

# *Sports Dance on the Rehabilitation of Patients with Impaired Sugar Regulation*

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**Abstract:** With the rapid development of economy, people's living standard has been gradually improved. Irregular diet and lack of exercise lead to an increasing trend of diabetes and impaired sugar regulation year by year. Impaired glucose regulation is a developmental stage of normal people developing into diabetes mellitus, so it is necessary to actively carry out sports dance to study the rehabilitation effect of patients with impaired glucose regulation. The purpose of this paper is to investigate the effect of dance-sports on the rehabilitation of patients with impaired sugar regulation, to improve the quality of life of patients with impaired sugar regulation through dance-sports, and to explore the feasibility of dance-sports on the rehabilitation of patients with impaired sugar regulation. The results show that the use of sugar regulation damaged patients recovery mode of sports dance movement is feasible, the use of sports dance movements, effectively improve sugar regulation damaged the patient's level of glucose metabolism and blood glucose control, reduce the risk factors of diabetes, it has been verified by experiment that sports dance movement way can reduce the incidence of diabetes, improve sugar regulation damaged people's quality of life. The satisfaction degree of the patients with impaired sugar regulation to the rehabilitation method of sports dance was 70%.

## **1. Introduction**

Pre-diabetes refers to an intermediate metabolic state between normal glucose tolerance and diabetic hyperglycemia, which is a necessary stage for normal people to progress to diabetes [1]. The prevalence of diabetes has increased rapidly worldwide, becoming the third largest disease that threatens human health after cardiovascular diseases and tumors [2]. At present, the global morbidity and mortality of diabetes are still increasing year by year. The key to preventing diabetes is to the effective intervention of the pre-diabetic population, that is, the effective intervention of the

people with impaired glucose regulation [3]. Impaired sugar regulation is reversible. Especially for people with impaired glucose regulation, drug intervention is not recommended. At present, exercise therapy is widely carried out in diabetic patients and has achieved positive results [4].

Appropriate physical exercise can promote the decomposition and utilization of glucose in the body, improve the body's insulin resistance and insulin sensitivity, thereby reducing blood sugar. Can help control blood sugar, thereby reducing the risk of diabetes [5]. Exercise should abide by the three principles of different people, according to strength, and step by step. It is not appropriate to choose too vigorous exercise to avoid damage to the knee, ankle and other parts, and aggravate damage to the important organs such as the heart and lungs [6]. At the same time, it is necessary to observe the changes in one's own weight. If it can be controlled within the normal range, it is more conducive to the recovery of impaired sugar regulation [7]. Exercise helps increase the sensitivity of surrounding tissues to insulin, accelerates the absorption of glucose, reduces the storage and output of liver glycogen, thereby lowering blood sugar, reducing urine glucose, and reducing the amount of insulin [8].

Among them, Norbert gave a detailed introduction to impaired sugar regulation, analyzed the current problems of impaired sugar regulation, and elaborated related research methods and techniques. Impaired sugar regulation is the early stage of diabetes and can be cured [9]. In his article, Alessa proposed the significance and research status of research on impaired glucose regulation, and explained various traditional treatment methods. In addition, it showed the significance and importance of impaired glucose regulation [10]. In the article, Jeehoon elaborated on sports dance sports treatment methods in detail, and proposed the traditional treatment methods, the advantages and disadvantages of various treatment methods, different patients undergoing different treatments, and improved the rate of cure [11]. Fatemeh pointed out the problems of sports dance therapy, and pointed out the importance of sports dance therapy, and patients with impaired glucose regulation were more satisfied [12].

In short, this article explores the application of sports dance to the rehabilitation of patients with impaired glucose regulation. Specifically, the main research content of this article is roughly divided into five parts: The first part is the introduction part, which aims to make a systematic review of the main research content of this article from the research background, research purpose and research ideas and methods; the second part is The theoretical basis, a detailed and systematic summary of the current status of rehabilitation of patients with impaired glucose regulation by sports dance, and also introduced the rehabilitation methods of sports dance to impaired glucose regulation. The third part is related research. Through querying data and conducting relevant experiments, it is explained that the next sports dance is feasible for the rehabilitation of patients with impaired glucose regulation. The fourth part is the analysis of the data. Through specific survey data and research results, it can be concluded that sports dance has a rehabilitation method for patients with impaired glucose regulation, which makes patients with impaired glucose regulation more satisfied and reduces the incidence of diabetes. Fifth. The part is the summary and suggestion of this article, which is the summary of the results of the article and the prospect of the rehabilitation of patients with impaired glucose regulation by sports dance.

