The Importance Analysis of Physical Activity for Children with Autism Spectrum Disorder

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ABSTRACT: Autism spectrum disorders (ASD) are developmental disorders that have social communication and motor skill deficits as core symptom. It is necessary to implementing physical activity in China for children with ASD during the period of the kindergarten. This article offers analysis and suggestions on why to build the physical activity system for children with ASD. This article will enrich the concept of healthy education and provide a positive opinion for children with ASD. It will also be a driving force to help children with ASD decrease repetitive behaviors and improve cognitive dysfunction.

1. INTRODUCTION

Autism is a neuro developmental disorder that leads to impairment in social skills and delay in language development, and results in repetitive behaviors and restricted interests that impede academic and social involvement (Anderson-Hanley, C et al 2011). China is one of the country that has many children with autism spectrum disorder. According to statistics, China has about 1.5 million of people with ASD, in which 104000 children suffering from this disease. Studies have shown that children with ASD have specific cognitive difficulties in social relations. They are characterized by impairment of social interaction, communication and behavioral flexibility. The severity of the delay the development of autistic children, clinical and psychological indicators is correlated with an increase in the high frequency of spontaneous EEG activity (Foti, F et al 2014). Previous survey showed that aerobic exercise prior to classroom activities may improve academic responding in young children with ASD (Neely, L et al 2015). In addition, physical exercise has been shown to decrease repetitive behaviors in autistic children and improve cognitive function across the life-span (MacDonald, M et al 2013). However, the physical activity is not well used for children with ASD in China. Thus, this paper discussed the importance of physical activity in kindergarten for children with ASD and proposed strategies and recommendations for problem solving.

2. THE MAIN PROBLEMS EXISTING IN KINDERGARTEN EDUCATION

2.1. Inadequate attention

The social skills, language development, and control of behavior is essential in individual development and social life. However, children with ASD have limited contact ability, they are unable to make right response to the people (Kuroda, M et al 2013). Some studies have shown that physical exercise could improve exercise capacity in autistic children and cognitive function (Brand, S et al 2015). However, at present, under the development of medicine, parents tended to focus on medication for children with ASD and ignore the importance of physical activity. This situation causes children to spend a lot of time just drug treatment and lead to motor skill deficits. Thus, parents should pay attention to the importance of physical activity and help the children with ASD carry out more physical activity in order to improve their symptoms in the China.

2.2. Ignoring physical activity in kindergarten

In addition to the core characteristics of autism spectrum disorder (ASD), motor skill deficits are present, persistent, and pervasive across age (Pace, M & Bricout, VA 2015). Thus, a lot of physical activity should be used for children with ASD. Physical activity is an important means to improve the body and cognitive function. In early days of human development, the physical activity is one of
the most important indicators to judge human brain development level. In the other hand, physical activity training required students to have a certain motor skills and psychological quality. Therefore, kindergarten school should incorporate exercise skills teaching to improve not only student motor function but also cultivate their braveness, decisive making and proper response to social relations.

2.3. The lack of reasonable physical activity

Even physical activity programs were used in kindergarten, however, the child have an unreasonable exercise. Thus, children with ASD are unable to have better communication skills and cognitive abilities. In contrast, the other countries such as USA, England, and Japan pay much more efforts on the reasonable physical activity programs for children with ASD. Thus, reasonable physical activity decrease repetitive behaviors in autistic children and improve cognitive function. The purpose of physical activity is to cultivate a variety of skills and make students practice them repeatedly in order to making the students have the ability to improve cognitive function. Thus, reasonable physical activity is important for children with ASD. However, for the physical activity, there is still lacking of systematic and reasonable physical activity curriculum in our country. Thus, the cognition and behavioral flexibility of children with ASD are not well improved.

3. CONSTRUCTING RESONABLE PHYSICAL ACTIVITY FOR CHILDREN WITH ASD

3.1. Emphasis on physical development during the period of kindergarten

Childhood is a important period of physical development and is also a critical period for learning variety of skills. Studies had shown that the learning of motor skills in school age was most likely to develop and directly affected their physical ability in adulthood (Hinckson, EA et al 2013). However, motor skill deficits are present, persistent, and pervasive across age for children with spectrum disorder (Pace, M & Bricout, VA 2015). Before the age of 10, boys and girls grow into the common sensitive period of cognition and behavior development. Thus, we can see the importance of motor development for children, especially children with ASD. It is suggested that in the period of compulsory education in China, children with ASD should pay more attention to cultivate physical activity. This emphasizing of physical activity for children was not only for fitness development, but also was the basic and special skills of learning.

3.2. Attract the attention of parents

Physical activity for children has decreased for the last decade partly induced by lifestyle change. In addition, with the fierce competition of society, parents cannot pay more attention to cultivate the exercise capacity for the children in order to live. Children with ASD suffer from social communication and motor skill deficits. With the development of medicine, parents tend to drugs in the treatment of children with ASD. Furthermore, recent studies demonstrated that physical activity is benefit to both physical condition and cognition development for children with ASD (Chan, A.S 2013). In addition, aquatic play skills and swimming pools are favored for children ASD (Neely, L et al 2015). This attractive intervention is recommended as a means to extend knowledge of leisure skills and motor development of children ASD. Thus, parents should pay attention to the importance of physical activity for children with ASD in China. What is more, training programs should be clearly defined with training goals, content, hours, requirements and methods as the basis for reasonable training activities.

3.3. Setting different training content and methods

Physical activity includes both theoretical knowledge and operational skills (Neely, L et al 2015). Kindergarten must to comply with children with ASD's needs, to design and adjust the teaching content, to follow the law of gradual development of children's age, to carry out exercise training, in order to improve self-regulation, especially in improving cognition in children with ASD. Therefore, exercise training should consider the following two aspects. At first, setting up training content should base on the children’s development characters. We can design three different levels of action category according to the characters. The basic actions including run, squat, jump, pick up and smash, the intermediate actions including cross, evasive action, and bionic action, and the senior action including rotary action, unilateral limb supporting actions, actions such as non-steady support.

4. CONCLUSIONS AND RECOMMENDATIONS

Physical activity is one of the measures to improve social communication, motor skill deficits and cognitive dysfunction should be an important part of the theoretical basis for children with ASD. Thus, physical activity could be introduced in kindergarten for children with ASD.

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