

Intellectual Property Protection in the Transformation of Medical Scientific and Technological Achievements

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Abstract: In the transformation of medical scientific and technological achievements, intellectual property disputes caused by improper protection of intellectual property rights are common, which have seriously affected the efficiency of the transformation of medical scientific and technological achievements. Therefore, this article takes the importance of intellectual property protection in the process of transformation of medical scientific and technological achievements as an entry point, analyzes the current intellectual property infringement behaviors and manifestations, puts forward specific solutions, and improves the efficiency of the transformation of medical scientific and technological achievements.

Keywords: Intellectual property; Scientific and technological achievements; Protection; Efficiency

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1. Preface

“Science and technology are the primary productive forces.” Improving medical science and technology innovation capabilities will speed up the transformation of scientific and technological achievements and help improve China’s international competitiveness. The Chinese government attaches great importance to medical science and technology innovation and has introduced supporting policies ^[1]. Since 1999, relevant national departments have begun to fund the National Key Basic Research and Development Program (973 Program) and major projects of the National Natural Science Foundation (including major international cooperation projects). Since 2008, the Chinese government has launched a series of science and technology projects such as the National Science and Technology Support Plan (863 Plan), the National High-Tech Research and Development Plan (973 Plan), and the Science and Technology Support Plan. At the same time, China has established several national medical science research centers and multiple regional centers. With the implementation of these projects, China has achieved a series of major research results and technological breakthroughs in the medical field, effectively improving the level of medical technology in China. However, the acquisition is basically at the expense of intellectual property rights, which, to a certain extent, restricts

China's medical science and technology innovation capabilities and the development of medical undertakings. It is necessary to strengthen intellectual property protection in the medical field ^[2].

2. Intellectual property infringement behaviors and manifestations

Due to people's weak awareness of intellectual property protection, many infringements, and imperfect laws and regulations on intellectual property protection, a series of intellectual property infringement behaviors and manifestations have emerged in transforming medical scientific and technological achievements. Common infringements mainly include: (1) Using other people's patented technology without permission ^[3]; (2) Using other people's copyrighted works without authorization ^[4]; (3) Using other people's trademarks without authorization logo; (4) Unauthorized use of other people's business secrets; (5) Unauthorized use of other people's commercial advertising information ^[5]; (6) Unauthorized use of other people's network domain names, etc. To effectively crack down on intellectual property infringements during the transformation of medical scientific and technological achievements, reduce intellectual property disputes, and improve the efficiency of medical scientific and technological achievements, it is necessary to analyze and summarize these common infringements and their manifestations. Only by understanding the specific manifestations of these infringements can it be solved by targeted measures, thereby effectively improving the efficiency of transformation of medical scientific and technological achievements ^[6].

3. Problems existing in intellectual property rights in the transformation of medical scientific and technological achievements

3.1. Low awareness of intellectual property protection of scientific and technological achievements

The transformation of medical scientific and technological achievements is to apply them to society and realize their value, thereby promoting economic and social development. However, in most enterprises in China, there is still a phenomenon of focusing on "patent application" and not "patent implementation." When establishing scientific research projects, we only pay attention to the number of published papers but ignore the novelty of the paper content ^[7]; only pay attention to patent applications but ignore the tracking and monitoring of patent implementation; only pay attention to the protective role of patent applications but ignore its role in promoting product research and development and marketing and enterprise development. In short, Chinese enterprises generally face the problem of weak awareness of intellectual property rights and lack of effective protection of medical scientific and technological achievements in the transformation of medical scientific and technological achievements.

3.2. Imperfect intellectual property management system

The pharmaceutical industry is not included in the scope of protection of the Patent Cooperation Treaty (PCT). The Patent Cooperation Treaty stipulates the scope of protection of five patents, one of which is "within a certain period." The qualification of "a certain period" is the boundary of the scope of patent protection ^[8]. The pharmaceutical industry's patent protection scope in the United States mainly concentrates on drugs and medical devices, while other fields are relatively narrow. It is precisely because the scope of patent protection in the United States pharmaceutical industry is too narrow that the United States pharmaceutical industry lacks innovation power and capabilities. Judging from the current intellectual property situation in China, there are also certain problems. Due to the characteristics of the pharmaceutical industry and the imperfect laws and regulations, many pharmaceutical companies have not established an intellectual property management system,

making the technological innovation process difficult. As a result, many intellectual property issues cannot be protected promptly and effectively.

3.3. Lack of scientific assessment and evaluation mechanism

The transformation of medical scientific and technological achievements is a systematic project that requires the cooperation of all aspects. Firstly, the transformation of a medical scientific and technological achievement must have a good research team and project, and such good research teams and projects must be selected from a market perspective in clinical research due to conflicts of interest between medical schools and hospitals, some doctors are unwilling to go to hospitals to conduct clinical research; some doctors are unable to perform clinical research because they do not have enough scientific research funding support; in some hospitals, scientific researchers are unwilling to cooperate with clinicians to carry out research ^[9,10]. Secondly, China's medical scientific research assessment and evaluation system lacks content and requirements for intellectual property protection. Medical institutions, scientific research institutes, and hospitals all face problems such as not paying attention to, not taking seriously, and not taking action in the protection of scientific and technological achievements to varying degrees ^[11]; some medical institutions and scientific research institutes do not regard the transformation of medical scientific and technological achievements as important advancements. Although some units are aware of the importance of intellectual property protection, they find it difficult to implement it due to a lack of professionals and financial investment.

