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Research on the Application of Sports Prescription in College Students

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***Abstract*—In order to curb the declining trend of College Students' physical fitness in recent years and the orderly development of the "Healthy China" program, this paper summarizes, summarizes and analyses the problems existing in the application of College Students' Group Sports Prescriptions in recent ten years by the method of literature review. It is found that although exercise prescription can effectively improve the physical condition of College students, the supporting management system for improving the physical fitness of college students is not yet perfect. On the other hand, aiming at the lack of preventive measures against acute and chronic sports injuries in the process of individual students' sports, this paper proposes methods and measures based on convolutional neural network in-depth learning to reduce the risk of sports injuries. In this way, it urges the improvement of the physical condition of college students and the orderly development of the measures to guarantee the physical health of the general public in our country.**

Keywords—Sports prescription; College students; Sub-health; Digital management; Micro-prescription; Deep learning

I. INTRODUCTION

In the journey of achieving the goal of "two hundred years" in our country, we cannot do without the hard work of our people. Among them, the group of college students, as an important booster of China's economic development, has become the "world's second largest economy" in one fell swoop and contributed indelible credit. While the economic level is developing at a high speed, our party has also incorporated the improvement of the national health of the physique, and proposed the "Healthy China 2030" planning outline to urge the improvement of the physique of our country. However, contrary to this, the level of physical fitness of college students in China has been declining year by year, and the physical condition is worrying.

Although China's economic level has achieved major measures such as destocking, innovation-driven, and supply-side structural reforms in the past decade, it is accompanied by the death of cardiovascular diseases in China, which accounts for the leading cause of deaths in urban and rural residents, including: 45.50% in rural areas, the city is 43.16% [1]. "China Cardiovascular Disease Report 2018" pointed out: At present, the number of patients suffering from cardiovascular disease in China is about 290 million, and the prevalence rate is continuing to rise, and the phenomenon of younger age is constantly appearing [1]. As an important source of high-precision reserve talents in China, college students face the problems of obesity and myopia and indulging in online games, as well as the risk of sudden cardiac death due to long-term lack of exercise.

In summary, the improvement of college students' physical health status is imminent, and exercise prescription is the most direct and effective method for exercise intervention. Therefore, through the research on the development of exercise prescription, it is of great significance for China to achieve "healthy China 2030".

II. APPLICATION AND REVIEW OF PREVENTION OF SUB-HEALTH IN COLLEGE STUDENTS IN THE PAST TEN YEARS

The sub-health state is an intermediate state of physiology between health and disease [2]. The Sub-health TCM Clinical Guide divides sub-health into physical sub-health, mental sub-health and social sub-health. The sub-health status of the college students group usually intervenes in the form of physical activity, and improves the physical and mental sub-health status by improving the body's metabolic level.

A. Application and Review of Exercise Prescription in Preventing College Students from Obesity

Current research shows that the overweight rate of Chinese children and adolescents is 12.2%, and the obesity rate is 7.1% [3]. And because of the prevalence of current unhealthy lifestyles among college students, the effects of staying up late, smoking, alcohol abuse, lack of exercise and other factors have led to an increase in the rate of overweight and obesity among college students compared to the rate of obesity among adolescents. So it is very urgent to intervene teenagers in the form of exercise prescription. In the research of Matao [4], it is found that aerobic exercise combined with diet control can not only play a good role in intervention of adolescent obesity, but also help improve their immune function. In the subsequent study of Wu Xiuyun [5], we tried to combine aerobic exercise with psychological intervention to exercise intervention on the overweight college students, which not only improved their cognitive ability of scientific weight loss, but also helped them establish the motivation to adhere to the correct weight loss plan, improved their bad psychological mood in the process of

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weight loss, strengthened their belief in weight loss, and formed a good one Sports habits, effectively put an end to the phenomenon of sports withdrawal. Xu Zhiping [6] focused on the changes and effects of plasma leptin in the exercise intervention of obese female college students, which provided a theoretical basis for the follow-up study. In the search for a better, faster and more effective way to lose weight, Qi Yugang [7]found that high-intensity interval training is safer, more reliable and more effective than traditional aerobic continuous training. And belly dance can also be in a safe and reliable range of obese people to lose weight effect intervention, and the effect is significant [8].

