a positive effect on cardiovascular health in youth. Regular exercise has been shown to improve heart function, increase cardiovascular endurance, and reduce the risk of cardiovascular disease (Pate et al., 1995). Additionally, physical activity has been shown to improve the lipid profile, including reducing total cholesterol and low-density lipoprotein (LDL) cholesterol levels, and increasing high-density lipoprotein (HDL) cholesterol levels (Pate et al., 1995).

A study conducted in the USA concluded that the rate of overweight and obesity in children has increased up to 35%, 54.9% are now defined as

overweight, and that this metabolic disease has reached a very risky point in children and young people (Brownell & Wadden 2000; Hill, 1998; Kuzmarski, 1992; Markowitz et al., 2008). And also, a systematic review by Fogelholm & Kukkonen-Harjula (2000) evaluated the effects of physical activity on obesity in youth. The results showed that physical activity was associated with significant reductions in body mass index (BMI) and body fat percentage, as well as improvements in insulin sensitivity and glucose tolerance. The authors concluded that physical activity plays a critical role in the prevention of obesity in youth (Lampinen et al., 2017).

Regular physical activity has also been shown to increase lean body mass, which can lead to an increase in energy expenditure and a reduction in fat mass (Zhang et al., 2014). Physical activity and sport participation have been shown to have a positive effect on body composition and fat mass in youth. Long-term exercise programs have been associated with reductions in body fat percentage, particularly in the abdominal region (McTiernan et al., 2007; Ross & Janssen, 2001).

Physical activity has also been found to have a positive impact on cognitive function in youth, particularly in areas such as attention and memory (Chaddock, 2011). Regular participation in physical activity has been associated with improved academic performance and increased levels of concentration (Buckley, et al., 2014; Eime, et al., 2013). These findings are supported by studies that have demonstrated that physical activity has a positive impact on brain development and cognitive function in youth (Ploughman, 2008).

In parallel with developments in medical science, the definition of health has also changed over the years. In the past, being healthy generally meant not being sick. Today, however, the concept of being healthy has evolved to include not only not being sick, but also having good mental, social and physical health conditions.

It is known that obesity and overweight problems that occur in childhood and adolescence, if left untreated, can lead to serious health risks and various metabolic problems in adulthood. Obesity and overweight have been shown to cause chronic health problems such as type 2 diabetes, metabolic syndrome, osteoarthritis, many musculoskeletal disorders, some cancers, and depression, which may occur frequently, while cardiovascular disease is one of the most common metabolic problems for life health. In the prevention and treatment of these health problems, regular sports habits are recommended as a physical activity style that contributes to a healthy life by preventing or treating some metabolic problems that individuals may face over the years, as well as leading a healthy life.

It is known that regular physical activity is one of the most important vital habits to protect and improve the health of individuals of all ages. Moving more, sitting less and spending less time in front of the screen should be perceived as an indispensable therapy method for a healthy life for everyone, regardless of age, gender or fitness. It is predicted that the habit of regular physical activity, which can be acquired especially at school ages, can play a very important role in children becoming mentally, physically and spiritually healthy individuals in later ages and leading a life free from obesity, overweight, metabolic and chronic diseases.

Conclusion

In conclusion, the results of this review and previous research highlight the important physiological contributions of sport and exercise to obesity prevention in young people. Regular physical activity and participation in sport can improve body composition, reduce fat mass and promote cardiovascular and metabolic health. Healthcare providers, educators and parents should encourage and support participation in physical activity and sport in young people to promote healthy growth and prevent obesity.

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Author's contributions

All authors read and approved the final version of the manuscript.

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