3.4. Unreasonable profit distribution mechanism after the transformation of medical scientific and technological achievements

The current unreasonable profit distribution mechanism in transforming medical scientific and technological achievements is also an important reason for the low conversion rate. On the one hand, when intellectual property protection is imperfect, inventors or researchers are often unwilling to make their inventions public for fear of being infringed by others ^[12]; on the other hand, researchers are often reluctant to transfer their results to companies. Usually, a certain amount of financial compensation is required. If the profit distribution method is not agreed upon with the inventor or researcher in advance, it will usually result in losses to the inventor or researcher.

3.5. Contradiction between intellectual property protection and industrial policy guidance

Due to the contradiction between intellectual property protection and industrial policy guidance, there is also a lack of corresponding incentive policies for developing high-tech industries. For example, many of Guangdong's high-tech industries, such as home appliances, clothing, furniture, building materials, etc., have been transformed and upgraded from traditional industries in Guangdong. Many of the products are low-value-added processing and assembly. These enterprises rely on low prices. The competition and resource consumption-based production and operation model has low product-added value, it is difficult to form a brand and core technology, and the market competitiveness is very weak. Therefore, in Guangdong's current economic development, although intellectual property protection has become an issue that cannot be ignored, the guiding role of policies is far from sufficient.

4. Solutions

4.1. Improving legislation and increasing legal protection

Intellectual property laws should stipulate intellectual property infringements that may occur during the

transformation of medical scientific and technological achievements. Legislation should be further improved, and the operability of the law should be further clarified. At the same time, penalties should be increased, and infringements caused by improper protection of intellectual property rights should be stipulated in the form of law. When using other people's scientific research results, their consent should be obtained in advance to clarify the ownership of rights. A contract should be signed to clarify their respective rights and obligations ^[13]. By formulating a series of systems to standardize the use and protection of medical scientific and technological achievements by medical researchers, for example, the benefits generated from the use of scientific and technological achievements must be reasonably distributed; the scope of use of the achievements must be clarified; intellectual property management must be included in the performance appraisal system of scientific researchers; and confidentiality measures must be taken to protect major scientific and technological achievements.

4.2. Increasing publicity and enhancing legal awareness

Strengthening publicity can raise people's awareness of the importance of intellectual property protection and enable people to have a certain awareness and legal awareness when protecting their intellectual property rights to avoid infringements caused by ignorance or unfamiliarity with relevant intellectual property laws ^[14].

4.3. Improving the awareness of intellectual property protection among medical institutions and scientific researchers

Medical institutions and researchers should protect scientific and technological achievements during their work and strictly implement relevant regulations and policies. At the same time, when applying for patents or registered trademarks, they should make plans and preparations for intellectual property protection in advance to avoid infringement due to improper patent applications or registered trademarks ^[15]. Intellectual property rights are indispensable in transforming medical scientific and technological achievements. Therefore, medical researchers must strengthen their awareness of intellectual property protection and fully realize that they must act according to the law when using other people's scientific research achievements and safeguarding their rights and interests to prevent infringement ^[16].

4.4. Strengthening intellectual property publicity and education for hospital researchers and related staff

Although hospital researchers and related staff have a certain knowledge of intellectual property protection, they often lack the corresponding legal knowledge and the ability to predict and handle possible infringements in their work. For scientific and technological achievements with practical value and market prospects, it is necessary to promptly apply for intellectual property protection, such as patents and trademarks, to prevent others from preemptively registering them; for patents that others have applied for, have not applied for, or have applied for but have not yet been authorized, they must promptly report to relevant departments and actively strive to obtain authorization; patent applications must be actively authorized; management of authorized or utility model and design patents must be strengthened to prevent others from misappropriating and counterfeiting ^[17].

4.5. Strengthening ties with relevant government departments and enterprises

Government departments and enterprises are important in transforming medical scientific and technological achievements. Both parties should fully use their respective advantages, strengthen contact and cooperation, and make good use of various policy preferences and support provided by relevant government departments.

For example, it provides financial support for transforming medical scientific and technological achievements through science and technology plan projects, major special projects, etc.; it provides project consulting and other services for transforming medical scientific and technological achievements ^[18].

5. Conclusion

In the era of economic globalization and knowledge economy, science and technology are the primary productive forces, and the transformation of medical scientific and technological achievements is the key to improving independent innovation capabilities. Although China has made certain achievements in vigorously promoting the transformation of medical scientific and technological achievements, there are also some problems in the process. In the transformation of medical scientific and technological achievements, intellectual property infringement disputes caused by improper protection of intellectual property rights occasionally bring great challenges to social and economic development and adverse effects. Therefore, all units must take effective measures to protect intellectual property rights while transforming medical scientific and technological achievements and formulating scientific and reasonable intellectual property protection strategies. At the same time, we should actively guide medical researchers to change their concepts, effectively increase the emphasis on the transformation of medical scientific and technological achievements, and improve the efficiency of the transformation of medical scientific and technological achievements through effective measures.

Disclosure statement

The author declares no conflict of interest.

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