

# The Research Status of Football Intervention in the Treatment of Children with Autism

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**ABSTRACT.** In children with autism is a developmental disorder subtype, in clinical practice has a very high incidence. The main clinical characteristics of the disease is interested in a narrow range, language barriers to communication and social barriers and stereotyped behavior repeats. Autistic children's movement ability development generally lags behind the normal children, and if the child's degree of weight, the more obvious defects in his action development, and the greater the gap between the normal children. At present, the disease is not very clear, clinical treatment and intervention methods are also more, one of the more effective is the intervention of footballs. In this paper, the research situation of the intervention treatment of autism in children with autism.

**KEYWORDS:** autism; footballs intervention; research

## 1. Introduction

Autism is currently a more common neurodevelopmental disorder in the clinic. The disease occurs in infants and young children, and there are more male patients than females, which has a very serious impact on the growth and development of children. footballs intervention is an effective measure to treat and treat autism. Analyzing the effective effect of footballs intervention on the treatment of autism has important effect and significance on the treatment of children with autism.

## 2. Main symptoms of children with autism

For children with autism, the main characteristics of the symptoms are several psychological and behavioral aspects, that is, delayed language development and abnormalities, abnormal interests and behaviors, certain obstacles to social communication performance, cognitive defects, perception and motor control.

First, children with autism have obstacles in language communication. Most

children suffer from backward language development, or some children experience regression after normal language development, or the language lacks communication properties. Second, autistic children Most behaviors and interests are abnormal, and often behave differently from others. Third, autistic children have obstacles in social communication, usually manifested as lack of skills or communication with others in the process of communicating with others. In addition, most children lack a secure attachment relationship with their parents. Fourth, children with autism often have paresthesia, which is mainly manifested as dull pain, showing special preferences or fear for certain sounds or images; fifth , Intellectual abnormality, about 70% of autistic children are mentally retarded, but these children may have strong abilities in some aspects, about 20% of children with intelligence in the normal range, and about 10% of children with abnormal intelligence , Most children have better memory, especially for mechanical memory[1].

Studies in recent years have shown that the incidence and disability of children with movement disorders are higher than previous studies, which not only affects the normal development of children's body and mind, but also brings a heavy economic and mental burden to the family society. This article discusses the types and rehabilitation training paths of children with movement disorders, and summarizes them as follows.

### **3.Clinical features and classification of dyskinesia in children with autism**

The pathogenesis and pathogenesis of autistic children's movement disorders are complicated. According to the characteristics and main manifestations of children's diseases, autistic children's movement disorders are divided into the following four categories: ① transient developmental diseases: occur in infants It often occurs transiently, and the irritability and anxiety during exercise are uneasy. It will be relieved immediately after stopping the exercise. ② Paroxysmal dyskinesia caused by autism: its clinical features are sudden onset of abnormal movements or uncoordinated postures. It is a movement-induced paroxysmal dance of limbs and trunk, hand-foot agitation or muscle tone A disease characterized by insufficiency of movement. Operational disorders with uncoordinated movements generally last longer and require repeated training to improve. It belongs to the unconscious obstacle of Football. ③ Genetic metabolic diseases related to extrapyramidal symptoms: Mainly manifested as voluntary motor regulation dysfunction. The extrapyramidal system is an integral part of the motor system, including all motor nerve nuclei and motor nerve conduction beams outside the cone system. Symptoms caused by extrapyramidal lesions are divided into two categories: decreased muscle tone-increased exercise and increased muscle tone-decreased exercise. ④Secondary non-hereditary diseases: Secondary non-hereditary diseases include cerebral palsy, drug-induced dyskinesia, childhood brain tumors, vascular lesions, infectious lesions, poisons and secondary children caused by psychogenic diseases dyskinesia. Among them, the irrational drug treatment caused by autistic children is a common disease of the nervous system in children. The incidence rate is 2 %, which is mainly

manifested as movement disorders and postural disorders.

