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Retraction

Retracted: Health Care Intervention Measures for the Elderly under the Smart Sports Rehabilitation Mode under the Background of Big Data

Wireless Communications and Mobile Computing

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

In addition, our investigation has also shown that one or more of the following human-subject reporting requirements has not been met in this article: ethical approval by an Institutional Review Board (IRB) committee or equivalent, patient/participant consent to participate, and/or agreement to publish patient/participant details (where relevant).

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

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[1] H. Tang and Z. Dai, "Health Care Intervention Measures for the Elderly under the Smart Sports Rehabilitation Mode under the Background of Big Data," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 1652819, 10 pages, 2022.

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Research Article

Health Care Intervention Measures for the Elderly under the Smart Sports Rehabilitation Mode under the Background of Big Data

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With the aging of the population becoming more and more serious, the health care intervention mechanism for the elderly has also attracted the attention of many scholars. With the rapid development of social economy, intelligent medical treatment, intelligent sports rehabilitation, and other security means have become the main ways to help the elderly improve their health. This paper studies the health assessment and health care intervention measures of the elderly based on the intelligent sports rehabilitation model under the background of big data. First of all, from the security problems faced by the elderly medical care, this paper analyzes the impact of intelligent sports rehabilitation on the elderly medical care. Adopt big data analysis and data mining technology to calculate and evaluate the health index of the elderly and establish a multidimensional machine evaluation system to provide data sources for the intelligent sports rehabilitation model. Secondly, combine the Internet of Things with intelligent sports medicine to build a rehabilitation assistant robot model. Finally, from the perspective of physical function, this paper analyzes the degree of health medical intervention of the intelligent sports model on the elderly and puts forward targeted optimization measures. Research shows that in the intelligent sports rehabilitation model, the health index of the elderly is closely related to sports activities. The sports rehabilitation auxiliary machine constructed with big data technology can effectively improve the medical intervention ability and has obvious effect in practical application.

1. Introduction

The aging of the world population is one of the main contradictions in today's societies. The average age of the elderly in China has exceeded 65 years old, and the number of groups also accounts for 19.7% of the total population in China [1]. With the rapid development of social economy, the per capita living standard has risen sharply. People pay more and more attention to health, and medical security for the elderly is also the key content of service institutions [2]. However, the economic level of most elderly groups is not high enough to afford medical rehabilitation. Therefore, the intelligent sports rehabilitation model has become the main way to solve economic problems and ensure the health of the elderly [3]. Since modern rehabilitation medicine was introduced into China in the 1980s, it has expanded dozens of

professional fields, such as neurological rehabilitation, orthopedic rehabilitation, cardiac rehabilitation, and elderly rehabilitation, especially in the past decade, and it has entered a rapid development stage. In recent years, with the innovation of Internet of Things, big data, cloud computing, artificial intelligence, 5G, and other new technologies, the rehabilitation industry is facing major changes in intelligence. The combination of intelligent technology and rehabilitation will promote the development of universal rehabilitation, full cycle rehabilitation, and homogenization of rehabilitation. Intelligent sports medical means are sports activities with the nature of rehabilitation treatment. Improve the physical environment of the elderly, enhance the growth of immune cells, and improve the body immunity. Promote the effective recovery of organs and bodies of the elderly and slow down the aging speed of internal organs [4]. From the perspective

of intelligent sports, such rehabilitation means include tai chi, jogging, and gymnastics in daily exercise. Adjust the balance of internal immune environment and metabolic function through the combination of limb activity and deep breathing. Therefore, intelligent sports rehabilitation activities have also become one of the main measures in health medical intervention for the elderly [5].

In the intelligent sports rehabilitation training, we should keep the body and mind relaxed and step by step. According to their own internal conditions, select the appropriate activities [6]. Rehabilitation treatment is a long-term and stable process; so, it is necessary to maintain good work and rest habits [7]. The elderly choose appropriate rehabilitation exercises according to their health defects, gradually adjust the amount of exercise on the premise of ensuring physical and mental health, and finally achieve the best level of medical treatment. The effectiveness of sports rehabilitation model in health medical intervention for the elderly is reflected in the following aspects [8]. First, physical rehabilitation can enhance human immunity and keep the internal environment of the body in a balanced state. The body immune function of the elderly is relatively low compared with that of the adolescents. If they do not carry out reasonable and appropriate physical exercise, it will easily lead to metabolic disorders [9]. Once the metabolic environment of the body is disordered, symptoms such as hypertension, coronary heart disease, arrhythmia, and neurasthenia will follow [10]. Second, the weak digestive function of intestines and stomach is also a common feature of many elderly people, the main factor of which is the decline of organ function in the body. Physical rehabilitation activities can adjust the relaxation and tightening of organs and slow down the process of organ weakness. In the rehabilitation activities based on sports, aerobic exercises such as slow walking and limb mechanical training can improve the operating function of the body, so as to achieve the purpose of improving physical health. Third, effective physical rehabilitation can also reduce the hidden dangers caused by dysfunction [11]. For muscle atrophy, slow response and other symptoms have a significant recovery effect. Therefore, it is very necessary to use sports rehabilitation reasonably to help the elderly recover their health. The intelligent sports rehabilitation mode in the big data environment is a medical intervention measure optimized by combining the Internet of Things, computers, artificial intelligence, and other technical means [12]. These include intelligent-assisted rehabilitation equipment, artificial limb exerciser, bone rehabilitation robot, and other health care means. Based on the above situation, this paper uses data mining technology to analyze the health indicators of the elderly, uses intelligent technology to improve the sports rehabilitation model, and puts forward optimized reforms to the health care intervention mechanism.

