



Research on Performance Evaluation System for Traditional Chinese Medicine Scientific Research Projects

Yuan Sun^{1,a}, Mei Zhang^{2,b}, Yi Li^{1,c*}

¹Hubei University of Chinese Medicine, Research Department of Science and Technology Development, Wuhan, 430065 China

²Hubei University of Chinese Medicine, College of Medical Humanities, Wuhan, 430065 China

^a421026730@qq.com, ^b284531994@qq.com, ^c*37795117@qq.com

Abstract. In order to improve the management level of traditional Chinese medicine scientific research projects and promote the production of more high-level and high-quality scientific and technological achievements in traditional Chinese medicine, performance evaluation of traditional Chinese medicine scientific research projects has become an inherent requirement for the sustainable development of traditional Chinese medicine. This article analyzes the current situation and existing problems of performance evaluation for traditional Chinese medicine scientific research projects, proposes performance evaluation strategies for traditional Chinese medicine scientific research projects, design principles and indicators for the performance evaluation system of traditional Chinese medicine scientific research projects, in order to provide reference for performance evaluation of traditional Chinese medicine scientific research projects.

Keywords: Traditional Chinese Medicine; Scientific Research Projects; Performance Evaluation

1 Introduction

Traditional Chinese medicine is a precious treasure accumulated by the Chinese nation in the long-term struggle against diseases. It is a treasure of the Chinese nation, a characteristic and advantage of China's medical and health system, and an important component of the country's medical and health undertakings. The Party and the state have always attached great importance to the work of traditional Chinese medicine, adhered to the principle of balancing traditional Chinese and Western medicine, and made significant achievements in the field of traditional Chinese medicine. Especially since July 1, 2017, the implementation of the Traditional Chinese Medicine Law of the People's Republic of China has clarified the important position and development policy of the traditional Chinese medicine industry, and increased support for the traditional Chinese medicine industry. The "Outline of the Development Strategy for Traditional Chinese

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Medicine (2016-2030)" issued on February 22, 2016 clearly pointed out the development direction and work priorities of traditional Chinese medicine in China in the next fifteen years, emphasizing the focus on promoting innovation in traditional Chinese medicine, improving the collaborative innovation system of traditional Chinese medicine, strengthening scientific research in traditional Chinese medicine, and improving the evaluation system of scientific research in traditional Chinese medicine. Especially in establishing and improving research evaluation standards and systems that are in line with the characteristics of traditional Chinese medicine, and researching and improving incentive policies that are conducive to innovation in traditional Chinese medicine. By conducting peer review and introducing third-party evaluations, we aim to improve project management efficiency and research level, and continuously enhance the efficiency of transforming traditional Chinese medicine research achievements. Conduct research on clinical efficacy evaluation and translational application of traditional Chinese medicine, and establish a efficacy evaluation system that conforms to the characteristics of traditional Chinese medicine. One of the main tasks of the "14th Five Year Plan" for the development of traditional Chinese medicine released by the State Council in 2022 includes the construction of a high-level system for the inheritance, protection, and technological innovation of traditional Chinese medicine, which mentions the need to strengthen scientific and technological research in key areas of traditional Chinese medicine and promote the transformation of achievements. To ensure the efficient allocation of limited traditional Chinese medicine technology resources, improve the management level and scientific research efficiency of traditional Chinese medicine technology projects, and promote the production of more high-level and high-quality achievements in traditional Chinese medicine technology, performance evaluation of traditional Chinese medicine technology projects has become an inherent requirement for the sustainable development of traditional Chinese medicine. Therefore, in-depth research on the theory of performance evaluation of traditional Chinese medicine technology projects has become an urgent need.

