

STUDY ON THE SPORTS ACTIVITIES OF CHILDREN WITH CHRONIC PATIENTS

Jay Karsten

Department of Sports Medicine, Oslo Sports Trauma Research Center, Norwegian School of Sports and Sciences, Norway.

Abstract: Sports activities are not only beneficial to healthy people, but also confirmed that it has an important role in the treatment of multiple chronic patients. The American Sports Medical Association has formulated sports prescriptions for adult individual individuals of different chronic diseases, but the existing guidelines rarely involve sports guidance of children with chronic diseases. Therefore, this article will review the documents of children's sports activities for chronic diseases. Children's sports activities provide theoretical basis and guidance.

Keywords: Children; Chronic diseases; Sports activities

1 SPORTS ACTIVITIES OF CONGENITAL HEART DISEASE CHILDREN

The World Health Organization clearly states in the sports activity and health guidelines that children aged 5 to 17 should participate in large-scale sports activities of more than 60 minutes a day [1], and the health status of children's health is positive [2-3]. Sports activities are not only beneficial to healthy people, but also confirmed that it has an important role in the treatment of a variety of chronic patients. On the one hand, sports activities can delay the process of certain chronic diseases (such as type 2 diabetes). On the other hand, it can be beneficial to reduce certain chronic diseases. Symptoms (such as arthritis) [4], you can even directly treat certain chronic diseases (such as obesity). Patients with chronic diseases have a variety of health benefits from sports activities. It is obviously inappropriate for all patients to recommend the same type and strength sports activity. From a practical perspective, the Guide of the American Sports Medical Society divided the type of sports activity into aerobic exercise, high -intensity intermittent motion (HIT.), anti -resistance exercise, and flexibility training [5]. In addition, the frequency, strength, time, etc. are also an important component of sports activities. According to ACSM's suggestions, adult individuals of different chronic diseases should design sports activities type and dosage in targeted manner]. However, the existing guidelines are rarely involved in the guidance of children with chronic diseases. Therefore, this article will review the literature of children's sports activities of chronic disease children in order to provide theoretical basis and guidance for the practice of sports activities of chronic diseases in my country.

1.1 The Impact of Sports Activities on Congenital Heart Disease Children (Chd) Include Various

congenital heart defects. There are 6 cases of CHDs in each 1,000 newborns, of which about 90% can survive to adult after repair surgery [6-7]. The main dangerous factors of CHD in my country are pregnant mothers, medication in the early pregnancy, passive smoking, history of diabetes and adverse fertility during pregnancy.]. The burden that sports activities to the heart may directly cause a dangerous response to ChD children, so ChD children usually less participate in sports activities. However, the lack of sports activities to further increase the risk of other diseases. In fact, some studies have found that appropriate sports activities are beneficial to children [9-10]. A systematic review of 621 CHD children. After the aerobic exercise intervention, its average maximum oxygen volume was increased by 8%, and there were no dangerous incidents of motion [11]. However, whether sports activities can increase the maximum oxygen volume of children still have certain controversy [2]. In most studies, the length of the intervention of sports activities is set to 12 weeks, and the frequency is set to 3 times a week. According to the results of the system review, most of the research has reported positive benefits, and in the 31 studies included in the 31 studies incorporated, none of the 31 studies are not included in the studies. Poor events caused by sports activities [11]. Therefore, for children with CHD, sports activities are basically safe and feasible [13], except for CHD children with arrhythmia [4].

1.2 Sports Activities for Congenital Heart Disease Children

Although a large number of studies have confirmed the safety of sports activities for children with CHD, they must consult relevant experts before planning for sports activities. It is strictly forbidden to be equipped with a pacemaker and a child with anticoagulant therapy for any form of sports activities [4]. Regular evaluation of the maximum sports ability of ChD children can help ensure the safety of participating in sports activities [5]. Whether there are abnormal arrhythmia during exercise can be determined by the maximum cardiopulmonary ability test. 24h or longer dynamic electrocardiogram monitoring can help determine whether there is heart rate disorders. For ChD children who are