2. Development Status of Health Care Intervention for the Elderly in Various Countries

At present, physical diseases and chronic diseases caused by age have become the main problems affecting the healthy life

of the elderly [13]. Intelligent health care has also become a common subject for all countries to face and study. With the extension of life expectancy, the decline of birth rate, and people's attention to health, people in modern society need a better medical system. In this way, telemedicine and e-health are in great need. With the help of Internet of Things/cloud computing technology, artificial intelligence expert system, and intelligent equipment of embedded system, a perfect Internet of things medical system can be built, so that all people can equally enjoy top-level medical services and solve or reduce the phenomena of difficult medical treatment, tense doctor-patient relationship, and frequent accidents caused by the lack of medical resources. As the elderly are a group with high incidence of diseases, many people who have lost the ability to move and autonomy will face crises and even death at any time [14]. When the social environment is constantly optimized, the economic level and the comprehensive strength of the country are also rising. The improvement of quality of life also has a positive impact on our daily medical environment. Every country is facing an increasingly serious problem of population aging. The health and medical intervention measures for the elderly are also the essential means to ensure the healthy life of the elderly [15]. How to improve the problems caused by age-induced diseases and chronic diseases is the main problem for every medical worker. Among them, medical and sports health intervention measures are a kind of activities with therapeutic nature [16]. The main implementation method of "integration of sports and medicine" is to issue sports prescriptions, establish, and improve the "sports prescription database" for different people, different environments, and different physical conditions, and on this basis, promote the formation of a disease management and health service mode of integration of sports and medicine and give play to the positive role of the national scientific fitness strategy in health promotion, chronic disease prevention, and rehabilitation. From the medical point of view, use scientific and healthy sports to change the internal environment of the body. Help the elderly group exercise their own physique, so as to slow down organ decline and enhance body immunity. At the same time, the medical sports rehabilitation mode can also accelerate the treatment effect of the disease and help the body quickly return to normal function [17]. The traditional means of physical rehabilitation is to combine physical exercise, aerobic breathing, and mechanical training to achieve the effect of combining limbs with consciousness. This health care intervention model has a certain therapeutic effect on cardiovascular, cerebrovascular, neuromotor, respiratory, and digestive diseases.

China has the largest elderly population in the world, and the overall health status of the elderly is not optimistic. Nearly 180 million elderly people suffer from chronic diseases, and the proportion of people with one or more chronic diseases is as high as 75%. About 40 million were disabled and partially disabled elderly people. Put prevention in a more prominent position and focus on the current major problems and key diseases affecting people's health in accordance with the basic principles of popularizing knowledge, improving literacy, self-discipline, healthy life, and

early intervention, and improving services, national participation, and coconstruction and sharing. In view of the main factors affecting health, we should focus on key groups, implement comprehensive prevention and control, and strive to make people less sick. Carrying out health promotion actions for the elderly is of great significance for improving the health level of the elderly, improving the quality of life of the elderly, and realizing healthy aging. The UK has mainly built a characteristic model based on health services in the elderly health care interventions. From the perspective of service objects, special doctors and Hohhot provide services for the health of the elderly. Every elderly person can enjoy the health and medical security measures brought by the community one-on-one on the Internet [18]. At the same time, community publicity is used to improve the elderly's attention to health activities. From the perspective of home sports in the Netherlands, they prefer to reduce unnecessary medical trips, so that the elderly can experience the help of health care from their home environment. Some scholars have established a family doctor service system for healthy life. This system provides effective suggestions and help by recording the changes of daily physical indicators of the elderly [19]. In the face of high-risk patients such as cardiovascular and cerebrovascular diseases, we also use the remote monitoring mode to record the behavior characteristics of patients and provide timely medical services and suggestions for sudden disease intervention. The research on health care interventions in Japan is relatively advanced. Starting from big data and Internet technology, they optimized health care service measures in combination with basic treatment methods. The artificial intelligence robot is used to help the elderly with rehabilitation training to achieve the best effect of postoperative repair [20, 21]. At the same time, special nutrition packages are provided for different patients' symptoms. There are many research cases on the impact of smart sports on health in China. Therefore, based on the intervention measures of the above countries in health care for the elderly, this paper starts from the big data environment, uses the intelligent sports rehabilitation model to evaluate the physical health of the elderly, and studies the optimization of traditional medical measures.

3. Research on Elderly Health Assessment and Medical Intervention Measures under Smart Sports Rehabilitation Mode under the Background of Big Data

3.1. Research on the Impact of Elderly Health Assessment and Sports Rehabilitation Medical Intervention under the Background of Big Data. With the aging of the population, it is becoming more and more serious and has gradually become a worldwide social problem. In the process of aging, the daily life and health problems of the elderly are the key issues we pay attention to. Population aging is the basic national condition of China for a long time in the future. The demand for health services is the most urgent and prominent demand of the elderly. Promoting healthy aging is a long-term plan to actively deal with population aging.

