

# Current Situation, Problems and Future Development of Sports Rehabilitation Industry: A Comparative Study of Sports Rehabilitation Industry in China and The United States

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**Abstract.** With the continuous improvement of the living standard of Chinese residents, the continuous improvement of the urbanization construction, the continuous expansion of the scale of the sports industry, the base of the sports population is rising, and the demand for health is more and more large. This study makes a detailed comparative analysis of the status, predicament and development trend of the sports rehabilitation industry in China and the United States. Through the detailed definition of the industry and the elaboration of the scope of services, this paper analyzes the similarities and differences in rehabilitation methods, market status, policies and regulations of the two countries. China's sports rehabilitation field is facing dual challenges from the market and policy environment, while the United States is showing maturity in technological innovation and service models. The comparison between China and the United States reveals the differences in service concepts, technical capabilities and market potential, reflecting the development space and model optimization direction of China's sports rehabilitation industry. The findings of this paper not only provide ideas for the improvement of China's sports rehabilitation industry, but also have important practical significance for promoting international exchanges and cooperation and promoting the development of global sports rehabilitation industry.

**Keywords:** Sports rehabilitation; Industry analysis; Service model.

## 1. Introduction

With the improvement of people's health awareness and the pursuit of life quality all over the world, sports rehabilitation as an important field has gradually attracted attention. As an interdisciplinary field, sports rehabilitation involves sports science, rehabilitation medicine, sports training and other disciplinary knowledge, through scientific methods to help individuals recover motor function, improve sports ability, and promote physical and mental health. Through the comparative study of the sports rehabilitation industry in these two countries, and in-depth understanding of the development of the two countries in this field and experience and lessons, the development of China's sports rehabilitation industry provides reference and enlightenment. This study will focus on the current situation analysis, existing problems and causes, future development trends and other aspects of the sports rehabilitation industry in China and the United States, and comprehensively compare the characteristics and differences of the two countries' sports rehabilitation industry. This paper will use the literature review method and comparison method to understand the situation of sports rehabilitation industry in China and the United States by collecting relevant literature. Through a comparative study of the sports rehabilitation industry in China and the United States, this study reveals the development status and characteristics of the two countries in this field, analyzes the existing problems and challenges, and discusses the future development trend, so as to provide theoretical support and suggestions for the healthy development of China's sports rehabilitation industry.

## **2. Literature Review: An Overview of Sports Industry and Sports Rehabilitation Industry in China**

### **2.1. Definition of Sports Rehabilitation Industry**

Sports rehabilitation industry refers to the industry that helps sports injured people recover quickly, recover motor function and prevent sports injury from happening again by means of sports training, rehabilitation treatment and motor skill training. Sports rehabilitation industry involves sports medicine, exercise physiology, rehabilitation medicine and other disciplines, its core task is to promote the physical and psychological recovery of sports injured people through scientific sports programs and rehabilitation measures, improve their sports ability and sports level. In addition, the sports rehabilitation industry also includes sports management and sports guidance for healthy people to promote their physical health and exercise ability.

### **2.2. Status Quo of China's Sports Rehabilitation Industry**

At present, domestic scholars focus on the sports industry, health industry, sports rehabilitation technology and the cultivation of sports rehabilitation talents in colleges and universities, and there are a lot of studies on the marketization, operation mode and marketing of the sports rehabilitation industry [1]. By 2022, there will be 79 sports rehabilitation colleges and universities in the country, forming a university-master and doctoral integrated talent training system. "Integration of physical medicine" is an inevitable trend in the teaching reform of sports rehabilitation specialty [2]. The demand for sports rehabilitation has expanded rapidly and has become a subdivision of the health industry. As a new era of sports industry and medical rehabilitation industry integration industry, sports rehabilitation industry has a potential consumer market and vigorous development power. According to statistics, the market size of China's sports rehabilitation industry increased from 8.737 billion yuan in 2017 to 19.056 billion yuan in 2021, with a CAGR of 21.53%, showing a rapid development trend [3]. With the improvement of medical level and people's continuous pursuit of health, the future development prospects of sports rehabilitation industry are very broad. China's sports rehabilitation industry is currently facing challenges and opportunities of rapid growth.