## **2. Proposed Method**

### **2.1. Sugar Regulates the Characteristics of Impaired Patients**

In the impaired glucose regulation, insulin resistance is the main risk factor. Studies have confirmed that the causes of insulin resistance include oxidized hormones and obesity. Obesity

causes fat cells to increase in volume, increase in number, and erotically accumulate, resulting in an increase in plasma free fatty acids, a series of hormones and cytokines secretion, which in turn leads to a decrease in glucose-stimulated insulin levels, and a decrease in the number and affinity of insulin receptors through various mechanisms, which in turn induces insulin resistance. Exercise can change the quality of insulin receptors, and can help lose weight, reduce visceral fat, inflammatory factors, etc., and can change the release of some hormones. All in all, exercise can effectively improve insulin resistance. When patients with impaired glucose regulation perform moderate-intensity sports dance, the blood glucose used by the muscle exceeds the decomposition of hepatic glycogen, which in turn leads to a decrease in blood glucose levels. For patients who do not use any insulin or insulin promoters, plasma insulin Activity will generally decrease accordingly, so even if the physical activity lasts for a long time, the risk of developing hypoglycemia is relatively small. The decrease in blood glucose is mostly related to the duration of exercise, the intensity of exercise, the control before exercise, and the state of physical training. The mortality rate of diabetes has risen to the third place after cancer and cardiovascular diseases, and it has become a disease that seriously endangers the health of the population [13]. Impaired sugar regulation. Including the diminished fasting blood glucose, which is an intermediate state between normal and diabetes, it is of great significance in the development of diabetes and accompanying major cardiovascular disease, shortening the survival time of patients, etc., and can develop into diabetes and cardiovascular disease Strong risk factor.

In recent years, there are various opinions on the etiology and pathogenesis of impaired glucose regulation in modern medicine, but the exact pathogenesis is still unclear so far, but it is certain that the occurrence of this disease is also affected by genetic factors and environmental factors. , Different lifestyles have a great relationship; abnormal islet cell function and insulin resistance are the two main pathogenesis factors that impair glucose regulation. With the gradual increase of IR, the state of glucose metabolism changes from normal to glucose regulation. Impaired diseases need to go through the following four stages: individual insulin secretion, hyperglycemia, decompensation, and eventually lead to pre-diabetes as the intermediate state of normal people suffering from diabetes is also a necessary stage, this process is reversible, in In the case of drug therapy, early exercise intervention has many health benefits, which can effectively improve the patient's blood sugar regulation function, effectively regulate lipid metabolism, and reduce the risk of developing diabetes.

## 2.2. Exercise Style Intervention

When patients with impaired glucose regulation perform moderate-intensity sports dance, the blood glucose used by the muscle exceeds the decomposition of hepatic glycogen, which in turn leads to a decrease in blood glucose levels. For patients who do not use any insulin or insulin promoters, plasma insulin Activity will generally decrease accordingly, so even if the physical activity lasts for a long time, the risk of developing hypoglycemia is relatively small. The decrease of blood glucose is mostly related to the duration of exercise, the intensity of exercise, the control before exercise, and the state of physical training. Pres-diabetes is an intermediate stage of normal people suffering from diabetes. This process is reversible and will not be carried out. In the case of drug therapy, early exercise intervention has many health benefits, which can effectively improve the patient's blood sugar regulation function, effectively regulate lipid metabolism, and reduce the risk of developing diabetes. Exercise can make pre-diabetic patients with insulin resistance and insulin sensitivity Sex has been significantly improved [14]. Long-term adherence to sports dance

exercise, the brain function enters a good awakening state, in this state, it can promote the body to produce a happy "endorphin" and catecholamine substances, which reduces the secretion of cortisol, thereby improving glucose utilization rate. The utilization rate of glucose has hindered gluconeogenesis and reduced insulin resistance. In addition, sports dance can reduce patients' loneliness, maintain a good mentality, improve social adaptability and reduce psychological barriers. Sleep disturbances can increase insulin resistance, which affects glucose homeostasis. Sports dance has a significant effect on shortening sleep latency, increasing sleep time, and improving sleep quality. It can reduce insulin resistance and repair the function of islet cells. Sports dance exercise can increase the sensitivity of skeletal muscle to insulin, improve the occurrence of insulin resistance and impaired islet cell function.