We should strengthen the construction of geriatrics centers and geriatrics departments in general hospitals, establish a two-way referral mechanism for medical treatment, rehabilitation, and nursing, speed up the construction of elderly friendly medical institutions, actively promote the implementation and improvement of home-based elderly care, and effectively strengthen elderly health services. Among them, cardiovascular and cerebrovascular symptoms are the main diseases accompanying the elderly and a small number of middle-aged groups. Therefore, in the era of rapid economic development, how to use scientific and healthy methods to change the physical environment of the elderly and reduce the incidence of chronic diseases is the primary issue to be solved by our medical intervention. At present, the state attaches great importance to sports to improve health. Physical exercise is a physical activity process that uses various sports means, combines natural forces (sunlight, air, water) and sanitary measures, and aims at developing the body, improving health, strengthening physique, and entertaining the body and mind. It is the main form of mass sports activities. It plays an important role in promoting the growth and development of the human body, cultivating body-building posture, improving the working ability of the body, eliminating fatigue, regulating emotion, preventing and treating diseases, prolonging life, and even improving the physique of the whole nation. The sports rehabilitation model has also become a comprehensive treatment. This concept of medical treatment combined with exercise can effectively reduce the content of blood lipids in the body and reduce the hidden dangers of obesity. Enhance the physical quality of the elderly and prevent the emergence of sudden diseases such as cardio cerebrovascular diseases. At the same time, it can protect the internal organs from multiple factors such as external food and air. Regular exercise can enhance the body's immunity and balance the body's metabolic cycle. The decline of gastrointestinal function in many elderly people leads to dyspepsia. Physical rehabilitation exercise can effectively alleviate the rate of organ dysfunction. Among them, the traditional way of sports rehabilitation medicine is achieved by simple walking. There are more than 200 walking exercises every day, and the cycle is about half an hour. Subsequently, gradually increase the walking range and length and slowly increase the walking speed. Traditional exercise therapy can move the limbs of the body to refine shape, exercise breathing to refine Qi and guide Qi with intention, and Qi leads blood circulation, so as to make the blood of the whole body run normally and the sick body recover. Traditional exercise therapies commonly used in rehabilitation medicine include Wuqinxi, Baduanjin, and Taijiquan. This can effectively improve the heart rate and help the body's blood circulation. After skillful walking, you can increase the exercise time or change the movement posture. At the same time, along with hand movement and shoulder neck movement, you can adjust your breathing naturally and evenly.

We investigated the residents of a certain city from the perspective of age division to explore the changes in the average daily exercise volume of the elderly group, middle-aged group, and youth group, as shown in Figure 1.

It can be seen from Figure 1 that the sports volume of middle-aged groups increases with the increase of the base. The amount of exercise of the youth group is the largest, and the amount of exercise of the elderly group shows irregular fluctuations. This shows that some elderly people keep exercising every day, while others may not be able to exercise due to multiple factors. Next, the elderly health index was evaluated from the proportion of physical rehabilitation activities of the elderly. This process needs the support of data mining technology to dynamically obtain information data that conforms to the characteristics according to the big data environment. Build the elderly health index evaluation model, combined with sports rehabilitation activities to judge the impact on health indicators. Firstly, we use the mining algorithm to further distinguish and sort out the information containing the elderly health data in the database. Predict the specific factors that affect the health index of the elderly and help medical workers arrange appropriate sports rehabilitation activities according to the index changes. In order to avoid some hidden data and errors in the calculation, we also need to establish a detection link in the model. The whole health index evaluation process is as follows:

It can be seen from Figure 2 that first, the relevant assessment levels are constructed according to the health index specifications of the middle-aged and the elderly. Literature research on the health status of the elderly. Initially update the evaluation indicators and put forward measures to solve the problems from the perspective of experts. The factors influencing the health index were determined through double consultation, and the construction of the evaluation system was completed. Add the model and calculation results to the sports rehabilitation model for classification and realize the automatic distribution of sports rehabilitation diagnosis for the elderly with different symptoms. The characteristic data from data mining directly determines the accuracy of the health assessment model; so, we need to preprocess the original data. According to different patient characteristics, the solution of the problem is obtained by calculating the mean and standard deviation:

$$x' = \frac{x - A}{\sigma_A}, \tag{1}$$

where x' represents the characteristic points after standard calculation. For the quantitative information attribute, set the key threshold value. The feature points larger than the numerical range and smaller than the range are converted into 1 or 0. The detailed formula is as follows:

$$x' = \begin{cases} 1, & x > y, \\ 0, & x \le y. \end{cases} \tag{2}$$

In the elderly health data set, we fill in fuzzy data and error information by sorting the average values of corresponding attributes. Use data conversion features to improve evaluation performance. Common conversion formulas are as follows:

$$\left(x_1', x_2', x_3', x_4', x_5'\right) = (1, x_1, x_2, x_3, x_4, x_5). \tag{3}$$