## **3. Analysis of Problems in China's Sports Rehabilitation Industry**

### **3.1. Problems Exist in the Chinese Market**

There are some problems in the development of China's sports rehabilitation industry. First of all, the development of the industry is not balanced, the sports rehabilitation facilities and services in first-tier cities are relatively perfect, and the sports rehabilitation resources in third-tier cities and rural areas are insufficient. Second, industry standards and norms are not complete enough, and the professional quality and skill level of relevant practitioners are uneven, which affects the overall development level of the industry. Third, the sports rehabilitation industry is also lacking in scientific research and technology investment, innovation ability and international communication. The market competition is fierce, and many sports rehabilitation institutions compete with each other, leading to a price war and a decline in service quality. Fourth, industry standards and supervision are not perfect enough, and some institutions have illegal operations and bad competition, affecting the healthy development of the entire industry. Fifth, the shortage of talents in the sports rehabilitation industry is prominent, and the training and introduction of professionals is difficult, resulting in the overall level of the industry is not high. Finally, consumers lack awareness and demand for sports rehabilitation, and the market size and market demand are relatively limited, resulting in the development of the industry is limited.

### **3.2. China's Policy and Regulatory Environment**

China's policy and regulatory environment has an important impact on the development of sports rehabilitation industry. First of all, in recent years, the government has advocated a healthy China strategy, and relevant policy documents clearly put forward the guiding opinions on the development of the "sports industry and health industry integration" and the "Sports health Industry Development Outline" and other leading and layout policy documents. The sports administrative departments of provinces, municipalities and autonomous regions shall, together with relevant departments, formulate policy documents such as "Sports health industry implementation Plan", "Sports health industry action Plan" and normative documents such as "sports health market access licensing measures" and "sports health market regulation Management Regulations" according to regional resource advantages and realistic demands [4]. Secondly, the regulations for sports rehabilitation institutions have gradually improved, including the provisions on institutional registration, personnel qualification, facilities and equipment requirements, which have promoted the standardized development of the sports rehabilitation industry. In addition, the government continues to strengthen the supervision of the sports rehabilitation industry, strengthen the compliance management of the industry, and ensure the quality and safety of sports rehabilitation services. At the same time, the government also encourages the sports rehabilitation industry to cooperate with medical institutions, sports management departments and other departments to form a multi-party coordinated development policy environment. However, there are shortcomings in the current policy implementation, and the difference in local policy implementation is large, resulting in the unbalanced development of the sports rehabilitation industry in different regions.

### **3.3. Problems in the Construction of Sports Rehabilitation Major in Chinese Universities**

#### **3.3.1 Curriculum is not Perfect**

Based on the investigation, the curriculum setting of sports rehabilitation major in some universities is not systematic. This means that these courses may not have clear course objectives or may not be well connected to each other. This makes it difficult for students to understand the coherence of the whole course in the learning process, thus affecting their overall understanding of sports rehabilitation; Second, these courses lack pertinence. Sports rehabilitation is a major involving multiple subject areas, so it needs a targeted curriculum. However, the curriculum of sports rehabilitation in some colleges and universities may be too broad, lacking specific course content and practical operation, which is difficult to help students establish a solid professional foundation. Second, these courses lack a professional curriculum that aligns with actual needs. However, the curriculum of some colleges and universities may not be quite in line with the actual needs, resulting in students' difficulty in adapting to the needs of the market and society after graduation. Moreover, the lack of practical teaching platforms for cooperation with medical institutions, rehabilitation centers and other units is another reason for the imperfection of sports rehabilitation majors in colleges and universities. If students only learn theoretical knowledge in textbooks, but have no opportunity to apply it to practice, they may feel bored, which affects their interest in the profession and enthusiasm for learning. Finally, the existence of these problems may affect students' job prospects and professional level, while making it difficult to contribute to society.

