

# The Current Situation and Prospects of the Integration of Sports and Medicine

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## ABSTRACT

The idea of integrating physical exercise and medicine can be traced back to the classical medical period. Its value has been tested throughout the long history of human medical evolution and has gradually coalesced into a global consensus. As a strategic development pattern in the field of universal health, the high-quality development of body-medicine integration is not only the necessary outcome of creatively implementing the central spirit but also the inevitable response to the growing health demands of the people. With the various current situations of the development of body-medicine integration, this also provides a broad space for future exploration and research of body-medicine integration.

## KEYWORDS

Sports; Integration of sports and medicine good health

## 1 Introduction

The integration of sports and medicine originated in the United States. In 1986, the World Health Organization first systematically proposed the concept of "health promotion" in the "Ottawa Declaration", defining it as a systematic project involving the improvement of individual health literacy and the coordinated advancement of national public health strategies<sup>[1]</sup>. In 2012, China introduced the concept of "exercise as a good doctor" proposed by the American Society of Sports Medicine and based on this, put forward the development idea of "integration of sports and medicine". In 2016, the State Council released the "Healthy China 2030" planning outline (hereinafter referred to as the "Outline"), clearly proposing the strategic requirement of "strengthening the integration of sports and medicine and non-medical health intervention". This marked that the integration of sports and medicine officially rose to a national-level strategic deployment<sup>[2]</sup>. With the successive release of policy documents such as "The Medium and Long-Term Plan for the Prevention and Control of Chronic Diseases in China (2017-2025)" and "The 13th Five-Year Plan for the Development of the Sports Industry", the integration of sports and medicine gradually entered the public's view and quickly became a research hotspot in the fields of national fitness and national health.

Although the integration of physical education and medicine has been proposed for many years, the public health management model in our country still has not broken away from the path dependence of "centering on disease treatment". The medical treatment concept has long dominated, leading to a widespread cognitive bias in the medical community that "treatment is emphasized while prevention is neglected". To promote the implementation of the integration of physical education and medicine, it is urgent to break the inherent professional inertia of medical institutions and practitioners, and gradually establish a new health concept of coordinated development between sports and medicine. Our country is actively promoting the transformation from the "centering on diseases" to the "centering on health" big health concept<sup>[3]</sup>. By fully leveraging the role of the government in leading the concept, through multiple channels to popularize knowledge about the integration of physical education and medicine, promote the concept that "exercise is a good doctor" to be deeply rooted in people's minds, create a social atmosphere conducive to the development of the integration of physical education and medicine, and guide the public to gradually establish the health concept of "prevention first and prevention and treatment combined", and achieve the transformation from disease treatment to health management<sup>[4]</sup>. This article analyzes the related issues of the integration of physical education and medicine, providing a reference for exploring a perfect system of the integration.

## 2 The Essence of the Integration of Sports and Medicine

The inherent logic of the integration of sports and medicine lies in using medical theories to integrate sports methods, transforming them into more targeted exercise plans, and achieving the complementary advantages of the two. The fundamental principle of integrating sports and medicine is that exercise can effectively promote health. The World Health Organization lists lack of exercise as the fourth major factor threatening human health<sup>[5]</sup>. "Life lies in movement"

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and "Exercise is a cure" have become widely accepted concepts worldwide. Scientific exercise not only prevents diseases before they occur but also helps with post-illness recovery, and is an important health measure throughout the entire process of prevention, treatment, and rehabilitation.

### **3 The Role of the Integration of Sports and Medicine**

#### **3.1 The Role of Physical Exercise in Maintaining Good Health**

Immunity refers to the body's ability to distinguish between "self" and "non-self", and to eliminate foreign pathogens to maintain the stability of the internal environment<sup>[6]</sup>. Moderate exercise can enhance immune function through multiple pathways: Firstly, exercise can increase the number of white blood cells in the blood and activate the activity of natural killer cells, thereby inhibiting the proliferation of viruses and cancer cells; Secondly, exercise promotes blood circulation and endocrine regulation, promotes the improvement of organ functions, and thereby overall enhances the immune level of the body. In addition, a large amount of epidemiological evidence shows that long-term adherence to regular exercise helps to reduce the risk of chronic diseases such as cardiovascular diseases and diabetes, and has a positive impact on bone density improvement<sup>[7]</sup>.

#### **3.2 The Role of physical Exercise in Promoting Mental Health**

Unhealthy living habits can cause the body to be in a sub-healthy state, affecting the quality of life. Exercise has positive effects on physical health, mental health, moral quality and social adaptability. It can reduce the incidence of various chronic diseases and enhance the physiological functions of the body's immune system in defending, identifying and eliminating viruses<sup>[8]</sup>. The "Encyclopedia of China" defines physical activities as: through some enjoyable and relaxing physical activities, people can divert their attention from the difficulties and pressures in daily life<sup>[9]</sup>.