It can be seen that through reasonable and scientific exercise intervention, targeted can effectively prevent the obesity of college students, and according to the different needs of students, students can choose different sports to carry out targeted weight-loss plan, which is not only conducive to the improvement of the physical quality of participants, but also can help them well Building up self-confidence and the sense of achievement achieved through the completion of training tasks are often conducive to its future development.

B. Application and Review of Exercise Prescription for Prevention of Cardiovascular Disease in College Students

Cardiovascular disease is the leading cause of death among residents in China, and the number of patients is still on the rise. The cardiovascular disease prevention work of college students also directly affects the development of China's future high-tech industries. In Cheng Hongling's research [9], it was proved that higher aerobic exercise ability can reduce the risk of cardiovascular disease. In the study of Su Yuanyuan [10], resistance training is an important part of preventing cardiovascular disease, so scientific resistance training can effectively prevent cardiovascular diseases. Zhang Shuang [11] developed individualized exercise prescriptions for different patients' physical conditions to reduce blood pressure and blood sugar in patients with cardiovascular disease, improve cardiopulmonary function and improve exercise endurance and quality of life, and gave a prescription for exercise prescription based on CPET. Comparing the effects of intermittent high-intensity training on traditional medium-intensity long-term results, it can be found that intermittent high-intensity training is still one of the optimal rehabilitation programs for cardiovascular patients when conditions permit [12].

Although the number of cardiovascular diseases currently occupied by college students is relatively small, the cardiovascular disease has begun to appear younger, and the prevention of cardiovascular disease among college students is also urgent. Exercise-based exercise prescriptions for the prevention of cardiovascular disease can be seen in drug therapy and exercise interventions, and are the best way to prevent or cure cardiovascular disease in the current situation.

C. Application and Review of Psychological Intervention in Sports Group in College Students

The psychological sub-health phenomenon of college students is more common. Due to the long-term depression in high school, it is easy to indulge in online games in the unsupervised situation. In Liu Guifang's research [13], it is found that students can effectively reduce students through proper yoga practice. Psychological anxiety levels and improve the adaptability of the body. Zhao Chunqi [14] found that table tennis and basketball can effectively regulate the interpersonal relationship obstacles in the study of the psychological sub-health of college students in different sports. Sports games, sports dance and orienteering can be improved. Melancholy levels, taekwondo, sports games, and swimming are more helpful in improving anxiety. Guan Tieyu [15] tried to use the Health Qigong Eight Segments to significantly improve the T-lymphocytes and peripheral blood NK cell activity levels of the participants, and the psychological state level was significantly improved.

In view of the situation of college students indulging in online games, using exercise prescription intervention can effectively help college students to establish self-confidence and improve their own satisfaction, which helps to release their own pressure [16]. After exercise intervention on some Internet addicted students, it not only effectively strengthens students' self-management ability, but also promotes the recovery of physical fitness while abstaining from internet addiction [17]. In view of the increasingly serious phenomenon of insomnia in college students, exercise intervention can also improve sleep efficiency, reduce the symptoms of sleep disorders, improve daytime function, make daytime energetic, and improve learning efficiency [18].

It can be seen that appropriate exercise intervention can effectively maintain the mental health level of the college students and improve the learning efficiency.

III. ACHIEVEMENTS AND MAIN PROBLEMS OF CURRENT EXERCISE PRESCRIPTIONS AMONG COLLEGE STUDENTS

A. Achievements Achieved with the Internet as a Carrier in the Past Decade

1) Combination of exercise prescription and informational "micro" mode

In the early years, the World Health Organization (WHO) of the World Health Organization (WHO) pointed out that 60% of human health depends on good lifestyles and behavioral habits. In recent years, with the vigorous development of China's social and economic level and the great improvement of living standards, people's cravings for healthy and high-quality life are inevitable, but they are often limited by factors such as regions and transmission routes. However, for the group of college students in China, because they often have high cultural quality and are more skilled in the operation of mobile terminals such as mobile phones, they often receive more and complicated "micro" prescriptions, which can often be used as short. New media, such as video and public accounts, use fragmented time to learn and improve their intellectual literacy in sports.

This "micro" prescription method is not only easy to learn but also has a good effect on the health of the masses. Moreover, by managing the media's management of its disseminated content, it can promptly blame, which not only contributes to the effective dissemination of science and culture,

but also allows college students to gradually accept the scientific concept of exercise prescriptions, while driving their own subtle influences. Many people improve their daily lifestyles and behaviors. This kind of change in the concept of "micro" is precisely the principle of "treatment of disease, prevention of disease" in exercise prescription.