After preprocessing the original data, the qualified health features need to be added to the evaluation model for training. Select the size of the attribute value from two aspects. Use the correlation function to calculate the value of the gift variable of the target object. The calculation formula is as follows:

$$p = \frac{\sum_i (x_i - x)(y_i - y)}{\sqrt{\sum_i (x_i - x)^2 \sum_i (y_i - y)^2}}. \tag{4}$$

Next, add the calculation results to the intelligent sports rehabilitation system. Using machine learning to construct decision tree allocation mechanism, there is no need to select feature objects when processing dynamic change features after detecting data accuracy. This mechanism can explore the influence coefficient of sports rehabilitation activities on the elderly health assessment model. Suppose that the data set of the elderly health training model has the following categories:

$$K = 1, 2, \cdots, K, |C_k|. \tag{5}$$

There are multiple value ranges for key information attributes. According to different characteristic variables, it is divided into several subsets for calculation. The influence quotient of physical rehabilitation activities on health index is calculated by the following formula:

$$H(D) = -\sum_{i=1}^{K} \frac{|C_K|}{|D|} \log \frac{|C_k|}{|D|}, \tag{6}$$

$$H(D|A) = -\sum_{i=1}^{n} \frac{|D_i|}{|D|} \sum_{k='}^{k} \frac{|D_i K|}{|D|} \log \frac{|D_k|}{|D_i|}. \tag{7}$$

The quotient gain of the characteristic object represents the fluctuation range of the data, and whether the correlation is accurate and effective. The gain formula is as follows:

$$g(D) = H(D) - H(D|A). \tag{8}$$

This classification regression training model will add a decision tree prediction mechanism in each operation. The prediction mechanism is used to count the values by weight, so as to obtain the impact of sports rehabilitation activities on the elderly health index, as shown in Figure 3.

As can be seen from Figure 3, we know from the comparison between the health indicators of the elderly trained with physical rehabilitation activities and those without physical rehabilitation activities that physical activities have affected the positive changes of the health indicators of the elderly to a certain extent. The range of health index varies according to the degree of physical activity. With the strengthening of the training level, the health indicators of the elderly who use the sports rehabilitation model are gradually rising.
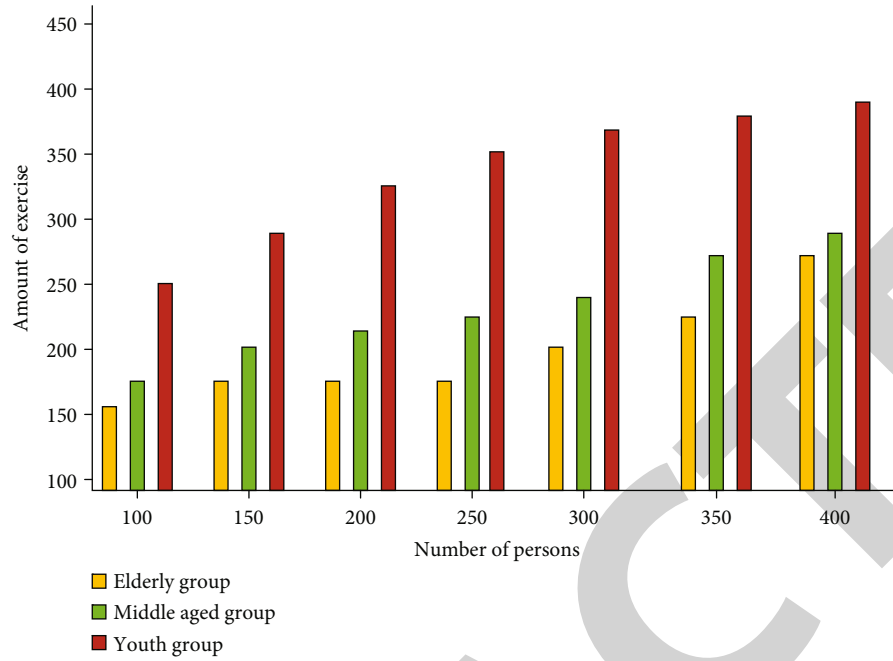
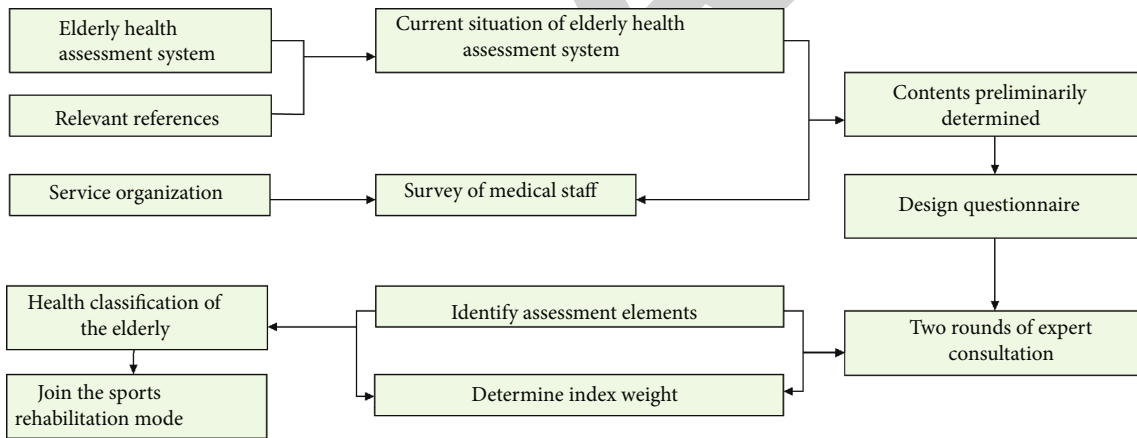FIGURE 1: Comparison of average daily exercise volume of three groups.