2 Current Situation and Existing Problems in the Evaluation of Traditional Chinese Medicine Research

The performance of scientific research projects comprehensively reflects the research results of scientific research projects, and the evaluation of scientific research project performance is an important means of scientific research project performance management. By establishing reasonable and effective performance goals, tracking the project implementation process and outcome output, it is beneficial to objectively and fairly evaluate the efficiency and standardization level of scientific research projects, thereby promoting the smooth achievement of expected goals in scientific research projects^[1].

The performance evaluation of scientific research projects has gradually been established with the development of scientific research evaluation. It started in the 1920s in the West, and the system and system of scientific research performance evaluation in foreign countries are relatively sound compared to those in China. The United States, Australia, Netherlands, the United Kingdom, and other countries continuously improve

their scientific research performance evaluation methods through legal support and institutionalized scientific research evaluation, keeping up with the times and being relatively independent and objective^{[2][3]}.

The evaluation of scientific research projects in our country has gradually been established with the development of scientific research evaluation. In recent years, domestic researchers have conducted research on performance evaluation, but the research mainly focuses on enterprises, and there is not much research on performance evaluation of scientific research projects^{[4][5]}. In 2003, China issued the Decision on Improving Science and Technology Evaluation and the Measures for Science and Technology Evaluation, which made science and technology evaluation in China more standardized and institutionalized. The Ministry of Science and Technology is the competent department for science and technology evaluation work, and the National Administration of Traditional Chinese Medicine is the centralized management department for various plans and projects in the traditional Chinese medicine industry. Science and technology evaluation activities in the traditional Chinese medicine industry follow the requirements of documents such as the "Measures for Science and Technology Evaluation (Trial)", "Regulations on Science and Technology Evaluation Work (Trial)", and "Work Plan for Science and Technology Supervision and Evaluation System Construction", and organize various science and technology evaluation work based on project sources and levels.

The performance evaluation of traditional Chinese medicine technology projects started relatively late, and the research foundation is weak. Since the reform and opening up, China has actively borrowed advanced or commonly used evaluation standards and methods from the international community for a long time. However, there has been a lack of in-depth analysis of the applicability of these standards and methods from the perspective of China's national conditions and senior industry development, resulting in a certain degree of blindness and incompatibility in many evaluation systems^[6]. With the continuous development of modernization of traditional Chinese medicine, the combination of traditional Chinese medicine and modern technology is becoming more and more common. The evaluation system of traditional Chinese medicine is also copying or applying evaluation methods and indicators from modern medicine or other industries, such as bibliometric evaluation, SCI paper publication indicators, etc., which are not suitable for the practical problems of traditional Chinese medicine inheritance theory and original thinking, and the evaluation results are not objective enough. Especially in the clinical evaluation of traditional Chinese medicine, its various observation indicators are different from Western medicine, but the evaluation system leans towards a set of evaluation theories in Western medicine. In summary, the current evaluation of traditional Chinese medicine technology activities has to some extent exposed problems such as incomplete evaluation systems, imperfect evaluation systems, and non-standard evaluation methods.

Through literature review, this paper summarizes the evaluation difficulties of existing traditional Chinese medicine scientific research projects in China. In addition to common evaluation difficulties in other industries, the main ones include: (1) National level basic scientific research projects of traditional Chinese medicine emphasize original innovation and potential scientific value, with few application goals at the time of

project approval, long research cycles, and high uncertainty in achieving results, resulting in high difficulty in performance evaluation; (2) At present, research project management mostly relies on task books as the assessment basis, and the research objectives set in task books are relatively broad, with low assessability, resulting in difficulty in measuring project results; (3) The output cycle of scientific research achievements in traditional Chinese medicine is relatively long, and its promotion and recognition by the industry and society will have a relatively lagging process, with unclear economic benefits; (4) The vast majority of traditional Chinese medicine theories are inherited, and the innovation points are difficult to distinguish. The rationality evaluation of their innovation evaluation still needs further research.