2) Combination of exercise prescription and digital management of body status

In recent years, with the development of Internet technology, cloud computing and big data analysis, China has also begun to accelerate into the era of "Internet of Things", a new era of cross-border integration, integrated innovation and large-scale development [19]. The advent of smart bracelets and smart watches can effectively collect and monitor the user's various physiological conditions for users' reference. The fitness APP gives users who are eager to exercise certain technical guidance, such as: demonstration actions, online open classes, etc. And guide the user to exercise.

Such as the glory 4running version of the smart bracelet, through the sensor feedback in the bracelet, to determine the ground mode, impact and foot valgus amplitude, swing angle, stride, step frequency, touch time and other data, combined with the National Sports Bureau research The organization's analysis and recommendations use the power of technology to eliminate the gap between users and the network, collect, organize, and analyze the user's fitness data, and develop exercise prescriptions to provide scientific guidance for user exercise. This initiative has been widely acclaimed to provide guidance for most exercisers, thus reducing the incidence of sports injuries. This measure also indirectly improves the level of national physique and the level of awareness of exercisers in physical exercise. Users can receive professional guidance through the use of smart bracelets in any location, reducing the user's economic and time costs. For the enterprise to provide users with "micro" prescriptions, the collected user data is a running model for the enterprise to improve and improve the general population, and provide a scientific basis for formulating exercise prescriptions.

And for some colleges and universities have begun to establish a physique monitoring platform for college students, the data will be analyzed and analyzed, and the risk assessment of students' physical test status will be given. Achieve specific functional evaluations to achieve a comprehensive and comprehensive physical improvement.

B. The Main Problems of Sports Prescriptions in the College Students in the Past Decade

1) Lack of implementation effectiveness guarantee for exercise prescription

At present, there are relatively many studies on the effects of exercise prescriptions, but they are often carried out in the periphery, often through the development of training plans or closed training interventions, but the corrections in the training process of the participants are often rare. Do it. According to the American Society of Sports Medicine ACSM statistics, the rate of chronic motor injury caused by irregular movements is as high as 65%.

The knee injury rate is 42% in runners, and knee injury is twice as likely as injury in other parts of the body [20]. It can be seen that for a considerable number of people, because they do not know how to avoid the occurrence of sports injuries, they cause acute and chronic sports injuries, so that they have to withdraw from sports during the middle and late stages of exercise, and once this happens, This has caused the participants to lose trust in the trainers and organizers, and even from this, there will be resistance to the sports industry practitioners, that is, the occurrence of emotional transfer.

How to maximize the quality of exercise prescriptions, so far only Huawei has been trying to improve the user's running level. However, relying solely on Huawei is not far from enough. This is not only related to the public perception of the practitioners in the sports industry, but also to the development of the future sports industry. Therefore, based on the above considerations, the most basic training effect of the members is taken as the starting point to solve the most basic demands of the public. It should be considered how to ensure the effectiveness of prescriptions as the top priority. More similar online and offline guidance, based on user feedback data, targeted professional guidance, to promote the participants' training actions can be completed with high quality and high security.

2) The current contradiction between sub-health and social progress of college students

In today's society, the group of college students is often accelerating due to the speed of social development, resulting in a widespread panic that promotes the pressure of college students to learn and the pressure of employment, but the lack of reasonable channels of venting can only be through unhealthy smoking, drinking, staying up late, etc. The way to release pressure, and constantly promote the formation of sub-health state, and thus continue to cause sleep disorders, memory loss, nervous anxiety, slow response and other phenomena in college students [21].

The root cause of this problem is the speed of social development and the indirect derailment of the education system in China. From the perspective of exam-oriented education, it is often guided by scores, while neglecting the cultivation of psychology. From the lack of training in the psychological group of the students in the "body-like beauty" of the previous primary and secondary schools, it can be seen that the lack of guidance and cultivation of psychological self-regulation ability has caused frequent suicides in recent years in China, which has aroused the attention of the whole society [22]. Although the current research shows that the opposition of Chinese college students to suicide is increasing [23], it still occurs. Contrary to this, however, there are few student suicidal emotions in sports colleges. This is inseparable from the physical exercise activities that can regulate the secretion system of the human body. It is reasonable and correct to release the pressure in the heart through the form of exercise. The emergence of suicide or mental illness is one of the most effective methods at present. The organic combination of appropriate psychological counseling and physical exercise can effectively reduce the occurrence of such events.