The method of sports training develops different sports treatment programs and compares the effects of different intervention programs on blood glucose control of patients, to find a more suitable exercise program development process and effective exercise program for patients with impaired glucose regulation. Find a more scientific and effective exercise treatment plan development process, and actualize the actual operation process, making exercise treatment plan scientific, personalized, and easy to implement, with a view to solving the urgent problems that patients with impaired sugar regulation need to solve, so that exercise can be regarded as a kind of drug. The drug can be taken regularly and quantitatively to better control the disease, prevent the occurrence of complications and comorbidities, and improve the quality of life of patients with impaired sugar regulation. The development of exercise programs should follow the principles of medical treatment and basic principles of sports training. Scientific, effective and personalized exercise programs should include exercise factors such as exercise method, exercise intensity, exercise start time, exercise duration, exercise frequency and exercise cycle [15]. However, the selection of these exercise factors should be verified by specific experiments before they can be applied to the actual treatment of patients with impaired glucose regulation. Elevate exercise to the height of medical technology and combine medicine and exercise training organically. Only in this way can exercise therapy be fully promoted, serve the public, and be implemented more simply, scientifically, and effectively.

### **2.3. The Development of Different Sports Programs**

In the application process of actual treatment, not only to follow the basic medical knowledge and the principles of training methods, but also to combine sugar to adjust the physical condition and treatment goals of impaired patients. The process of formulating a continuous intervention program is relatively simple. In order to ensure enough stimulation to the patient's body, the exercise intensity can be selected from medium and large exercise intensity, and continuous exercise until the blood sugar drops to the target range. The selected intensity of the intermittent intervention program is a larger load intensity, the intermittent mode is low-intensity walking exercise, and the training interval is not completely restored to continue the next group of exercises. The intensity of the repeated intervention program is not much different from that of the intermittent program. Increase the exercise time of each group. Completely rest and stop exercising during the intermittent time. The intermittent time is not fixed. Rest, and can keep the heart and lung function and exercise organs a certain excitement, to continue the next group of exercises. The three intervention programs have their own advantages and disadvantages. The treatment effect on patients with impaired glucose regulation needs to be evaluated in the following experimental process in conjunction with relevant medical indicators. At the same time, personalized differences

may occur, that is, different patients have three intervention programs the stress response varies greatly and no regular conclusion can be drawn. The situation of patients' blood glucose control after exercise intervention, using these indicators can more scientifically compare which exercise intervention program is more rapid and effective. Find the optimal exercise program to make exercise therapy with impaired sugar regulation more scientific, specific, personalized, and easy to implement. Treat exercise as a medicine, which can be taken regularly and quantitatively to better control the disease, prevent complications, and merge the occurrence of disease can improve the quality of life of patients with impaired sugar regulation.

### **3. Experiments**

#### **3.1. Experimental Data**

The object of this experiment is patients with impaired sugar regulation. The relevant information is as follows. First, at present, most of the domestic and foreign studies on exercise intensity in exercise prescriptions are based on exercise intensity of not more than 50% of the maximum oxygen uptake to formulate exercise prescriptions. The main choice is low-intensity exercise dance aerobic endurance Sports, such as walking, fitness walking, jogging, cycling, swimming, all kinds of boxing, fitness gymnastics, various balls, climbing stairs, etc., have achieved good training results. But now more and more research results show that: considering the adjustment of the complications and exercise risks of patients with impaired patients, regular high-intensity exercise will achieve better results when the patients' own conditions permit. Due to the emergence of many different points of view, in order to explore more effective exercise prescriptions, many scholars have also compared whether different exercise methods have different effects through experimental studies. Through questionnaire surveys, they can understand the health status and disease history of the respondents, diet, medication and participation. Physical exercise, etc., based on the results of the questionnaire survey, combined with the detection of weight, waist circumference, fasting blood lipids, blood sugar and quiet heart rate, blood pressure, electrocardiogram, preliminary screening of high-risk groups with impaired glucose regulation, and then medical examination of this group, according to the results Determine the research object. Relevant indicators were measured on the screened research subjects, and the cardiac function evaluation was conducted through the incremental load exercise test. Based on the results of the functional evaluation, individualized exercise prescriptions were formulated for the experimental group. Provide reasonable dietary education to all subjects. The control group maintained the original lifestyle and studied the relationship between them and the effect of aerobic exercise on the insulin sensitivity of people with impaired glucose regulation.