FIGURE 2: Health index assessment process.

Therefore, the sports rehabilitation model has a certain effect on the health of the elderly.

3.2. Research on Optimization Measures of Intelligent Sports Rehabilitation Model for Elderly Health Medical Intervention. The benefits of physical exercise include improving heart and lung health, improving musculoskeletal metabolism, and controlling weight, physical, and mental pleasure. During exercise, blood circulation is accelerated, cardiopulmonary function is enhanced, the risk of cardiovascular and cerebrovascular diseases is reduced, and blood vessels are kept unblocked. Exercise can promote fat metabolism, control weight and strengthen the body, maintain a healthy constitution, enhance immunity, increase muscle

endurance, and promote the delivery of oxygen and nutrients to body tissues. Proper physical activity can improve the human heart, spleen, stomach, liver, kidney, and other organs. It can improve human immunity and reduce the sudden occurrence of diseases. Patients of different ages react differently to physical rehabilitation activities. Among them, for the elderly, the relevant reactions of physical rehabilitation mode during the recovery of cardiovascular and cerebrovascular diseases are as follows: physical exercise can improve the change of heart rate and reduce oxygen consumption. Keep the blood pressure in a stable state and increase the corresponding contraction rate according to the change of pulse coefficient per second. Effective exercise is that under a certain period of time and workload, the
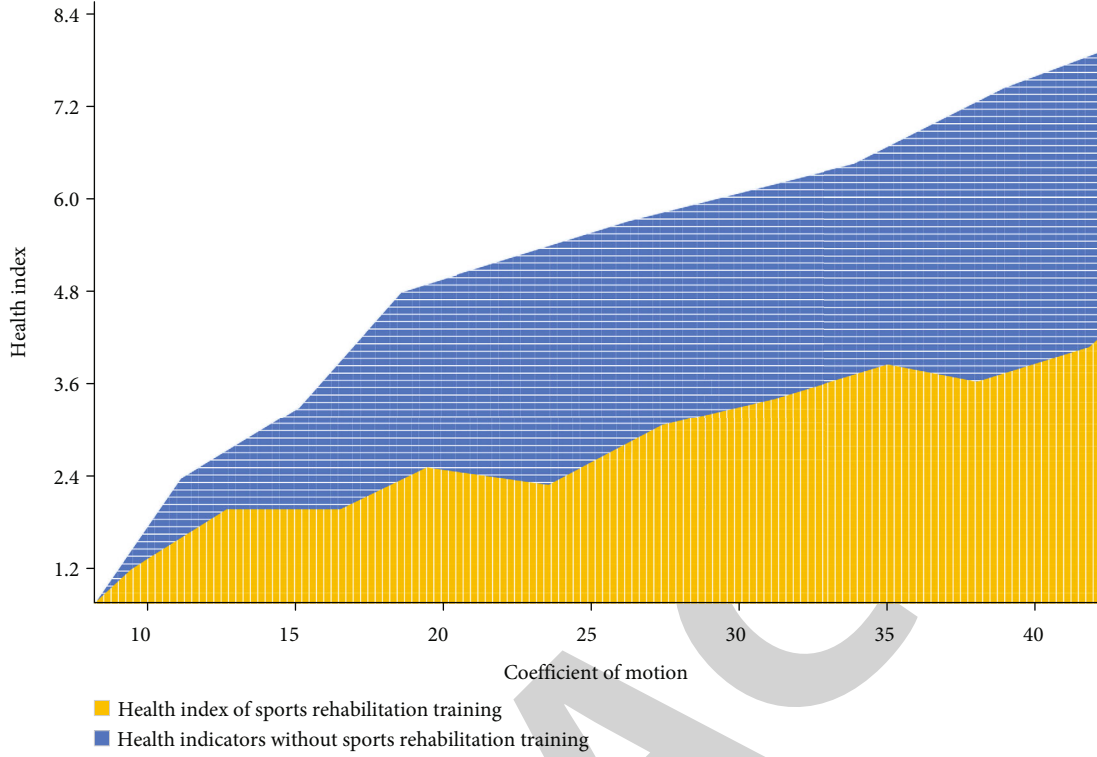
FIGURE 3: Effect of physical rehabilitation on health index of the elderly.

systolic pressure of the heart decreases, muscle lactate secretion decreases, and the change law of heart rate shows a slow downward trend. Attention should also be paid to arrhythmias caused by rehabilitation actions such as high frequency during exercise. We compared 200 elderly people who did not participate in physical rehabilitation with 200 elderly people who participated in physical rehabilitation and analyzed the concentration of capillary lactic acid and the amount of exercise, as shown in Figure 4.

