

Study on the Application and Extension of New Techniques and Methods in Drug Treatment

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Abstract:

The Chinese Ministry of Justice issued the "Opinions on Establishing a Nationally Unified Basic Model of Judicial Administration for Drug Rehabilitation Work" in May 2018, and required that the development and implementation of advantageous projects in drug rehabilitation and correction should be strengthened, so does the research of new technologies and methods for drug treatment. We are striving to form a comprehensive set of technical standards and norms for drug treatment, and achieve scientific and precise treatment for the addicts. In the context of the judicial administrative compulsory isolation and drug rehabilitation work model, well-known judicial police academies in China were involved, we are going to establish an "application and extension platform" through the screening and evaluation of new drug rehabilitation technologies and methods, which can gather the power of "experts think tanks" to solve the problem of purchasing equipment and venues for high costs, limited research on drug rehabilitation in places, insufficient police training, and low R&D conversion rate of technology companies, and improve the quality and effectiveness of scientific drug rehabilitation in China, enhance the ability of theoretical research and the transformation of results.

Keywords: Drug detoxification, Techniques, Methods, Rehabilitation.

I. INTRODUCTION

In May 2018, the Ministry of Justice issued the "Opinions on Establishing a Nationally Unified Basic Model of Judicial Administration for Drug Rehabilitation Work", setting up physiological detoxification zone, education adaptation zone, rehabilitation consolidation zone and return guidance zone. There are five professional institutions: medical treatment center,

educational correction center, psychological correction center, rehabilitation training center and diagnostic evaluation center [1]. At the same time, the Ministry of Justice proposed that it will vigorously strengthen the research and implementation of superior projects in drug rehabilitation and educational correction, strengthen the research and development, application and promotion of new technologies and methods for drug rehabilitation, and strive to form a comprehensive and supporting technical standards and normative system for drug rehabilitation to achieve scientific and precision detoxification [2]. We are also striving to open up the drug rehabilitation "last mile" by guiding and supporting community drug rehabilitation, setting up drug rehabilitation centers and other measures [1].

The research and application of new technologies and methods in the field of compulsory isolation and detoxification of judicial administration in our country are intersected with many disciplines. Summarizing the previous experience, some projects are lacking a strict scientific paradigm, and the abstinence treatment evaluation needs more data support. At present, the theoretical research and practical application of new technologies and new methods are mainly concentrated in five aspects: one is the empowerment of "artificial intelligence + big data"; the second is the continuous development of sports detoxification and rehabilitation training; the third is mindfulness intervention therapy; the fourth is Traditional Chinese medicine methods; Fifth, research on management in drug rehabilitation centers during the COVID-19 epidemic situation.

With the development of medicine science and the emergence of new technologies, more and more theories and technological methods have been applied in the field of drug rehabilitation. In the past three years, several technical achievements have been made in China, including brain wave cognitive intervention, virtual reality (VR), intelligent psychological treatment (EP), repetitive Transcranial Magnetic Stimulation (rTMS), Exercise training, etc [3]. For example, the model of "scientific and intelligent drug rehabilitation" was proposed by Shanghai, they simulate the home environment for drug abusers through a VR eye mask. The screen immediately displayed the wearer's gaze on drugs to detect the degree of drug addiction. This is a new cognitive rehabilitational combination of virtual reality and eye tracking drug addiction assessment technology. The cognitive neurorehabilitation platform includes gait balance training, intelligent movement stability testing, and various cognitive correction training.

Many cities in China made good progress in research on intelligent management and rehabilitation training. They take advantage of rehabilitation projects as a foothold, involving security, management and control, community rehabilitation, etc., each with its own characteristics, most of which are combined with scientific and technological teams, but it does not fully cover all drug rehabilitation stages and places [4]. However, as far as the current situation is concerned, China needs to establish a scientific, standardized and unified drug rehabilitation system. The field of non-drug medical rehabilitation is the direction. A single drug treatment or device may not achieve the best effect. With the development of technology,

relying on big data and artificial intelligence technology to intervene in drug addiction has a bright future [5]. This article is based on the construction of the JudicialPoliceAcademy's "Research and Promotion Base for New Technologies and New Methods of Compulsory Isolation and Detoxification".