#### **3.2. Experimental Subjects and Methods**

The subjects of this paper are some patients with impaired sugar regulation. The experimental method is roughly as follows. The exercise intensity is 30% -40% three weeks before the exercise prescription is implemented. The exercise intensity is 30% -40% at the beginning and increased to 60% -70% after 6 weeks. Use the corresponding heart rate as the target heart rate to control exercise intensity. Each exercise starts 2 hours after a meal, to avoid fasting exercise to prevent hypoglycemia. And asked the research subjects to wear comfortable footwear to prevent foot injuries. One week of adaptive exercises before exercise prescriptions are implemented. During the exercise prescription exercise, the researchers went to the fitness site four times a week to test and

record the exercise, wear a pedometer for each research subject, and guide the research subject to control walking speed. Measure the blood pressure before and after the experiment, answer the problems encountered by the research object in fitness, to ensure the implementation of exercise prescription and the research object's close cooperation. Research subjects are required to make daily fitness records. During the experiment, the research subjects were required to maintain their original lifestyle except exercising according to the exercise prescription. The control group maintained their original lifestyle during this period. 4 health knowledge lectures were held during the experiment, and all research subjects were required to be present. Mainly explain how to achieve the benefits of reasonable diet and fitness exercise, increase the understanding and cooperation of the research subjects on this experiment, and avoid the impact of poor diet structure and diet on the experiment process. All data are processed using SPSS18.0 statistical analysis software, and the test results are expressed as mean  $\pm$  standard deviation ( $M \pm SD$ ). Non-parametric tests are used to compare the effective exercise time of different exercise programs and the impact on various indicators. Three or more groups are compared with multiple related samples. Two sets of data are tested with two related samples. The significance level is  $P < 0.06$ , the very significant level is  $P < 0.02$ . Conduct a questionnaire survey on the primary high-risk groups. The main contents of the questionnaire include the basic situation of the research subjects, the past blood sugar, blood lipids and related diseases, the physical activities in life and the basic situation of participating in physical exercise, etc. The main purpose is to preliminarily determine the population at risk of impaired glucose regulation through questionnaires combined with the results of routine physical examinations, in order to prepare for further screening of research subjects and formulation of exercise prescriptions.

### 3.3. Experimental Data

Impaired glucose regulation is the only stage that may turn blood glucose abnormalities back to normal blood glucose, that is, the blood glucose of this population may develop in the direction of diabetes or normal blood glucose, but the incidence of diabetes is significantly higher than that of the general population Scheduled to take place 2 hours after dinner, once every other day. Continuous evaluation during the intervention phase to ensure that exercise intensity and heart rate meet the requirements. During the intervention, a health knowledge lecture is held every month, and an endocrinologist or a diabetes specialist nurse is invited to conduct. The content includes reasonable diet, fitness exercise, and interpretation of diabetes-related indicators. The time is 30-35 minutes, and the three groups teach separately, in order to deepen the participants' awareness of exercise and diet, to avoid the impact of poor diet structure and lifestyle habits on this study. The research team conducted weekly telephone follow-up of each participant, including understanding their diet, exercise experience and encouraging their persistence, answering related questions, etc. The test results of morphological indicators of patients with impaired glucose regulation before and after exercise intervention, as shown in Table 1:

*Table 1. Changes of body shape index before and after exercise intervention*

Category	Before the intervention	After the intervention
Percentage of body fat	35.24 $\pm$ 5.20	36.89 $\pm$ 5.09
Abdominal fat	223.17 $\pm$ 84.78	196.40 $\pm$ 85.33
Visceral fat	98.44 $\pm$ 32.45	87.65 $\pm$ 29.35
Grip	27.47 $\pm$ 5.16	29.88 $\pm$ 6.38

Sports dance, on the one hand, insulin sensitivity increases glucose utilization. Sports dance improves muscle mass, which increases the utilization of skeletal muscle for blood glucose and improves the sensitivity of skeletal muscle cells to insulin, both of which may appear to improve metabolic control. The obvious synergy and strengthening effect are more beneficial to the control of disease progression and recovery of pre-diabetics, to improve the metabolic disorder of pre-diabetes. The specific mechanism and action mechanism of sports dance need further study. On the other hand, sports dances, because of their diverse ways, avoid the singularity and dullness of the movement, which is conducive to enhancing the sports interest of the crowd and is easy to stick to.