It can be seen from Figure 4 that with the increase of exercise, the elderly who participate in physical rehabilitation training can effectively transform the lactic acid content in their bodies, and the coefficient remains within the standard index. Lactic acid concentration below 250 mg/l is prone to myocardial infarction and angina pectoris. Part of the elderly without physical rehabilitation exercise are in the low concentration range. With the application of big data and other science and technology, sports rehabilitation medical means have also undergone new changes. Rehabilitation exercise can treat the diseases and rehabilitation functions of various organ systems, make the weak strong, improve the resistance of the body, and mediate the emotional state of the exerciser. In practice, exercisers must prescribe the right medicine according to their own condition and physical condition; so, it has a strong pertinence. Rehabilitation exercise is a step-by-step activity, which requires a lot of repetitive operations and has timeliness. The empty nest in society also leads to some elderly people being unable to get care and help in the hospitalization stage. Therefore, it is very necessary to combine intelligent equipment with

physical rehabilitation to form a new model. Relevant clinical trials can prove that intelligent sports rehabilitation has a good effect on neuromotor function damage. For example, patients with lower limb paralysis or nerve injury can gradually recover basic body functions through repetitive activities. In our research, we combined intelligent equipment with the concept of sports activities to build a mechanical rehabilitation model based on artificial intelligence. The functional and demand structure of the rehabilitation system is shown in Figure 5.

As can be seen from Figure 5, patients and relevant medical staff interact through the Internet of Things and other devices. Motion therapy was assisted by sensors and cameras. At the same time, the demonstration of rehabilitation activities and the use cycle are automatically prompted. The coefficient analysis of kinematics in the intelligent sports rehabilitation mode can improve the accuracy of the machine training model. The motion formula of the joint connecting rod structure is constructed as follows:

$$\begin{cases} l_1 \sin \theta_1 = l_2 \sin \theta_2 + h_1, \\ l_1 \cos \theta_1 + l_2 \cos \theta_2 + x_1. \end{cases} \tag{9}$$

Elimination error function is as follows:

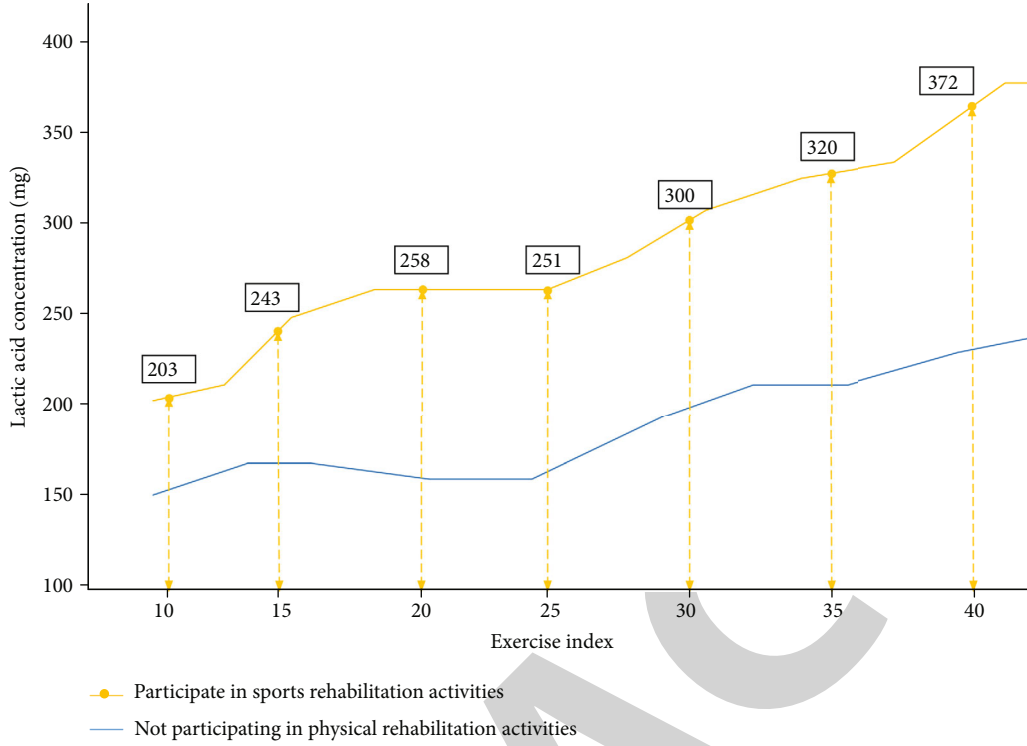$$\theta_1 = \arccos \frac{l_1^2 + x_1^2 + h_1^2 - l_2^2}{2l_1 \sqrt{x_1^2 + h_1^2}} + \phi_1. \tag{10}$$

FIGURE 4: Changes in lactic acid concentration and amount of exercise.