II. IDENTIFICATION AND SCREENING

2.1 Definition of "New Technology and New Method"

This mainly refers to the diagnosis and treatment of drug addicts for the first time, as well as other technologies and methods used in drug rehabilitation education and management. It can also be a development and innovation based on original technologies and methods. It should follow the principles of science, safety, advancement, practicality, legality, and conformity to social ethical norms; effectively reduce the burden and increase the efficiency of drug rehabilitation sites to attain greater social benefits. It is opposed to the entry of research projects that are not officially approved for commercial and private purposes or that have not been approved by the experts group. For ease of presentation, the term "project" in this article refers to a project that adopts "new technologies and new methods".

2.2 Source of "New Technology and New Method"

The central task of the judicial administrative drug treatment system is educational therapeutic abstinence. According to the individual situation of the drug addicts, the type of drugs and the degree of addiction, the latest correction theories and techniques are actively introduced, and educational correction, medical treatment, psychological correction, rehabilitation training, and diagnostic evaluation are carried out[6]. For projects management, it is necessary to strictly screen and prepare relevant materials based on the level of projects source. It is divided into the following five levels:

2.2.1 Related Regulations of the Ministry of Justice

It mainly includes "Opinions on Establishing a Nationally Unified Basic Model of Judicial Administrative Drug Rehabilitation Work" (2018.05), "Notice of the Implementation Opinions on the Construction of Smart Drug Rehabilitation of the Ministry of Justice" (2019.02.11), "Guidelines for Exercise Drug Rehabilitation Work (Trial)" (2019.06.11), and other notices and meeting materials.

2.2.2 "Advantage Projects" and "Promotion Projects"

Mainly refers to the projects produced by the Ministry of Justice each year from 2016; and the summary of the application and promotion projects of new technologies and methods for drug rehabilitation in 2018.

2.2.3 Provincial Reports

The data source is from CNKI, VIP and other databases. We can check the literature of research progress and the documents of scientific research projects in the field of drug treatment carried out by various universities in recent years. The latest information released by the official websites and WeChat public accounts of the bureaus is also be viewed.

III. PLATFORM CONSTRUCTION

3.1 Process

3.1.1 Screening of New Technologies and New Methods

Strictly follow the aforementioned requirements and highlight the "new" characteristics. The general time limit is three years. It is not included in this platform temporarily until been recognized by the experts and ethics committee. As of June 2019, more than 700 experts and 300 institutions has cooperated with the judicial administrative compulsory isolation drug rehabilitation system and eight new technologies and methods have been replicated throughout the country, such as traditional Chinese medicine treatment, virtual reality (VR) evaluation and correction system, transcranial magnetic stimulation (TMS), mindfulness anti-recurrence training, vipassana therapy, sports detoxification and rehabilitation training programs [7].

3.1.2 Classification of New Technologies and New Methods

Classified into four categories in the following ways: first, complete innovation or improvement of the original technology; second, use scenarios; third, management and rehabilitation; fourth, theory-based and application-based. For example, Chinese massage technology can be described as an improved rehabilitation technology that is mainly applied in rehabilitation training centers, medical treatment centers and living places.

3.1.3 Process Evaluation of New Technologies and New Methods

Process evaluation starts at the beginning of project implementation and runs through the entire process. The purpose of process evaluation is to ensure the realization by monitoring and controlling the progress and quality of the project. Complete process evaluation data can provide rich information for explaining the output of the project. Process evaluation includes two levels: monitoring for project intervention activities and for organizational processes.