## 4. Discussion

### 4.1. Analysis of Impaired Sugar Regulation

Impaired glucose regulation is the transitional stage that any type of diabetes can pass from a normal person to a person with diabetes, that is, the pre-state of any type of diabetes. There are two states of impaired glucose regulation: impaired fasting blood glucose and impaired glucose tolerance [16]. Abnormal metabolism of blood glucose levels during this period has damaged organs and tissues, especially atherosclerotic cardiovascular disease. They are all strong risk signs of diabetes, and are associated with an increased risk of atherosclerotic cardiovascular disease. Insulin is one of the most important hormones in the body and is necessary for maintaining normal metabolism, growth and development, reproductive physiology and healthy life substance. The total biological effect of insulin on metabolism is to promote the synthesis of sugar, protein and fat and reduce its decomposition, so it belongs to the category of synthetic hormones. In the utilization of sugar, such as the oxidation and conversion of glucose into glycogen, fat and protein, insulin also plays a key role. One of the most obvious physiological effects of insulin is to maintain the blood sugar homeostasis of the body together with other hormones and the autonomic nervous system to ensure the body's normal use of glucose. From a pathological and physiological point of view, all types of diabetes characterized by elevated blood sugar are caused by absolute and / or relative lack of insulin. This conclusion is valid so far, showing the close relationship between impaired glucose regulation and insulin. Human insulin is synthesized and secreted by pancreatic islet  $\beta$  cells, the endocrine tissue of the pancreas. The islet is composed of many cell clusters dispersed in the pancreas. The human pancreas contains more than 1.1 million islets, but the total volume of islets is only about 2% of the pancreas, and its total weight is 1-3. An islet contains an average of 2,500 endocrine cells, only a few are few, and more than 11,000. The islet is mainly composed of 4 different endocrine cells, namely  $\beta$ ,  $\alpha$ ,  $\delta$  and PP cells as shown in Table 2.

*Table 2. The main cell types of islets and the corresponding hormones secreted*

Cell types	The percentage of total islet cells (%)	Secreted hormone
Islet $\beta$ cell	76	Insulin, c-peptide, proinsulin, amylin
Islet $\alpha$ cell	21	Glucagon, proglucagon
Islet delta cell	4-6	Somatostatin, gastrin
Islet PP cells	2	Pancreatic polypeptide pp

It can be seen from the table that insulin is an important hormone that regulates blood glucose concentration, promotes anabolism, regulates cell division, differentiation, and growth and development. Its release process is strictly and precisely regulated, and  $\beta$  cells can integrate the

signaling effects of these two types of regulatory factors. So that the body's insulin level can meet the needs of the body's different states and stabilized at a certain level.

The performance of depression is mainly low mood, slow thinking, and decreased will activity. The study found that depression is the main mental and psychological disorder of diabetic patients, and is closely related to the occurrence, development, and outcome of the disease. In the ultra-early period, abnormal blood glucose is associated with depressive psychological disorders. Early assessment of the psychological disorders of patients with impaired glucose regulation, including depression, will facilitate the early detection and prevention of diabetes. The main behavioral influencing factor of patients with depression is the history of smoking, drinking history, night shift history and meditation lifestyle, meditation lifestyle is a risk factor for depression in patients with impaired sugar regulation, and smoking history is a protective factor. At the same time, due to the difference in gender distribution of some risk factors, it can be seen from the regression models of men and women that smoking history is the main protective factor for male patients, age and meditation lifestyle are the main risk factors for female patients, and other factors entering the model are all effective Weaker. The detection rate of depression in male smokers with impaired glucose regulation is now lower than that in non-smokers and quitters, which is inconsistent with the results of some studies on diabetic patients. It is speculated that the relationship between depression and smoking behavior in patients with impaired glucose regulation is mainly Affected by special environmental factors, as shown in Figure 1 below.