#### **3.3.2 Lack of Teaching Staff**

The lack of sports rehabilitation professional teachers in colleges and universities will affect the professionalism of teaching. As sports rehabilitation is a major involving many subject areas, it requires teachers to master solid professional knowledge and skills in order to effectively teach and guide students. If the teachers lack professionalism, then the professionalism of teaching cannot be guaranteed; Secondly, the lack of practical experience will also affect the quality of teaching. If teachers cannot provide high-quality teaching, students will not have an effective learning experience, which will affect their learning effectiveness and professional skills. At the same time, teachers who lack practical experience cannot help students better adapt to the actual work situation, thus affecting

their career development; Finally, colleges and universities have not strengthened the introduction and training of sports rehabilitation professional teachers, and the professionalism and practical experience of teachers cannot be improved [5].

### **3.3.3 Insufficient Teaching Equipment**

Some universities do not have adequate sports and rehabilitation facilities, which affects the quality of teaching. Investment in equipment must be further increased. There are several reasons for the lack of teaching facilities. First, professional sports rehabilitation provides a large number of coaches and systems to provide students with sports performance evaluation and training assistance. Accurate and reliable examination of body function, biomechanics, etc. The lack of equipment indirectly affects the quality of teaching. Second, the configuration of the equipment makes it difficult to meet professional needs. Sports and rehabilitation courses include more training program and require a wide selection of tools suitable for practical teaching. In addition, there are technical devices that have not yet been developed and are not safe and usable. As experience and knowledge increase, the requirements for the performance and functionality of the equipment also increase, but some existing conditions are still not enough to make the construction of these equipment feasible. The upgrading of equipment and technology requires continuous capital investment, and the attention and investment amount of some universities are far from enough.

## **4. Status Quo and Advantages of Sports Rehabilitation Industry in the United States**

### **4.1. Industry Status in the United States**

The sports rehabilitation industry in the United States is developing rapidly, with a large number of rehabilitation institutions and a wide range of coverage. The number of rehabilitation institutions in the United States is a pyramid structure, and the number of rehabilitation institutions at all levels is closely linked to the needs of patients. According to the rehabilitation needs of different stages, the number of rehabilitation institutions at different levels is different. The reasonable distribution of rehabilitation institutions at all levels brings early intervention and high accessibility to rehabilitation and maximizes the rehabilitation effect. Acute rehabilitation has the need for early and timely intervention, so it is more distributed in or near hospitals. Acute rehabilitation, however, has a short treatment cycle and therefore the smallest number of institutions, only about 4,500 institutions. Subacute rehabilitation has a longer duration than acute rehabilitation and is therefore more numerous than acute rehabilitation facilities, with about 28,000 facilities. Long-term care mainly provides life care and medical support for patients with chronic diseases and people with disabilities, so the cycle is the longest, and it needs to facilitate patients' long-term treatment. Therefore, the number of long-term care institutions (including home rehabilitation nursing institutions) is the largest, and more distributed in the community, with strong accessibility, and the scale of institutions is small, with a total of about 64,000 institutions [6]. These rehabilitation centers provide a wealth of resources and services for sports rehabilitation, meeting the rehabilitation needs of different groups of people, including professional athletes, amateurs and injured people.

The American sports rehabilitation industry continues to innovate and introduce advanced rehabilitation technology and equipment. With the continuous progress of science and technology, advanced technologies such as virtual reality, biofeedback and sports biomechanics have been widely used in the field of rehabilitation, which has played a positive role in improving the rehabilitation effect. In addition, the American sports rehabilitation industry also pays attention to interdisciplinary cooperation and uses interdisciplinary knowledge and technology to improve the comprehensive effect of rehabilitation treatment and provide more comprehensive rehabilitation services for patients.

## 4.2. US Industry Policy

The sports rehabilitation industry in the United States is highly valued by the government, and relevant policies and regulations are sound. Through the cooperation between the national health department and the sports department, the U.S. government has gradually established a complete management system for the sports rehabilitation industry, including the formulation of the qualification certification of practitioners, clinical practice guidelines, industry standards and norms, as well as the establishment of the supervision and evaluation system for relevant institutions.