3.1.4 Effect Evaluation of New Technologies and New Methods

Effect evaluation refers to the data analysis process of judging the effectiveness after the implementation of the project, so as to scientifically explain whether the project has achieved the expected goal, including sustainability and clarifying the contribution and value of the project. The effect evaluation focuses on the output and effectiveness of the project, whether the goal and the expected effect is achieved. For example, the internationally unified PICO format can be used for the evaluation of sports intervention effects.

3.1.5 Use and Promotion

The operation and application of the project are mostly carried out in drug rehabilitation centers, and the platform described in this article is set up in the judicial police academies, so the main functions of this platform is to evaluate and promote. The scientific evaluation of technology and cognitive courses are added in the training process, which can also conducive to the improvement of the police professional quality. Relevant research units can be stationed in colleges and universities for joint and cooperation with more convenient conditions and better cost control. For high-quality projects, two forms of academic conferences and on-site operation

demonstrations are generally used for promotion. The process is shown in Fig 1.

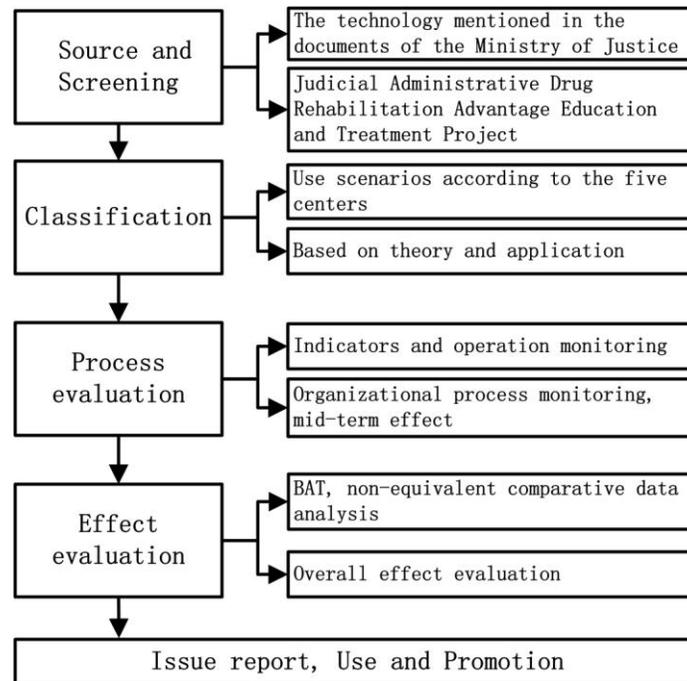


Fig 1: Flow diagram of "Application and Extension Platform"

3.2 Structure and Composition

"Application and Extension Platform" includes a committee and four centers: experts and ethics committee, exhibition center, big data processing center, effect and evaluation center, promotion and service center. The settings and functions of each organization are briefly introduced as follows, and the schematic diagram is shown in Figure 2:

The members of the expert (library) ethics committee is no more than 30, and their specialty is not limited to the field of drug treatment. They are responsible for screening and identifying recommended items, which dividing into three levels: highly recommended, generally recommended, and not recommended. The exhibition center is for the display of mature new technologies and methods to be promoted, which can be displayed in video, written results, and practical forms. Various data in research projects can be collected, classified, and archived in the Big data processing center, as well as the storage of online educational resources. The effect and evaluation center carry out the full follow-up evaluation of the whole research progress. Scientific and technological cooperation, conference training, target user contact and external promotion can be conducted in promotion and service center.