### **4 The Significance of Integrating Sports and Medicine**

With the advancement of the digitalization trend, the increasingly convenient lifestyle has led to a general lack of physical activity among the public, resulting in a continuous increase in the incidence of chronic diseases, which has become a major risk factor threatening the health of the entire population. Chronic diseases have the characteristics of long course and heavy medical burden, and are prone to causing poverty due to illness. In contrast, physical exercise, as a low-cost and high-benefit health intervention method, has been widely proven by numerous studies to be able to effectively achieve the "forward shift" of disease prevention, and plays an irreplaceable role in the prevention and control of chronic diseases and rehabilitation. The collaborative efforts of sports and medicine can connect the three major aspects of disease prevention, clinical treatment, and post-treatment rehabilitation, forming a three-in-one health intervention system. As a new form of health promotion, the integration of sports and medicine has become an important means to promote the construction of Healthy China, enhance the physical fitness of the entire population, and achieve the synchronous development of health and the economy<sup>[10]</sup>.

### **5 Challenges Faced by the Integration of Sports and Medicine**

#### **5.1 The Integrated System of Physical Education and Medicine is Not Well-developed**

The current social awareness and academic attention regarding the integration of sports and medicine are relatively limited. Although the national level has established a policy framework, due to the lack of a systematic implementation mechanism and promotion path, its social visibility is low, and public awareness and participation need to be further enhanced.

#### **5.2 The Constraints of Traditional Cognitive Inertia**

In traditional perception, physical exercise is generally regarded as a means to enhance physical fitness, while medicine is focused on disease diagnosis and treatment. The functional boundaries between the two are clear and they have been separated for a long time. This deeply-rooted functional division mindset has led to the general public's lack of a coordinated cognitive understanding of the integration of sports and medicine, and difficulty in forming an active awareness of the two aspects combining with each other<sup>[11]</sup>.

### 5.3 Implementing Restrictions on the Space of the Testing Site

The implementation of the integrated physical and medical services highly relies on specific physical space carriers. From the requirements of the existing demonstration zone construction, the configuration of the venue is the basic threshold for the project's implementation. It needs to be functionally renovated according to the service process, achieving multi-module zoning for physical tests, physical examinations, and sports activities, and ensuring the usable area. Currently, the standardized venue resources for the integrated physical and medical practice are scarce, making it difficult to meet the conditions for large-scale research and application<sup>[12]</sup>.

### 5.4 Limitations of the Testing Equipment

Due to the long-term adoption of separate health data management systems by the medical and sports systems, information is difficult to be shared, which hinders the in-depth development of the integration of sports and medicine. Therefore, breaking down institutional barriers and establishing a cross-domain data sharing mechanism is a key measure to accelerate the collaboration between the sports and health departments<sup>[13]</sup>. In response to the actual service needs of the integration of sports and medicine, and by fully leveraging information technology to enhance service accessibility, relevant research should introduce professional equipment and systematically collect multi-dimensional data such as users' physical fitness levels, medical indicators, and exercise loads, thereby laying the foundation for formulating personalized and precise exercise prescriptions<sup>[14]</sup>.

### 5.5 The Shortage of Relevant Professionals

The implementation of the integrated service of sports and medicine fundamentally depends on the construction of a professional talent pool. The cross-disciplinary nature of this field dictates that practitioners must possess the cross-spectrum qualities of "sports + medicine". However, from the current situation, there is still a significant shortage of such interdisciplinary talents in China, which has become a key bottleneck restricting the development of the integration of sports and medicine<sup>[15]</sup>. At the same time, there are relatively few people who are familiar with both sports exercises and medical knowledge, which severely restricts the development of the integration of sports and medicine<sup>[16]</sup>. The cultivation of professional talents requires focusing on aspects such as the formulation of exercise prescriptions, scientific exercise guidance, guidance on sports rehabilitation for chronic diseases, and nutrition guidance<sup>[17]</sup>.

## 6 Discussion

The supply of integrated sports and medical services is mainly led by the government, but is constrained by the market mechanism and lacks the impetus from social forces, making it difficult to meet the diversified health market demands [18]. To promote the integration of sports and medicine, it is necessary to start from the top-level design, establish a cross-departmental linkage mechanism based on fiscal investment, performance evaluation as the orientation, and long-term collaboration as the core. The sports and health authorities should clarify the functional boundaries, improve the mechanism for coordinating interests and accountability, and through resource sharing and complementary advantages, build a health governance community with joint efforts and coordinated actions<sup>[19]</sup>. In response to the current situation where the public's awareness of active health is weak and they lack knowledge of sports safety, it is urgent to strengthen the popularization of sports safety knowledge and enhance residents' sports protection literacy. The integrated sports and medical demonstration zones should play a leading role, focusing on building a movement risk assessment mechanism, regularly maintaining venues and monitoring equipment, and dynamically adjusting the exercise intensity based on individual real-time data, so as to promote health while effectively ensuring sports safety<sup>[20]</sup>.

## 7 Conclusion

The benefits brought by the integration of physical exercise and medicine are not to be underestimated. Currently, "the integration of physical exercise and medicine" in our country is moving towards a diversified, balanced and comprehensive direction. We should identify the constraints that affect its development through continuous research and practice, and use modern advanced technologies to overcome these problems.

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