The formula is further simplified as

$$\phi_1 = \arctan \frac{h_1}{x_1}. \tag{11}$$

Similarly, the key motion equations of other limbs are

$$\begin{cases} l_3 \sin \theta_3 = l_4 \sin \theta_4 + h_2, \\ l_3 \cos \theta_3 + l_4 \cos \theta_4 = x_2. \end{cases} \tag{12}$$

Elimination error function is as follows:

$$\theta_3 = \arccos \frac{l_3^2 + x_2^2 + h_2^2 - l_4^2}{2l_3 \sqrt{x_2^2 + h_2^2}} + \varphi_2. \tag{13}$$

The formula is simplified as

$$\varphi_2 = \arctan \frac{h_2}{x_2} \tag{14}$$

Conduct dynamic analysis on the mechanical model and calculate the motion potential energy of the limb joints:

$$E_{\mathrm{pl}} = -m_1 gl_6 \sin (\theta_1 + \theta_5). \tag{15}$$

The motion potential energy of limb joints is obtained from the above formula. Obtain the displacement curve of patients' repetitive activities in the physical rehabilitation mode. The dynamic change curve is added to the model construction to improve the accuracy of rehabilitation activities and meet the needs of different patients for rehabilitation movement mode.

4. Analysis on Research Results of Elderly Health Medical Intervention Measures under Smart Sports Rehabilitation Mode under the Background of Big Data

With the aging of the population becoming more and more obvious, the health of the elderly has become a topic of general concern in the society. Chronic diseases and organ decline caused by age are the main factors affecting the average life span of the elderly. With the innovation of science and technology and the application of smart devices, they have also shown different effects in health care. Intelligent physical rehabilitation is a mode in which the medical system combines physical exercise, strengthens the physique through repeated exercise, regular exercise, and other physical activities, and changes the human health index. In this paper, we set up a control group in the elderly patients with and without intelligent physical rehabilitation training. The patients without actual exercise are relatively slow in the process of rehabilitation of cardiovascular and cerebrovascular diseases. There were significant differences between the two groups in the experiment. After the onset of the disease, the patients who used physical rehabilitation training had a significantly reduced probability of heartache in their daily
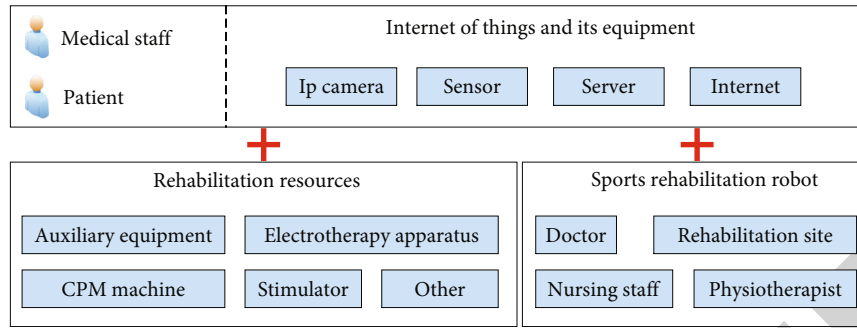
Figure 5: Functional and demand structure diagram of the rehabilitation system.
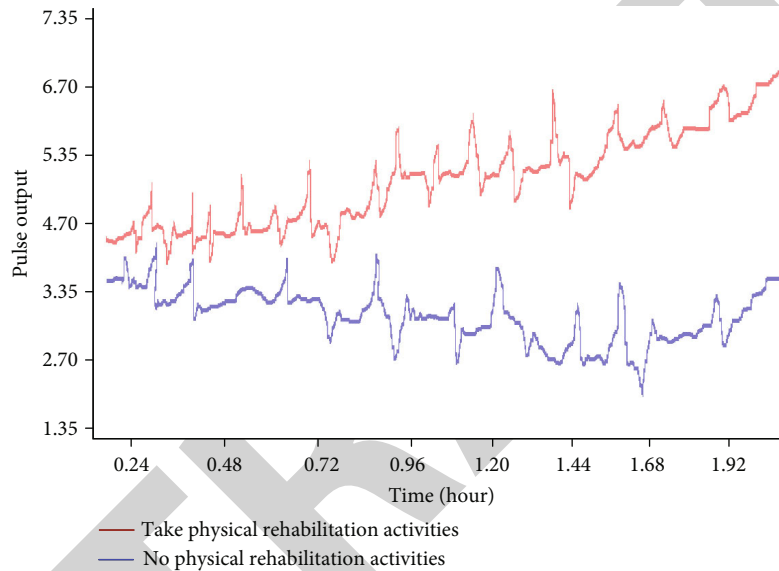

Figure 6: Pulse output with and without physical rehabilitation mode.

life. Exercise improvement was carried out on the elderly with myocardial infarction symptoms, and it was found that the physical health indicators showed an upward trend. Only one index of patients who did not take exercise rehabilitation increased. In the static environment, the difference of pulse output between the two groups was not significant. In the exercise control group, it was also found that the cardiac function was significantly improved after sports. We compared the pulse output of the elderly with and without physical rehabilitation, as shown in Figure 6.