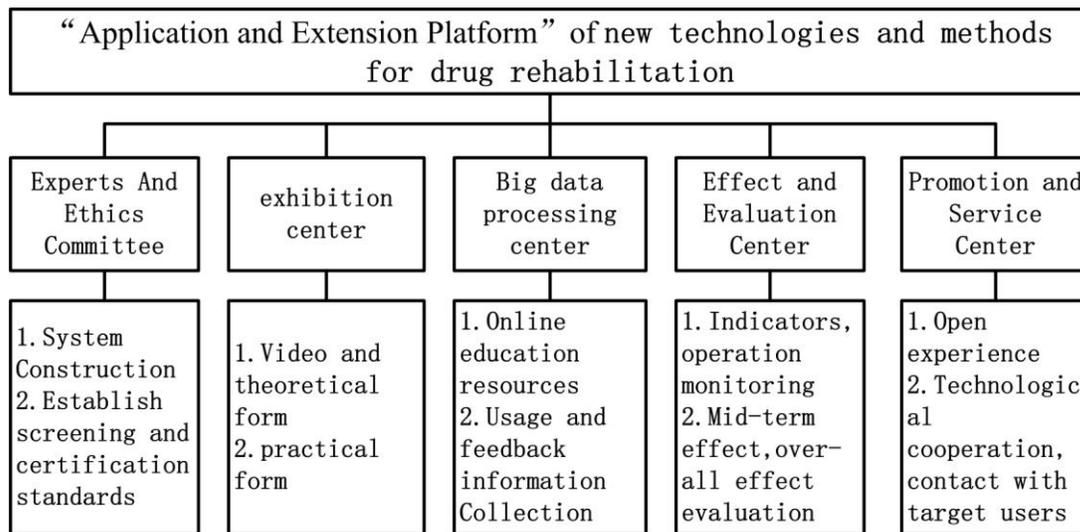


Fig 2: Structure diagram of "Application and Extension Platform"

IV. CONCLUSION

The unified basic mode of judicial administration drug rehabilitation refers to the formation of unified standards, procedures and modes in basic aspects such as education, correction, medical treatment, and rehabilitation. The "Application and Extension Platform" will be carried out to conduct in-depth exploration on this basis.

4.1 Necessity

The current research and reports on new technologies and methods mostly come from media reports, news, official accounts, website microblogs, etc. The titles and contents lack scientific rigor and are even misleading. Therefore, authoritative and credible data and information source are crucial. The construction and operation of the new technologies and methods "Application and Extension platform" for drug rehabilitation can be entrusted by the ministry and the judicial police academy. The research base will provide venues with well-known experts and professors as the responsible persons, and it is the best choice to implement in judicial police colleges. This platform has an ability for concentrating theory and R&D talents, a high degree of processing project intensiveness, and a standardized incubation. There are more opportunities for projects to inspire and learn from each other, avoid fighting each other, and show advantages.

4.2 Focalization

The physiological system of drug addicts has been destroyed, and more than 60% of drug addicts have protracted withdrawal symptoms. The current technology of detoxification rehabilitation mainly treats the physical and psychological symptoms of the individual, and the group management in the place is the main way. New technologies and methods to improve the efficiency of group management can be appropriately developed. It is not limited to individual rehabilitation merely. At the same time, part of the results are capable of being shared by the

society, and expand the applicable population and social benefits.

4.3 Urgency

In the context of the unified drug treatment model, China continues to deepen the innovation of scientific treatment and rehabilitation methods with Chinese characteristics. Reproducible technologies and methods can greatly improve the management and abstinence ability in remote and underdeveloped areas. Technical methods that conform to the reality and operability of the site and facilitate the management and education and correction of the site, which can effectively reduce the burden on the police, improve work efficiency, and maintain a stable and harmonious environment in the site.

4.4 Scientificity

Drug rehabilitation centers are the main sites, which use and promote new technologies and methods mostly introduced from outside. The centers should also pay attention to the addicts' self-management and rehabilitation courses, and strengthen self-health management after leaving the center. The ability improvement of front-line police's professional also depends on the recognition degree of the necessity, urgency, and scientificity of "new technologies and methods." Heads of bureaus and bases should strengthen unified management of the platform to avoid excessive commercialization and utilitarianization in drug rehabilitation field, set up a supervision and review mechanism, failures and "trial and error costs" are appropriately allowed when necessary. The administrative department is responsible for management, and the research department for research. Production and research are appropriately separated and do not interfere with each other.

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