3 Performance Evaluation Strategies for Traditional Chinese Medicine Scientific Research Projects

Traditional Chinese medicine is the most original and innovative field in China. Strengthening the performance evaluation research of traditional Chinese medicine scientific research projects, fully understanding and grasping the discipline rules of traditional Chinese medicine, promoting the effective allocation of scientific and technological resources of traditional Chinese medicine, is of great strategic significance for China to achieve breakthroughs in original innovation. To further improve the performance evaluation of traditional Chinese medicine scientific research projects, researchers can conduct in-depth research through the construction of performance evaluation systems for traditional Chinese medicine scientific research projects, the construction of professional scientific and technological evaluation teams for traditional Chinese medicine scientific research projects, and the study of related issues in performance evaluation of traditional Chinese medicine scientific research projects, such as the difference between performance evaluation and final acceptance of scientific research projects, research on performance evaluation methods for traditional Chinese medicine scientific research projects, and the construction of performance evaluation systems for traditional Chinese medicine scientific research projects. This can help units undertaking traditional Chinese medicine scientific research projects improve project evaluation management and improve the quality of completion of traditional Chinese medicine scientific research projects^[7]. The fairness of the methods, processes, and results of performance evaluation for traditional Chinese medicine scientific research projects directly affects the development direction of traditional Chinese medicine characteristic research activities. Therefore, establishing a fair and reasonable performance evaluation system is a necessary condition for traditional Chinese medicine characteristic universities to improve their scientific and technological management level, and also a powerful guarantee for universities to enhance their independent scientific and technological innovation capabilities.

4 Design Principles of Performance Evaluation System for Traditional Chinese Medicine Scientific Research Projects

The performance evaluation of various industry characteristic scientific research projects in China still largely draws on the ordinary scientific research performance evaluation system. The evaluation indicators are too general, lack specificity, and fail to reflect the characteristics of industry scientific research activities, which is not conducive to the development of industry characteristic scientific research activities^{[8][9]}. The research activities of traditional Chinese medicine are mainly based on the theory and practical experience of traditional Chinese medicine, and are comprehensive scientific activities that study the laws of health and disease transformation in human life activities, as well as prevention, diagnosis, treatment, rehabilitation, and healthcare. The performance evaluation indicators for traditional Chinese medicine scientific research projects are an important factor in determining the evaluation system. Whether the establishment of performance evaluation indicators is reasonable will affect the scientificity and objectivity of project performance evaluation results. The performance evaluation of TCM scientific research projects should be tailored to local conditions, and the design of its index system should conform to the principles of science, standardization, economy, and progressiveness.

(1) Scientific principle

The performance evaluation system should objectively reflect the authenticity and credibility of the performance evaluation results of traditional Chinese medicine scientific research projects. The selection of indicators should be as systematic, comprehensive, clear, and reliable as possible, fully reflecting the laws and characteristics of research activities in traditional Chinese medicine scientific research projects in a scientific manner, and meeting the content of performance evaluation for traditional Chinese medicine scientific research projects.

(2) Normative principle

The performance evaluation system should be able to standardize indicators, meet the requirements of combining qualitative and quantitative analysis, and reflect the social and economic benefits in the implementation process of traditional Chinese medicine scientific research projects, making the performance results more standardized and scientific.

(3) Economic principle

The performance evaluation system should be concise, clear, easy to operate, and avoid vague evaluation content. When it comes to data collection in performance evaluation, the selection and calculation of data should consider the actual situation, be easy to obtain, and meet the requirements of efficiency and efficiency.

(4) Progressiveness principle

The performance evaluation system not only needs to reflect the characteristics of the performance evaluation of Chinese medicine projects, but also needs to objectively reflect the strategic guidelines and policy guidance of the national scientific and technological development of Chinese medicine, that is, the development direction of the scientific research field of Chinese medicine, with a certain degree of progressiveness.