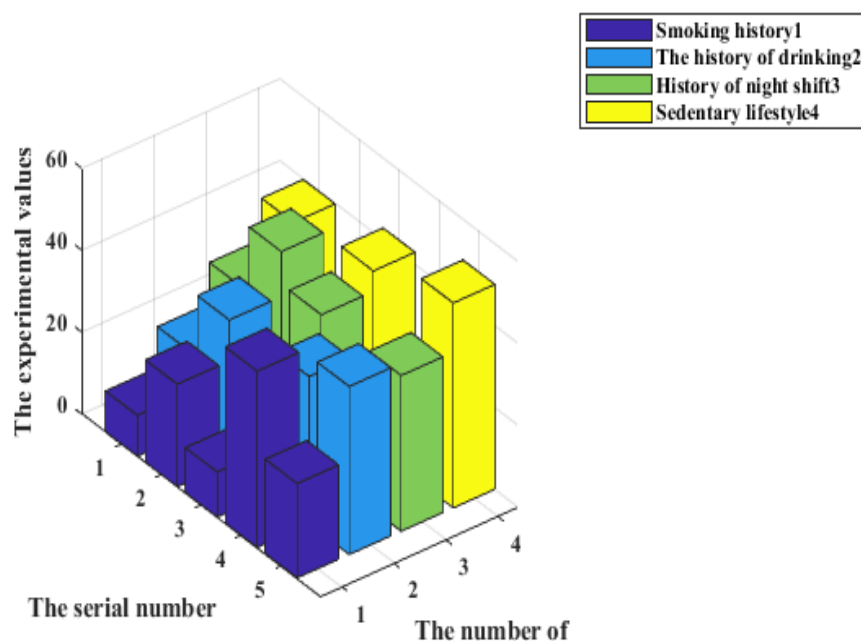


Figure 1. Mental problem analysis chart of impaired sugar regulation

From the data in Figure 1, this lifestyle interacts with depression and causes each other. Since static lifestyle is also an important risk factor for diabetes, this suggests that during the behavioral intervention of high-risk groups of diabetes, attention should be paid to the change of static lifestyle.



Early and ultra-early interventions are expected to improve the progress rate of the disease and mood disorders by 45%.

Impaired glucose regulation includes insulin resistance and decreased islet  $\beta$ -cell function, and obesity is the main cause of insulin resistance, so obesity is the main risk factor for impaired glucose regulation. It is known that obese patients have more fat abnormalities, and this abnormally increased fat will put the body in a mild to low degree of chronic inflammation, which is an important risk factor. Nutrient-rich foods often cause obesity. The ectopic deposition of lipids after obesity leads to disturbances in the body's energy metabolism, leading to the occurrence of insulin resistance. The mechanism of obesity and glucose production impaired insulin resistance or islet beta cell function is more complicated. Abnormally increased lipids destroy the function of pancreatic islet  $\beta$  cells, resulting in abnormally reduced insulin secretion, which in turn exacerbates the occurrence and development of impaired glucose regulation. The pathological changes of fat tissue in obese patients are abnormally increased in number, and enlarged fat cells can cause internal Quality reticulum stress, and can activate adipose tissue, as shown in Figure 2 below.