IV. Re-starting the Problem of College Students' Group Sports

A. The Effectiveness of Exercise Prescriptions Depends on the Joint Management of All Departments

On the whole, the "Healthy China" program has a self-evident promotion function, both at the institutional level and the economic level, and relies on the implementation of the "Healthy China 2030" planning outline to improve China's health care level. Cardiovascular disease is the first cause of death in China's current disease. How to prevent it effectively becomes a top priority. As an important driving force for the development of China's high-precision field in the future, the group's health and longevity directly affect the rhythm of China's future development. Therefore, it is especially important to pay attention to the level of college students' physical condition, and the exercise prescription is promoted in the form of exercise intervention. The physical quality level, the reduction of obesity and overweight, and the indispensable treatment and preventive measures for the prevention of cardiovascular diseases have also been paid attention to and development. The efforts to improve the physical fitness of the college student population in China have also led to the development of exercise prescriptions. The effective development of exercise prescriptions can play its role. This is inseparable from the multi-sectoral co-management. This requires combining the concept of "opening the door to engage in sports" with the concepts of innovation, coordination, green, openness and sharing, and advances in science and technology. Combined with the development of physical exercise. Taking the people's masses to solve the actual needs as the fundamental purpose, while implementing the "Healthy China 2030" planning outline, it promotes the research of sports prescriptions and the scientific management and training methods for the masses, and promotes the improvement of the national physique of our country.

China's current college students' physique status has risen sharply and the number of cardiovascular and cerebrovascular populations has risen sharply and the patient's younger age has become more and more serious. This requires the government, schools, and enterprises to take responsibility, regard the physical problems as their own responsibilities, coordinate and cooperate with each other, integrate resources and establish an offline feedback mechanism, and propose sports prescriptions that meet the needs of the exercisers. The implementation of the prescription effect, combined with dietary characteristics and local characteristics, gives scientific and healthy dietary guidance, so that it can better accomplish the goal and reduce the occurrence of exercise withdrawal. In this way, the control of college students' group exercise behavior is controlled to achieve direct control of health status management. From the roots to curb the decline in the physique of college students.

B. The Prescription of Exercise Prescription Depends on the Supervision of College Students' Physical Condition

For a long time, the results of college students' physical test have been "snow", and they cannot be processed in time. It is possible to establish a database model and use the physique status of past college students as a reference to conduct statistical analysis and establish a model, giving detailed exercise prescriptions and The training effect is guaranteed and tracked, and the corresponding physical test status is included in an important index for student evaluation. Through institutionalization and modularization, management and integration are carried out, and efforts are made to improve the monitoring and management of the physical condition of the college students. Moreover, it is possible to use the data of previous years for mathematical statistics, and to find out the specific functions and abilities of the decline of college students' physical condition based on the comparison of past data, so that targeted research can be conducted. It is even more possible to use the results of this data comparison to rectify the teaching links, and generally promote the improvement and supervision level of the college students' physical condition, instead of staying in the headaches.

C. The Effectiveness of Exercise Prescriptions Depends on Technology to Ensure

How to reduce the prevention and evaluation of sports injuries in trainees during the training process has always been the research focus of the American Academy of Sports Medicine (ACSM) [24]. Knee joint injury rate is only 42% in runners, and knee injury is twice as likely as injury in other parts of the body [20]. The resulting withdrawal due to sports injuries often occurs. How to improve the sports effect of college students is also very important. For example, through the external accessories of the glory 4running version of the smart bracelet, through the sensor feedback in the bracelet, determine the grounding mode, the impact and the foot valgus amplitude, swing angle, stride, step frequency, touchdown time, etc. The data, combined with the analysis and recommendations of the National Sports Bureau's scientific research institutions, uses the power of technology to eliminate the gap between users and the network. However, due to its limited function, it can only be used for running, but it cannot be used for other projects.

In view of this situation, the combination of neural network deep learning and various auxiliary software processing results can solve this series of problems well. At present, this deep convolution learning is now well applied to images, Video and sound processing [25], and the use of convolutional networks can now increase the recognition rate of objects by more than 50%, so they are often used in computer vision learning [26]. This learning process has been used in the recognition training of human motion, and the non-linear training characteristics of the data can avoid artificially ignoring a certain factor and cause data deviation, which can further improve the accuracy and completeness of data extraction [27]. Based on this, it is possible to accurately and forcefully identify the entire motion process and draw out the trajectory for data recognition. Correcting the results of the identification in time and performing the annotation demonstration can reduce the probability and risk of occurrence of acute and chronic sports injuries, and improve the training effect of the college students. Unnecessary movement damage time is also avoided.