#### 4.Choice of rehabilitation training path

Rehabilitation training is an important means of autism rehabilitation, mainly through training this method to restore the patient's limbs to normal self-care functions, so that autistic children can learn to integrate into the collective life, and make their physical and psychological recovery as possible. Studies have shown that scientific and standardized Football rehabilitation training methods can help patients promote recovery of movement disorders of joint activities, increase social adaptability, improve quality of life, and promote physical and mental health. At present, there is no unified standard of rehabilitation training process for children with autistic children with movement disorders. The feasible rehabilitation training path after literature data collection and practical experience summary is shown in Table 1

*Table 1 Rehabilitation training path for autistic children with movement disorders*

Time	Training method	Rehabilitation training content
The first stage	Passive motion phase	① In order to prevent joint contractures and deformation, wear limb orthopedic brackets before going to bed every night; ② stand up once a day with the aid of a stand and posture correction mirror, and the time is gradually extended according to the individual training effect of the child; ③ the trainer pulls freehand 3. Massage the abnormal limbs for correction; ④ Perform full range of joint movements on the limb joints; ⑤ Guide the children to raise their heads, turn their heads, extend their hands, turn over, follow their eyes, catch objects, etc. with the aid of their favorite toys.
The 2nd stage	Auxiliary motor phase	①With the aid of the equipment in the rehabilitation room, parallel bars and canes with posture correction mirrors are used for walking training and upper and lower ladder training; ②the ankle joint correction plate is used to correct the foot plantar flexion; ③the therapist implements functional traction training for the child; Orthotics implement self-extension training
The 3rd stage	Active motor phase	① Torso rotation training; ② Walk independently without any auxiliary facilities; ③ Do full-range joint activities yourself, such as raising the upper limbs above the head and raising the lower limbs on the back; ④ Standing balance training; ⑤ Exercise with lower limb functions To suppress the contracture of the lower extremity joint.
The 4th stage	Resistance exercise phase	①Using the quadriceps training chair for active resistance training of the quadriceps and traction training of the knee joint; ②Using the hydraulic stepper to improve the movement range of the lower limbs and improving the muscle strength of the lower limbs; ③Using the tied sandbags and magnetic control Treadmill for lower limb endurance and weight-bearing training; ④ continue to use ankle joint correction plate to correct his plantar flexion; ⑤ hands lifting exercises.

Before the rehabilitation training, give psychological rehabilitation guidance to the children and their parents to enhance confidence, explain the purpose and significance of the rehabilitation training to each child and the main caregiver, and make them cooperate actively. According to the clinical characteristics of autistic children's movement disorders, the main content of rehabilitation training is to guide and promote the children to complete the head up, turn over, various sitting positions, crawling, kneeling, standing, ball, etc. according to the actual motor development level of the child. Movements and group project activities, the pre-training is mainly to train personal motor function and mutual coordination ability, improve limb joint movement, correct abnormalities of the main joints of the limb, relieve muscle spasm, reduce muscle tension, enhance lower limb muscle strength and endurance of muscle activity, Improve the balance and coordination of lower limbs. In the middle and later period, the training was mainly carried out in collective projects<sup>2</sup>, mainly to cultivate children's Football coordination and collectivism consciousness, focusing on concentration training, to improve the state of autistic children. The training time is 30min each time, 1 time / day, 5 times / week, and the course of treatment is 3-6 months.

## **5.The role and methods of implementing football interventions in the treatment of autism in children**

### ***5.1 Football can regulate the body of autistic children***

① Football can stimulate the human central nervous system and endocrine system. Football can promote the blood circulation of the whole body, and can effectively enhance the metabolism of cells and tissues. It is very beneficial to the supply of oxygen and nutrients to various systems in the body, and can enhance the function of various organs of the human body. In addition, Football can delay the decline of human function, delay the decline of the structure and function of various tissues and organs of the human body, and make the human body full of vitality. In this way, physical exercise can only regulate the body and mind of children with autism, which has a good role in promoting their healthy development [2].

②Football can reduce the accumulation of fat in the body and reduce weight. Football require energy consumption, and the main source of energy is fat. Therefore, exercise can reduce body weight, thereby reducing the burden on the heart, maintain a good reminder, and play a role in bodybuilding. For autistic children, their posture can be improved and their confidence can be enhanced.