In addition, the United States government also provides financial support and protection for individuals in need of rehabilitation services through the Medicare system and Medicaid policies. In response to the development of the sports rehabilitation industry, the US government has also set up special funding projects and incentive policies to encourage scientific research institutions and enterprises to engage in research and development in the field of sports rehabilitation and promote technological innovation and industrial upgrading. At the same time, the government also encourages medical institutions and rehabilitation centers to strengthen cooperation, forming a joint system of medical rehabilitation, and improving the overall level of sports rehabilitation services.

In terms of laws and regulations, the norms of the sports rehabilitation industry in the United States mainly rely on the American Rehabilitation Act and related medical insurance regulations. The enactment of these laws and regulations ensures the legitimacy and standardization of sports rehabilitation services and provides a guarantee for the healthy development of the sports rehabilitation industry. At the same time, the U.S. government also pays attention to the supervision of the sports rehabilitation industry and has formulated relevant industry standards and access thresholds to ensure the professionalism and service quality of practitioners.

## 5. Comparison of Sports Rehabilitation Industry in China and the United States

### 5.1. Comparison of Service Concept and Mode

In terms of service concept and model, there are some differences between the sports rehabilitation industry in China and the United States. In China, sports rehabilitation pays more attention to the concept of traditional Chinese medicine, emphasizes the overall conditioning and rehabilitation, takes traditional Chinese massage, acupuncture and other methods as the main means, and pays attention to the personalized service of patients. In the United States, sports rehabilitation is more inclined to Western medicine, and pays more attention to scientific and standardized rehabilitation models, such as physical therapy and sports training. In addition, in terms of service mode, China's sports rehabilitation mainly takes public hospitals and community rehabilitation centers as the main service places. The government and medical insurance system have certain support for rehabilitation services, but the overall resource investment is relatively limited. On the other hand, in the United States, more private rehabilitation institutions are the main service places, and the market competition is fierce. At the same time, the medical insurance system has a wider coverage of rehabilitation services, and the resources are fully invested. These differences lead to the differences in the service concept and model of the sports rehabilitation industry in the two countries, and also affect the development direction and status quo of the industry.

### 5.2. Comparison of Technical Level and Innovation Ability

There is a certain gap between China and the United States in the technical level and innovation ability of sports rehabilitation industry. First of all, in terms of technical level, the American sports rehabilitation industry has advanced equipment and technology, including sports injury diagnostic equipment, rehabilitation training equipment, etc., which can provide more accurate diagnosis and personalized rehabilitation programs. China has yet to improve in this regard, and the level of equipment and technology is relatively lagging behind. Secondly, the United States has invested more

in scientific research in the field of rehabilitation, and has continuously innovated and improved, which has promoted the development of the industry. In contrast, there are relatively few rehabilitation research projects in China, and the innovation capacity of rehabilitation technology needs to be strengthened.

In addition, the American sports rehabilitation industry pays attention to the combination of clinical practice and scientific research, constantly transforming scientific research results into actual rehabilitation treatment programs and promoting the update and progress of clinical technology. However, there is still a certain disconnect in China in this regard, and the integration of scientific research results and clinical practice is not high. In addition, the sports rehabilitation industry in the United States also pays attention to personnel training and professional skills improvement, medical personnel receive systematic rehabilitation training, the level of practitioners is high, can provide more professional services for rehabilitation patients. In contrast, there is still room for improvement in China's sports rehabilitation industry's emphasis on talent training and professional skills.

### **5.3. Comparison of Market Development Potential**

There are obvious differences in the development potential of sports rehabilitation market between China and the United States. First of all, from the perspective of market size, the American sports rehabilitation market is huge, the industry has a long history of development, and the market saturation is high. In contrast, China's sports rehabilitation market is small, but the growth rate is fast, and the market potential is huge. Secondly, from the perspective of demand, the demand for sports rehabilitation in the United States mainly comes from professional athletes and public fitness people, and the market is relatively stable. The demand for sports rehabilitation in China is gradually growing, involving a wider range, including professional athletes, fitness people, and rehabilitation medical institutions and other fields. In addition, in terms of policy support and industry standards, the United States has established relatively complete norms and standards for the sports rehabilitation industry, and the support of the government, academic institutions and industry associations is also large. In this regard, China still has a large space for development, and policy support and industry standards need to be further improved. Therefore, the development potential of the sports rehabilitation market in China and the United States has its own characteristics, and the future development prospects are worthy of attention.