D. *The Integrity of Exercise Prescriptions is Based on the Combination of Physical Fitness Monitoring and Diet Therapy*

According to the Lancet, unhealthy habits are the most risk factor for deaths worldwide [28]. Exercise prescription therapy and diet therapy are important weight control principles or adjuvant therapies, which are the basis for the effects of comprehensive therapy [29]. Exercise prescription can effectively improve blood lipid structure and increase metabolic status, regulate body weight, increase insulin sensitivity, and directly or indirectly control blood sugar. Dietary therapy is to control the balance of disease status and nutrients by controlling the intake of three major energy substances and potassium and sodium substances, and it can effectively control the status of elderly hypertensive patients [30]. However, there are very few treatments that combine dietary therapy with exercise prescriptions for the general public. As we all know, the energy consumption of different sports is different. The lack of popular science in the diet of the masses also greatly promotes the potential risk of obesity and cardiovascular disease, even if the college students tend to ingest for different physical conditions. Different amounts of diet are still unknown. However, simply formulating a diet prescription based on the BMI index will cause a lot of misunderstandings, such as the fitness population is not suitable for the evaluation of the BMI index. Then combine the sports scores with the diet, focus on the differences in the scores of each region, and control the diet at different stages of the exercise content, and control the food intake with a certain amount of sports. Exercise can improve the level of exercise and control of physical condition more accurately and effectively, so as to avoid various risks caused by unhealthy eating habits.

V. SUMMARY

The high-quality development of China's future is inseparable from the contribution made by the college students. Through the rational use of exercise prescriptions, the sports intervention of the current sub-health status of college students is promoted to promote the improvement of the university system. However, due to the lack of specific management measures for supporting supervision, the containment of the decline in physical fitness has had little effect. By combining the "Internet +" perspective, institutionalized management and prescription management are matched, and multi-sector linkage is used to effectively improve the feasibility of exercise prescriptions. Timely rely on current computer technology such as neural network deep learning mechanism to reduce the incidence of sports injuries in college students during spontaneous exercise. To lay a solid foundation for the improvement of the health of the national system in the future.

REFERENCES

[1] Hu Shengshou, Gao Runlin, Liu Lisheng, et al. Summary of "China Cardiovascular Disease Report 2018" [J]. China Journal of Circulation, 2019,34 (03): 209-220.

[2] Zou Yufeng, Zhang Liang, Wang Chengjin, et al. Study on the relationship between college students' sub-health and social support [J]. Chinese General Practice,2012, 15 (04): 430-433.

[3] Chen Yushan, Zhang Yimin, Kong Zhenxing, et al. Investigation on the prevalence of overweight and obesity among children and adolescents in China[J]. Chinese Journal of Disease Control, 2017, 21(09): 866-869+878.

[4] Ma Tao, Huang Bin, Tang Wenbing, et al. Effects of aerobic exercise combined with diet control on immune function in adolescents with simple obesity[J]. China Sport Science and Technology,2010,46(02):14-17+25.

[5] Wu Xiuyun.Study on the improvement of college students' physique health by aerobic exercise and psychological intervention——Taking overweight and obese people as an example[J] .Journal of Beijing Sport University,2011,34(03):102-10

[6] Xu Zhiping, Liu Weilin, Wang Pingxiu, et al. Effects of aerobic exercise on peripheral blood leptin levels and leptin receptor mRNA expression in obese female college students[J]. Journal of Beijing Sport University, 2011, 34(11): 58- 61.

[7] Qi Yugang, Huang Jinhong, Tan Sijie. A Comparative Study of HIIT and Persistent Aerobic Exercise on Weight Loss of Obese Female College Students[J]. China Sport Science and Technology,2013,49(01):30-33.

[8] Shi Wei, Chen Fengzhen. Evaluation of fitness belly dance prescription on weight loss of obese female college students [J]. Chinese School Health, 2014,35 (01): 78-80.