③ Football can improve the function of the nervous system. Physical exercise has a good effect on delaying the aging of the nervous system. Its main performance is that it can effectively enhance memory through physical exercise, and can also improve the body's response to external stimuli, and it can also change its attention and analysis to varying degrees. Comprehensive ability. This can effectively

improve the unresponsiveness and reaction ability of children with autism, and improve their various physical functions.

④ Football play a very good role in promoting brain development and intellectual development. Physical exercise can increase the amount of brain blood, not only can delay the aging of brain cells, but also can increase the speed of nerve response. Football can play a good role in promoting brain development, allowing the brain to release special chemicals to make people feel happy, and it has a good role in intellectual development and memory improvement [3].

### ***5.2 Football intervention can adjust the psychology of autistic children***

① Physical exercise can increase the self-confidence of children. Obvious effects can be obtained in the treatment of autism through proper physical exercise. Some children with autism may lag behind others in some aspects due to congenital physiological defects, which may lead to acquired psychological disorders. By allowing these children to exercise, they can effectively improve their physiological deficiencies and increase their self-confidence.

② Football can enhance the communicative ability of children. Children with autism usually show reluctance to communicate with others and stay away from group life. In football activities, people usually need to communicate with each other, and in some football activities, teams need to collaborate with each other. For example, line-up formation exercises are easier on the surface, but it is very difficult to achieve uniformity. It is necessary to cooperate with each other. This situation can provide good conditions for children to get along and communicate with each other [4].

③ Football can make children with autism overcome fear. There are some competitive games in Football, and children with autism often show a fear of these games. For such games, the results are constantly related to the achievements and there is also a certain relationship with the group participation rate. Autistic children are also encouraged to participate in competitions. In the course of the game, shooting, running, chasing and results will make the participants feel a sense of challenge. To a certain extent, this form of Football competition can exercise the body and mind of children with autism. It has a very positive role in treatment and rehabilitation [5].

④ Football can stabilize the mentality of autistic children. There are often some football games in football. These football games are very entertaining and can attract many children to participate. In addition, these Football games often have wins and losses. They are constantly physical competition and also intellectual competition. Through playing Football games, each child can have a sense of possibility of

winning, improve their self-confidence, and improve their mentality. Bad mentality is improved.

⑤Football can regulate children's emotions, make their body and mind happy, and maintain a cheerful mood. In addition, by participating in Football, children can cultivate a cheerful and peaceful attitude, which is very beneficial to the establishment of good interpersonal relationships .

### ***5.3 Football methods and key points of children with autism***

Some of the sensory problems of autistic children need to be solved by behavioral training. For example, intentional attention of hearing and vision, and call response are important goals of training for autistic children. Attention training is a very important first step.

#### ***5.3.1 Football training must have a certain intensity and speed, and the posture must be correct.***

The intensity, speed and posture of Football training are several important factors for the effectiveness of training. A STNR exercise in the United States that specifically treats hyperactivity and inattention (consisting of several groups of crawling activities) first requires correct posture, "cat sitting" (like a cat sitting), "box type" (putting in a box The shape of the crawling posture) is the first step of the practice, followed by the "resistance swing" (back and forth swing with a certain resistance) practice, 30 times each time, followed by several groups of resistance-added crawling exercises. Crawling a distance of 5 meters, it takes about 15-20 seconds, slowly and steadily, looking up at the target in front of the climb, six round trips. A group of activities takes 15 minutes, 5 exercises each time, after 6-7 months of practice, it has a good effect on improving hyperactivity and inattention. At present, almost all kinds of training institutions have the crawling training program, but how he can achieve the desired effect is rarely paid attention to. Football training should be rigorous and organized, with a certain amount of time and a certain amount. The time is too short, the amount is too small, the effect is limited, the time is too long (more than two hours), the amount is too large, the smaller autistic children may not be able to adapt, and the effect is not good [7].