suitable for sports activities, the European Children's Cardiology Association (EPCA) recommends that most CHD children should participate in 60 minutes of aerobic exercise per day. The strength of exercise is recommended to control 40% of the maximum oxygen. 85%, that is, medium to large intensity, which is consistent with the amount of sports activities recommended by WHO for health children. Sports activities should gradually increase the length of exercise and intensity until the aerobic exercise of 60 minutes can be completed. However, some special CHD children, including Farolo Four Disinity and Functional Divcular Children, are recommended to set the strength of the exercise to small to medium intensity, rather than medium -to -large intensity 6 Considering the anaerobic exercise of the anaerobic exercise to the heart to the heart Cracks are generally believed that children with CHD should avoid participating in HHIT (high -intensity intermittent exercise) or anaerobic exercise, and there are no safety reports of HIT or anaerobic exercise in the existing research. The small-to-medium-intensity resistance movement is safe for children with CHD [16], but the large-intensity resistance movement may increase blood pressure, resulting in tachycardia with CHD children, increasing additional risks, so CHD CHD, so CHD If the child is resistant to resistance, its strength must be strictly limited. Most flexible training, such as stretching or yoga, is safer to ChD children, but it has not been studied proven that such exercises have clear benefits to the condition of ChD children. In summary, for most children with CHD, 60min to large intensity aerobic exercise every day is currently a more recommended sports activity method.

2 SPORTS OF OBESITY AND TYPE 2 DIABETIC CHILDREN

2.1 Effects of Sports Activities on Obesity and Type 2 Diabetes

At present, the incidence of obesity in children around the world has shown an upward trend, and the problem of obesity of children in my country has also attracted the attention of social and academic circles. Children's obesity may cause complications such as type 2 diabetes. A study in the United States pointed out that the incidence of children's diabetes increased by 7.1% each year. A META analysis in my country pointed out that the prevalence of diabetes in Chinese children and adolescents is 1.73%, which is higher than the incidence of the United States (0.49%). Therefore, the problem of obesity and type 2 diabetes in my country is more concerned about. Children's obesity may have a series of impact on the body. Fat accumulation can damage insulin sensitivity and mitochondrial function, which leads to type 2 diabetes. Type 2 diabetes will lead to a decline in children's sports ability, lower sports ability will make it less participate in sports activities, and lower sports activities will further increase the condition. Therefore, it is extremely important to encourage obese children or type 2 diabetic children to carry out sports activities.

It has been confirmed that many sports activities have benefits to obesity or children with type 2 diabetes. Sports activities can effectively reduce children's fat rate and improve their cardiopulmonary function and insulin resistance. Different sports activities have their own advantages. High -intensity intermittent training (HIIT) has a good effect on reducing fat rates. 3, aerobic exercise can effectively improve insulin sensitivity [4], and some studies have pointed out that regardless of aerobic exercise, resistance, anti -resistance The combination of blocking motion or the combination of the two is also effective in improving insulin sensitivity.

2.2 Sports Suggestions for Obesity and Type 2 Diabetes Children

Some studies have pointed out that type 2 diabetes children are 60% less than that of healthy children in their peers, but it does not mean that children can increase sports activity to the level of healthy children in the short term. Because the physiological and cardiopulmonary energy of children with obesity or type 2 diabetes often has certain defects, it is recommended that the increase in sports activity can be gradual or less, for example Sports activities. For children with obesity, they need to pay attention to the additional burden of the joints of sports activities, so compared to running, swimming or bicycle movements are recommended. Children with type 2 diabetes should pay attention to the combination of drugs, sports activities and diet control, and should not completely replace drug treatment with simple sports activities. It is recommended that patients with obesity or type 2 diabetes are more than 60 minutes per day to large -intensity aerobic exercise [2]. For children with insufficient sports activities, it is recommended to gradually increase the intensity and time of sports and fully conduct warm -up activities. Some scholars believe that HIIT with a maximum heart rate of 70% to 85% twice a week is feasible for obese children, but due to the limited number of research, its effectiveness and safety have not been fully proven. A large number of research evidence has proved that anti -resistance movement can effectively improve insulin sensitivity. Therefore, it is recommended that children with type 2 diabetes be regularly performed in regular, step -by -step resistance, and can be combined with aerobic exercise. Flexible training is safe for children with obesity and type 2 diabetes, but its specific benefits are uncertain. Therefore, for most patients with obesity or type 2 diabetes, it is recommended to perform medium to large intensity aerobic exercises of 60 minutes per day, and perform 2 to 3 times a week.