5 Determination of Performance Evaluation Indicators for Traditional Chinese Medicine Scientific Research Projects

Through literature review, field research, interviews with technology management personnel and traditional Chinese medicine researchers, combined with the entire process management of traditional Chinese medicine scientific research projects, project performance evaluation can mainly focus on six aspects: relevance, implementation and management, goal achievement, inheritance and innovation, social benefits, and economic benefits^[10].

5.1 Relevance

Relevance mainly refers to the consistency between traditional Chinese medicine scientific research projects and the national science and technology development strategy, as well as the development of the traditional Chinese medicine industry. At the same time, consideration should be given to whether they conform to the development of traditional Chinese medicine related disciplines and meet the needs of the health service field. In addition, clear and specific research objectives should also be established.

5.2 Implementation and Management

Implementation and management mainly refer to whether traditional Chinese medicine scientific research projects are organized and implemented in accordance with the management system of superiors and undertaking units, whether the use of research project funds complies with relevant policies, and whether the fund execution rate is within a reasonable range.

5.3 Goal Achievement

The goals of scientific research projects generally include the technical indicators of the project application or task book, the publication of research related papers, patent applications, achievement awards, etc. Some project goals also include the construction of scientific research platforms, the cultivation of scientific research talents, and the construction of research disciplines. The collection of the above indicator data can objectively reflect the completion of project tasks and the construction of scientific research capabilities. Including it in the evaluation system is conducive to qualitative and quantitative analysis in the performance evaluation of traditional Chinese medicine scientific research projects.

5.4 Inheritance and Innovation

The inheritance of traditional Chinese medicine mainly includes the inheritance of the theoretical system and clinical technology of traditional Chinese medicine, while inno-

vation refers to the innovation of research methods and project achievements in traditional Chinese medicine. The implementation of traditional Chinese medicine scientific research projects should to some extent promote the advantages and characteristics of traditional Chinese medicine, while reflecting the development and progress of traditional Chinese medicine theory and technology.

5.5 Social and Economic Benefits

The social and economic benefits generated by scientific research projects generally refer to the adaptability of project research results to the market, serving industrial and social development. The social and economic benefits of traditional Chinese medicine scientific research projects can be mainly measured through the development of their basic theories, improvement of clinical technology and level, standardization of diagnosis and treatment technology norms, scope of health services, economic benefits brought by industrialization to health service institutions, and whether it promotes the improvement of policies in the traditional Chinese medicine industry.

After determining the performance evaluation content based on reference evaluation indicators, a performance evaluation of a certain type of traditional Chinese medicine research project is carried out to obtain supporting materials for comprehensive analysis from multiple perspectives, such as the output of papers undertaken by the project, support for disciplinary development, promotion of domestic and international scientific and technological cooperation, awards for scientific and technological progress, patent authorization, talent cultivation, growth of excellent scientific and technological teams, construction of scientific research platforms, social services, etc. Comprehensive analysis is carried out to help scientific research managers identify prominent problems in such projects and form evaluation conclusions and suggestions. By referring to performance evaluation suggestions, it is beneficial to further improve the management system and mechanism of scientific research projects in the university, and provide important references for improving the basic scientific research level and the transformation and application of scientific and technological achievements in the university of traditional Chinese medicine.

6 Conclusions

The performance evaluation of traditional Chinese medicine scientific research projects is an important part of project management in traditional Chinese medicine. Introducing a performance evaluation system into the management of characteristic projects in traditional Chinese medicine universities can improve the efficiency of funding for scientific research projects, optimize resource allocation, and effectively improve the quality of research project completion. It can also promote the cultivation of traditional Chinese medicine technology talents and the construction of traditional Chinese medicine research teams, gradually realizing the inheritance, protection, and innovative development of traditional Chinese medicine. Chinese medicine research project managers can constantly improve the performance evaluation index system in the process of project

performance evaluation practice, ensure the progressiveness of Chinese medicine research project performance evaluation, and thus promote the scientific and technological competitiveness of Chinese medicine colleges and universities.

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