[9] Cheng Hongling, Peng Peng, Zhu Rong et al. Effects of 8-week exercise prescription intervention on aerobic capacity, body composition, blood lipids and C-reactive protein in obese adolescents [J]. Journal of Jilin University (Medical Sciences), 2012, 38 (04): 745-749.

[10] Su Yuanyuan, Zhang Weihong, Song Xiaoyue, et al. Research progress of anti-resistance exercise on cardiac rehabilitation in patients with cardiovascular disease[J]. Chinese Journal of Nursing, 2017, 52(02): 154-157.

[11] Zhang Shuang, Chen Ying, Wang Xi, et al. Research progress on the effect of individualized exercise prescription on cardiovascular disease rehabilitation [J]. Chinese Rehabilitation Theory and Practice, 2019, 25 (01): 60-63.

[12] Xia Guangjian, Dong Mei. Application of high-intensity interval training in cardiac rehabilitation of patients with cardiovascular disease [J]. Nursing research,2018, 32 (08): 1163-1166.

[13] Liu Guifang. An Empirical Study of Yoga Exercises on Improving College Students' Sub-health Status [J]. Chinese School Health, 2016, 37(11): 1719-1721.

[14] Zhao Chunqi. Research on psychological sub-health evaluation and exercise intervention of female college students [J]. Chinese Maternal and Child Health Care, 2013, 28 (27):4503-4506.

[15] Guan Tieyu. Experimental Study of Ba Duanjin on Sub-health Intervention of College Students[J]. Journal of Chengdu Sport University,2013,39(03):91-94.

[16] Xie Lin. The development of fitness long-distance running in some colleges and universities in Beijing and its impact on students' sports quality and psychological activities [D]. Beijing: Beijing Sport University.2016.

[17] LIU Jun. Intervention of exercise prescription and psychological counseling on college students' internet addiction[J]. Journal of Guangzhou Physical Education Institute, 2017,37 (03): 73-75.

[18] Zheng Yingying. Study on the health effects of jogging in the morning and evening on college students with primary sleep disorders [D]. Zhengzhou: Henan University, 2014.

[19] Liu Lianru, Zhang Zhongping. Internet of Things: From technology to ecology, from connection to intelligence [J]. Information Technology and Network Security, 2019, 38 (02): 1-3+7.

[20] Taunton JE, Ryan MB, Clement DB, et al. A retrospective case-control analysis of 2002 running injuries. Br J Sports Med. 2002;36(2): 95-101.

[21] Tong Wenqin, Shi Guohui. Current Status and Progress of College Students' Sub-health Research[J]. China Health Education, 2015, 31(12): 11731174+1191.

[22] Hu Yue, Fan Fuzhen, Dai Yanjun, et al. College students' life events and suicidal ideation: the mediation and regulation of life values[J].Chinese Journal of Clinical Psychology,2016,24(01):149-151+172.

[23] Xin Sufei, Shi Meng, Zhang Fuwei. A Study of the Transverse History of Chinese University Students' Suicide Attitudes[J]. Chinese Journal of Clinical Psychology, 2019, 27(02): 401-405.

[24] Zhou Jingbin, Ma Yun, Zou Rongqi, et al. Prevention, evaluation of common sports injuries and return of injured athletes to the field——Based on the report of the 64th Annual Meeting of the American Sports Medicine Association [J]. Journal of Beijing Sport University, 2017, 40 (08): 48-52.

[25] Yann LeCun, Yoshua Bengio,Geoffrey Hinton.Deep learning[J]. NATURE.2015(521):436-444.

[26] Krizhevsky, A., Sutskever, I.& Hinton, G.ImageNet classification with deep convolutional neural networks. In Proc. Advances in Neural Information Processing Systems 25 1090-1098 (2012).

[27] Tompson,J.,Jain, A., LeCun, Y.&Bregler,C.Joint training of a convolutional network and agraphical model for human pose estimation. In Proc. Advances in Neural Information Processing Systems 27 1799–1807 (2014).

[28] Ashkan Afshin,Patrick John Sur,Kairsten A. Fay,et al. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017[J].The Lancet,2019,393(10184)..

[29] Wang Ruiyuan, Su Quansheng. Exercise Physiology [M]. Background: People's Sports Publishing House, 2014:336.

[30] Chen Yikun, Yang Qian, He Rui, et al. Effects of dietary therapy combined with exercise intervention on blood pressure and quality of life in elderly hypertensive patients [J]. Chinese Journal of Gerontology, 2017, 37(17): 4272-4274.