3 SPORTS ACTIVITIES OF CHILDREN WITH SPECIAL ARTHRITIS CHILDREN

3.1 The Impact of Sports Activities on Young Special Arthritis

Children's special arthritis (JIA) refers to the restrictions on joint swelling, pain, heat or activity restrictions of children under 16 years of unknown joints for less than 6 weeks, and the prevalence ranges from 4.01% to 70% [4]. JIA's joint degeneration and difficulty in exercise will further lead to a reduction in sports activities. The level of low sports

activities will have adverse consequences, such as gaining weight, leading to increased joint pressure, thereby aggravating the degree of pain, and further hindering children to participate in sports activities. Some researchers believe that combining sports intervention in clinical treatment may better improve the symptoms of children with II A. They made a systematic review and found that children with sports intervention have improved in terms of quality of life and aerobic fitness, but these improvements are not statistically significant. In the above review, the Communist Party of China was included in 212 children, and there were no bad event reports related to sports activities, indicating that patients with JIA patients had good safety in sports activities. In another study, 48 children conducted three months of sports and cognitive intervention. Compared with the control group, the experimental group's sports ability was improved. After 8 weeks of aerobic sports activities in JIA, the maximum oxygen volume will also increase significantly [4]. Anti-resistance exercise also has a certain effect on the symptoms of children in JIA [4].

3.2 Sports Suggestions for Children with Children with Young Features

JIA has multiple subtypes, and its severity is also different. Some children in some JIAs are only affected by physical activity, but some of the heart function may have been damaged. Therefore, sports activities need to be carried out depending on the children's different JIA subtypes. Ordinary JIA children must pay attention to the higher risk of injury caused by changes in neurotomer's function in exercise. Children with heart function problems should be determined before exercise whether to determine whether There is cardiovascular complications. Because JA reduces the exercise ability of children, most children need to re-perform sports activities from the level of very low sports activities. The entire process should follow the principle of gradual progress, and based on not aggravating joint pain. If the pain in the knee or hip joint pain is more obvious, it should avoid sports activities such as running and rope skipping on joint impact. Children accompanied by severe osteopia or spinal arthritis should avoid participating in sports activities. All children of JIA should not participate in any sports activities when fever. From the perspective of sports types, aerobic exercise is more suitable for children with JIA. It is recommended to use exercise with less joints such as swimming or bicycles. The exercise intensity control should be in the medium intensity. The duration gradually grows until it can reach 60min. If you are accompanied by cardiovascular complications, you can refer to sports activities for children with CHD. The intensity of anaerobic exercise and HIIT may cause the risk of deteriorating or increased symptoms. Therefore, it is not recommended that children with JIA for this type of sports activities. In the case of low strength, anti-resistance exercise is relatively safe for children with JIA and have a certain rehabilitation effect. Such sports activities should be based on the symptoms of pain without aggravating pain. Essence Flexible training, including Tai Chi, Yoga, etc., has certain benefits for the recovery of the joint function of children in JIA, and has a good security. In short, the sports activities of children in JIA can use the combination of aerobic exercise, resistance exercise and flexibility training, and be cautious for the load settings of exercise to avoid aggravating the disease.

4 CONCLUSION AND PROSPECTS

[1.5] in the existing sports activity guidelines, there are more detailed guidance for sports activities of healthy children, but less guidance for sports activities of chronic patients. This article has sorted out existing related studies to explore how the congenital heart disease, obesity, type 2 diabetes, and young special arthritis should be scientifically carried out sports activities. Comprehensive literature can be known that appropriate sports activities can actively play a positive role in controlling or recovery of the patient's condition; ; Inappropriate sports activities can aggravate the condition, and pay attention to the additional risks that sports activities may bring. The number of various chronic patients in my country continues to grow, and both families and society have strong demand for targeted sports activities. In the future, research should explore the treatment and rehabilitation effects of various sports activities on chronic diseases of children, find the best sports activity method for chronic diseases of various types of children, and finally form a set of guidelines for children's sports activities with strong practical value.

COMPETING INTERESTS

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