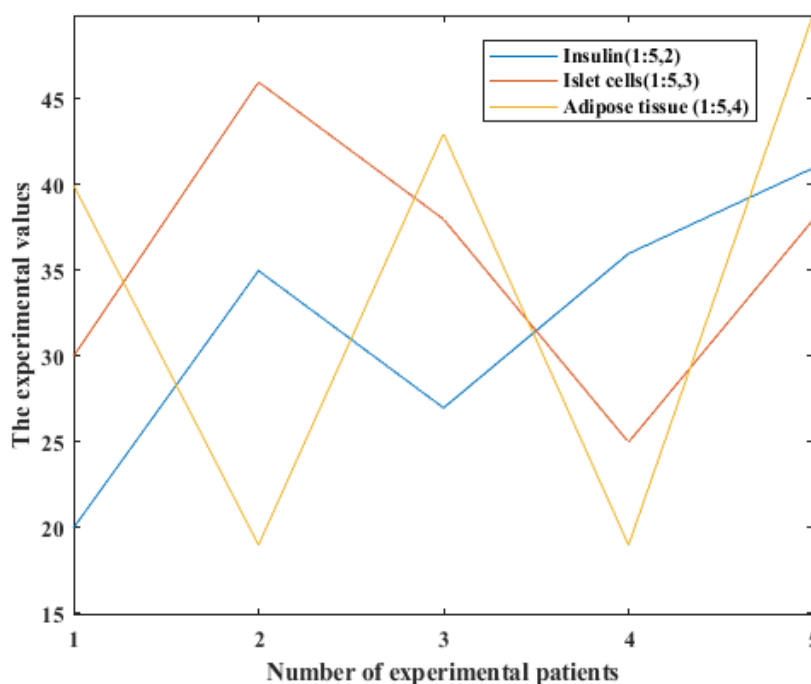


Figure 2. Analysis chart of impaired factors of sugar regulation

It can be seen from the data in Figure 2 that controlling diet weight loss not only controls the blood sugar of patients, but also has a certain effect on reducing blood lipids. It is claimed that overweight or obese patients still need to adjust their diet structure appropriately after weight loss. Losing weight is the risk factor for impaired glucose regulation, and the incidence of impaired glucose regulation is reduced by 55%.

#### 4.2. Analysis of Exercise Therapy

Impaired glucose regulation is a necessary stage of diabetes. Numerous studies have shown that its pathogenesis is like that of diabetic patients. However, the condition of this stage is reversible.

After proper exercise intervention, patients can return to normal, if not Intervention will develop diabetes. The most direct effect of exercise is to help improve muscle utilization of sugar. After a one-time moderate-intensity exercise, blood sugar can be reduced, and the effect can last for about 12 hours. Physical activity can improve insulin sensitivity and have a beneficial effect on relevant metabolic indicators. Exercise can improve insulin resistance and increase insulin sensitivity in diabetic patients. The mechanism may be that exercise increases the muscle glucose transporter protein and increases the sensitivity of glycogen synthase, which further causes the muscle to increase the utilization of glucose and improve insulin resistance. Exercise can increase glucose transporters, plasma membranes, strengthen glucose transport in skeletal muscles and adipose tissues, and can directly improve the abnormal lipid metabolism caused by abdominal obesity, increase insulin sensitivity. one week. In order to monitor the subjects on non-intervention days, to maintain the normal daily activity amount unchanged, to ensure the validity of the experimental results, as shown in Figure 3 below.

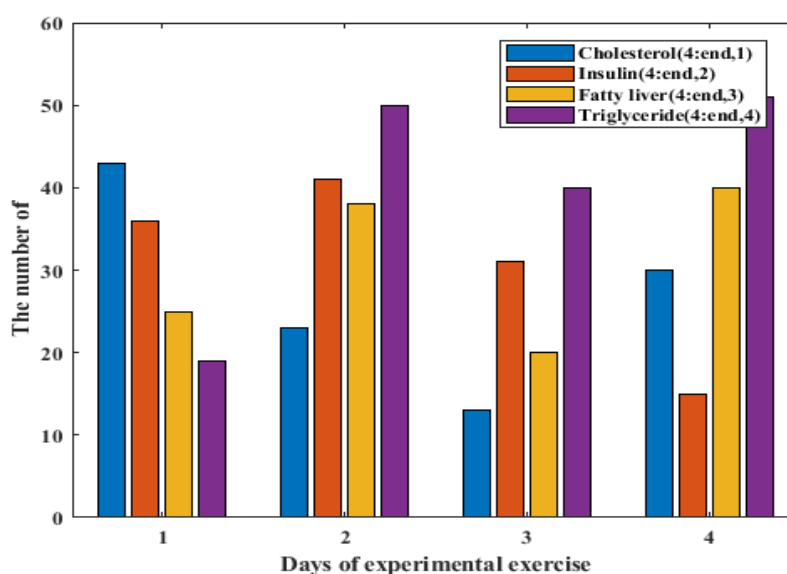


Figure 3. Analysis chart of exercise intervention

From the data in Figure 3, exercise can effectively improve the degree of liver fat infiltration in patients with impaired glucose regulation and regulate. Its sugar and lipid metabolism levels, reduce insulin, fatty liver indicators before and after exercise and triglycerides, cholesterol and fasting blood glucose levels have significantly decreased. The mechanism by which exercise improves fatty liver is that exercise reduces obesity, reduces body fat storage, and improves insulin resistance. The body's ability to use sugar and oxidation to break down fat increases body fat and blood lipids, thereby reducing liver fat infiltration by 35%. Degree.