## **6. Suggestions for the Future Development of China's Sports Rehabilitation Industry**

The analysis of the current situation and problems of the sports rehabilitation industry provides us with a profound understanding and understanding, and also points out the direction for the future development of the industry. Based on the comparative study of the sports rehabilitation industry in China and the United States, we can learn from the experience and lessons of the two countries in rehabilitation technology, management mode, professional personnel training and other aspects, and provide valuable reference for the development of our country's sports rehabilitation industry. At the same time, in view of the problems and shortcomings found in the research, we can sum up more scientific and reasonable rehabilitation practice methods through comparative analysis, provide theoretical support and guidance for the practical application of rehabilitation treatment, and promote the innovation and progress of sports rehabilitation technology.

In practical application, we can put forward targeted suggestions and measures according to the results of comparative study, combined with China's national conditions and industry development status. For example, in view of the shortage of rehabilitation technology and equipment, international exchanges and cooperation can be strengthened to introduce advanced rehabilitation technology and equipment; In view of the problem of training rehabilitation professionals, we can improve the teaching mode, strengthen the practice link, and train more high-quality rehabilitation professionals. In view of the deficiency of rehabilitation management mode, we can learn from foreign advanced

experience, optimize the management system, and improve the level and quality of rehabilitation services. Through the in-depth discussion of practical significance and application, it can provide important reference and support for the future development of China's sports rehabilitation industry.

## 7. Conclusion

The study found that there is a shortage of professional talents in China's sports rehabilitation industry, and the coverage of sports rehabilitation service is narrow, and the quality of service is uneven. In the United States, the sports rehabilitation industry is relatively mature, the team of professionals is large, the coverage of sports rehabilitation services is wide, and the service quality is high. In addition, the sports rehabilitation industry in China is restricted by many factors such as policies and regulations, social concepts and medical and health systems, while the sports rehabilitation industry in the United States is less affected by these aspects. In addition, the development of China's sports rehabilitation industry is facing problems such as insufficient market demand and imperfect service system. In addition, through comparative study, it is found that there are significant differences between China and the United States in the development mode, service standard, technical level, management system and other aspects of sports rehabilitation industry. China's sports rehabilitation industry still needs to increase its efforts in terms of model innovation, standard formulation, technology introduction and management improvement, while the American sports rehabilitation industry has achieved remarkable results in terms of development model optimization, service standard update, technological innovation and management intelligence. This shows that China can learn from the advanced experience and model of the sports rehabilitation industry in the United States, accelerate the development of the sports rehabilitation industry, and improve the level of sports rehabilitation services.

In addition, there is a gap between the sports rehabilitation industry in China and the United States in the application of new technologies such as artificial intelligence, big data and telemedicine. The sports rehabilitation industry in the United States is ahead of China in the introduction and application of new technologies, and through the help of new technologies, it has improved the quality of service, improved efficiency, and expanded the scope of service. However, China's sports rehabilitation industry is still in its infancy in terms of the application of new technologies, and it is necessary to strengthen technology research and development, promote the transformation and promotion of technological achievements, in order to enhance the overall strength and competitiveness of the sports rehabilitation industry.

In terms of research limitations, this study is mainly limited by the difficulty of data acquisition and the limitation of sample size. Because the rehabilitation industry involves personal privacy and institutional confidentiality, it is difficult to obtain complete data and information, which may lead to a lack of comprehensive understanding of the sports rehabilitation industry in China and the United States.

In terms of future development, more new research methods can be adopted, such as in-depth interviews, field observation, etc., to obtain richer information, so as to have a more comprehensive understanding of the current situation and problems of the sports rehabilitation industry. In addition, international cooperation can be strengthened, transnational research can be carried out, and the rehabilitation models and experiences of different countries can be compared to provide reference and inspiration for the development of domestic rehabilitation industry. At the same time, it is also important to overcome the limiting factors, and to promote the research and development of the sports rehabilitation industry by establishing more perfect data collection channels and sample databases.

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