#### ***5.3.2 Let autistic children feel that learning is important***

Some children with autism have limited ability to understand problems, poor proprioception, and poor imitation. Therefore, in Football training, they often fail to follow the instructions, even if the trainers sometimes do demonstrations. can not complete. Because people's sense of their own muscles, joints, ligament activity and

body position needs experience to gradually accumulate. Therefore, in the training, first of all, he assists the autistic child with his hand to complete the action, and then gradually withdraws until he can complete the actions independently. In the guidance of family training, parents often tell me that children will not jump on their feet. I told them: When the child does not particularly resist, use a wide cloth strap to tie the child's feet, let him passively close the feet, and then place the child a little higher (small stool), in Pulling his feet forward to jump down, let him feel the state of "jumping together". After many exercises the children can solve this problem.

It has been pointed out that speech disorders in children with autism are caused by impaired touch and proprioception. Due to the lack of awareness of their own pronunciation organs (mouth, tongue, teeth, teeth, cheeks), they cannot make oral muscles move freely, hindering their ability to speak. Therefore, it is very important to use various senses to make autistic children remember their mouths. "When Indonesian children with autism started to get mouth brushing treatment to understand the body organs, they began to be able to pronounce immediately and speak meaningful words." (Zhang Xinming) and "Cheek Movement Training" also belong to a kind of sensory learning. This training is to pat your cheeks, chin, lips with your hands, and try to make a sound. You can also close your lips and blow your cheeks up. You can also make a variety of grimace that can move the muscles of the cheeks. The latter two approaches may have greater difficulties for children with autism. When the trainer speaks, let the autistic children feel the airflow and the vibration of the vocal cords with their hands, the drop and height of the chin, and the activity of the cheek muscles is very necessary [8].

### ***5.3.3 For comfortable feeling stimulation***

Some of the sensory problems of autistic children need to be solved by behavioral training. For example, intentional attention of hearing and vision, and call response are important goals of training for autistic children. Attention training is a very important first step. Other sensory problems need to be solved by sensory methods. That is to say, first of all, we have to give autistic children comfortable sensory stimulation to slowly change their adverse reactions to various stimuli and change their sensory threshold.

In terms of vision, the environment should be neatly arranged, the tones should be bright, and the things should be placed in an orderly manner; the lighting used should be bright and soft, and the use of tube lamps and old light bulbs should be avoided because of the flashing lights and tube lamps. The sounds that make the child with autism are unsettling or even intolerable. Attention should also be paid to the selection of learning materials; all materials should be bright in color, strong in contrast, and clear in outline. Cards and small readings should be the ones with uncomplicated background, clear patterns and bright lines. One of the reasons why many children with autism do not like children's books is because the background of such books is too complicated and too messy, and it is very uncomfortable to give

him visual stimulation. In terms of hearing, be careful not to put the sound of the stereo and TV too loud, and avoid speaking too loudly or too frequently. In a quieter environment, speaking softly to autistic children and teaching them to learn language will have a better effect, and a comfortable environment can calm their uneasiness. In fact, the principle of auditory integration therapy is also to provide comfortable (stimulated and filtered over-sensitive frequencies) sound stimulation to children with autism first, and then gradually desensitize their hearing. Tactile aspects Although most children with autism avoid cuddling and touching, we can still find a way they like to accept. When the child with autism refuses to hug, he can gently touch him. When he is having a good time with you, touch him inadvertently, or sit with him on your knee, shake him, and do with him. " The game of "pulling the saw and pulling the saw" inadvertently hugs him, so he will not be disgusted. When we ask the child with autism to look at us, don't push his chin hard, but just gently lift his chin. Repel children wearing certain types of clothing, do not force him to wear, or scold him, try to encourage, induce, and exchange conditions to slowly allow him to accept clothing of different textures. In a word, stimulating comfortable feelings for autistic children is an important issue that we must pay attention to in the process of helping them.

## 6. Summary

Autism is a neurodevelopmental disorder that has serious effects on children's growth and development. If no effective measures are selected for treatment and intervention, it will have a very negative impact on children's health. Physical intervention can be used to treat autism, which can significantly improve the physical and mental health of children, improve their neurological function, and increase their self-confidence, thus playing a better role in promoting autism rehabilitation.

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