The main benefits of exercise therapy are achieved by improving the patient's insulin action, and take blood glucose as the basic manifestation. Insulin is a strong metabolic regulator hormone that promotes the body's anabolic metabolism. Its basic role is to promote potential fuel storage and increase the storage of glycogen, fat and protein in the body. Insulin plays a direct or indirect role in many links in the process of substance metabolism. It is the main hormone that promotes anabolic metabolism and regulates blood sugar stability. Different exercise programs have significant differences in the improvement of insulin function and blood glucose control in subjects with

different causes. To ensure exercise intervention Effect, take advantage of the opportunity of group training exercises every Sunday and Sunday to communicate with the exercise intervention experimenters and regulate the movement essentials to ensure their training effect at home. In addition, on the premise of ensuring safety, pay attention to step by step and add fun exercises to improve the subject 's compliance during exercise intervention. The number of people in the experiment is 5 and different exercise methods are used. Exercise methods such as dance, trot, fast Ways such as running exercise are shown in Figure 4 below.

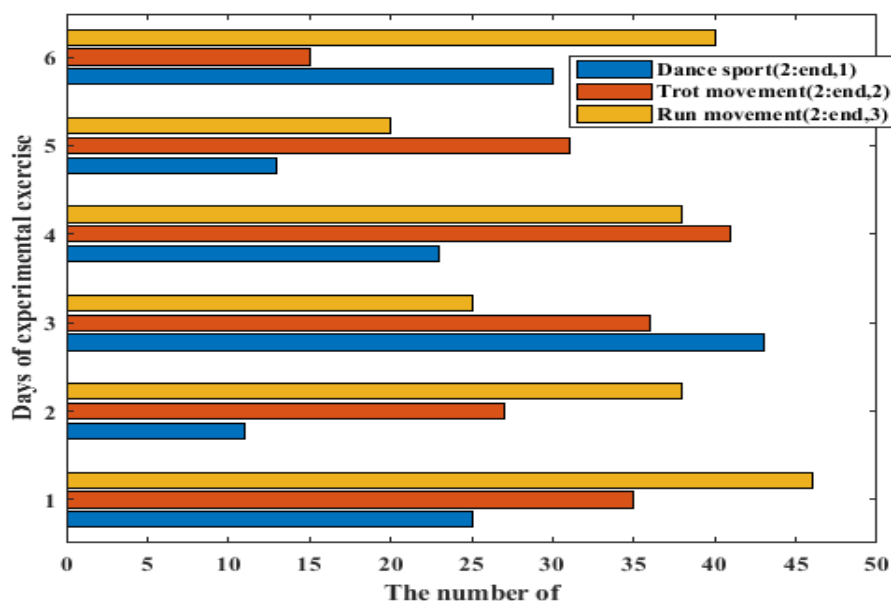


Figure 4. Analysis chart of different exercise interventions

It can be seen from Figure 4 that combining sports training methods and application rules into the formulation of diabetes treatment plans, combining medical basic knowledge, using scientific experimental methods and evaluation methods, from personalized exercise intensity, exercise time zone, and effective exercise Time, control of fasting blood glucose the next morning after exercise, and improvement of insulin function are compared from multiple angles. The effectiveness of different exercise programs is compared to find a more reasonable exercise treatment program for different diabetic patients. The surveyed patients with impaired glucose regulation had a satisfaction rate of 70% about the rehabilitation of sports dance.

## 5. Conclusion

(1) This article analyzes the current rehabilitation methods of sports dance for patients with impaired glucose regulation. Impaired glucose regulation is a stage of development for ordinary people to develop diabetes and can be treated, and discusses to solve these problems. Proposed corresponding solutions. Introduced various related sports treatment methods, and studied patients with impaired glucose regulation, and analyzed the advantages and disadvantages of various current treatment methods.

(2) Analyze the feasibility of sports dance in the rehabilitation treatment of patients with impaired glucose regulation in this paper, propose corresponding working principles and theoretical

guidance, and elaborate the superiority of sports dance in sports. With the help of dance movements, patients with impaired sugar regulation do not need to take medicine and injections. In addition, the diversity and therapeutic effects of sports dance movements also make patients with impaired sugar regulation love and save a lot of medical expenses.

(3) Discuss and verify the feasibility and excellent feasibility of this kind of rehabilitation treatment method for patients with impaired sugar regulation designed by sports dance. The patients with impaired sugar regulation played a very important auxiliary role by using sports and dance sports treatment methods, which greatly promoted the development of medicine. After experimental verification, the patients with impaired glucose regulation surveyed have 70% satisfaction with the rehabilitation methods of sports dance.

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### Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

### Conflict of Interest

The author states that this article has no conflict of interest.

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