It can be seen from Figure 6 that the pulse output per minute of the elderly under the sports rehabilitation mode has increased, which is caused by myocardial exercise. There was no significant change in vasodilatation and length. The frequency of mental exercise decreased significantly in the elderly who did not use the physical rehabilitation model. Next, the function modules of self-help equipment are analyzed in the experiment of intelligent physical rehabilitation to help the elderly exercise. Use mobile network to connect hospitals, communities, and families. The health indicators of the elderly are monitored in real time and dynamically uploaded to the medical diagnosis platform. The rehabilita-

tion training operation terminal is also linked in the medical system, which combines intelligent training equipment with platform management to ensure the detection effect and improve the feedback speed at the same time. Many elderly people with mobility difficulties can achieve physical rehabilitation training at home, as well as remote diagnosis and remote medical treatment. The equipment structure of the intelligent sports rehabilitation model for external limb movement is shown in Figure 7.

It can be seen from Figure 7 that the design concept of the external limb rehabilitation equipment is to help the elderly improve their immunity and quickly recover their postoperative health. The wearable devices are combined with the exercise parts of the elderly to help the elderly improve their muscle capacity through repeated auxiliary exercises. Use automatic correction and shape training to reduce the stiffness of body joints. At the same time, the fixed structure can also provide support in the process of sports and reduce the probability of injury in sports training. Based on the above research, we found that in the health medical intervention for the elderly, the sports rehabilitation mode optimized by intelligent equipment and technology

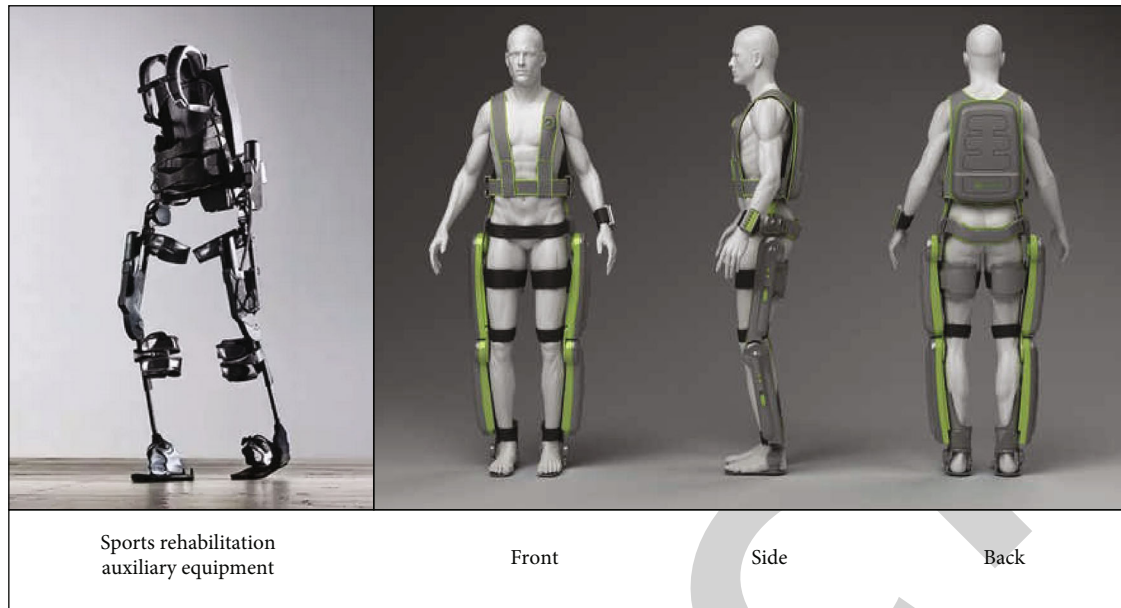| Sports rehabilitation auxiliary equipment | Front | Side | Back |

FIGURE 7: Equipment structure of the intelligent sports rehabilitation model.

has a positive impact on the postoperative repair and health index of the elderly.

5. Conclusion

With the gradual improvement of social and economic development, people's living standards are also steadily improving. The elderly group has become the category with the largest population base, and there are more and more guarantee mechanisms for the health of the elderly. In order to adapt to the various health needs of the elderly, helping the elderly to recover after operation and suffering from disease has also become the focus of the research. How to improve the health indicators of the elderly and improve the medical intervention mechanism under the environment of big data and intelligent science and technology is our primary problem to be solved. Based on the above situation, starting from the big data environment, this paper uses the intelligent sports rehabilitation model to study the health index of the elderly and medical intervention measures. Firstly, data mining technology is used to analyze the standard range of health indicators of the elderly group, and the decision tree algorithm is used to build a classification model to evaluate and budget the health system. From the two aspects of participating in sports rehabilitation activities and not participating in sports rehabilitation activities, this paper explores the influence of factors such as the duration and degree of sports on health values. Finally, the construction requirements of the sports rehabilitation system are analyzed, and the wearable sports training model is simulated by using the technology of Internet of Things sensors. Combine smart sports with health medical intervention mechanism to provide auxiliary tools for the daily activities of the elderly. The results show that the intelligent sports rehabilitation model has a positive impact on the health index of the elderly. Daily physical exercise for the elderly can effectively alleviate physical diseases, improve body immunity and metabolic activities.

Data Availability

The figures and tables used to support the findings of this study are included in the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

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