

## Research Article

### Study on the Exploitation and Utilization of Traditional Food Safety and Chinese Medicine Resources in Rural Areas-based on the Survey of Tongcheng Anhui

Zhen-Bo Xu, Fei Yang, Ting Wang, Fang-Hui Liang and Wen-Wen Sun  
Department of Literature and Education, Bengbu College, Bengbu 233030, China

**Abstract:** In this study, we have a study on the exploitation and utilization of traditional food safety and Chinese medicine resources in rural areas based on the survey of Tongcheng Anhui. There are a large variety and effectiveness of Traditional Chinese Medicine (TCM) resources in vast rural areas and they are the material basis for the development of TCM cause and research of TCM products. For a long time, however, because of various objective and subjective factors such as lacking of due attention to development and utilization of the resources of TCM, the cause of traditional Chinese medicine in rural areas are lack of development potential. By selecting a representative sample of rural Tongcheng in Anhui and on the basis of investigation on development and utilization of local traditional Chinese medicine resources, we should analyze current problems of development and utilization of existing rural medicine resource and propose suggestions from the aspects of government and farmers research. In this way, we can provide a reference to the motherland researchers and workers of the pharmaceutical industry.

**Keywords:** Chinese medicinal resources, development, investigate, rural areas, use

## INTRODUCTION

According to the Term of Resources Science and Technology published in 2008, Traditional Chinese Medicine (TCM) refers to the use of drugs under the guidance of TCM theory, which drugs including the traditional Chinese medicine, Chinese medicine pieces and proprietary Chinese medicine. Traditional Chinese medicine resources mean the available plant medicine resources, animal medicine resources and mineral medicine resources and it is the sum of the species and contains of medicinal plants (animal or mineral) distributed in a certain area and reserves. It also refers to the floorboard of the natural products which under certain conditions can form the medical treatment and health care value, which in order to improve the needs of human health to adjust to the environmental factors in the current and future. National Science and Technology Terminology Committee (2008) have a research of the resources science and technology noun. Pan (2010) have a research of the Herbs crisis terminally ill. Wang (2009) have a study of the Chinese medicine to anti a flow virus. Food and Drug Administration of Tongcheng City (2010) have a review of the twelfth five-year development plan of Tongcheng herbal industry. Boli (2014) give a suggestion for the fourth National Census of Traditional Chinese Medicine Resources. (Zhongyuan and Lei, 2008) have a analysis of the impact of policy factors in the rural pharmaceutical industry. China Network (2011) have a

report of the promotion of traditional Chinese medicine in China.

Traditional Chinese medicine has a long history, which is the unique valuable resources in our country and it has been playing an irreplaceable role in preventing and cure disease. Rural area is the motherland of the development and rise of Traditional Chinese Medicine (TCM), however, because lacking of the corresponding policy support, economic benefits and other reasons, the current rural medical institutions gradually reduce or even abandon the clinical application of traditional Chinese medicine. What's more, Chinese doctors are lack of confidence in inheriting and developing traditional Chinese medicine, so Chinese medicine traditional project is facing the lost crisis, which is badly catching the attention of academic and industry.

In this study, we have a study on the exploitation and utilization of traditional food safety and Chinese medicine resources in rural areas based on the survey of Tongcheng Anhui. By selecting a representative sample of rural Tongcheng in Anhui and on the basis of investigation on development and utilization of local traditional Chinese medicine resources, we should analyze current problems of development and utilization of existing rural medicine resource and propose suggestions from the aspects of government and farmers research. In this way, we provide a reference to the motherland researchers and workers of the pharmaceutical industry.

**Advantage of development and utilization of traditional Chinese medicine resource:**

**Rich variety:** Our Country should be lavish, mild climate and abundant rainfall in most areas, with unique advantages in production conditions and resources of traditional Chinese medicine. According to the data from the most recent "Third national survey of traditional Chinese medicine resources" (1987), there are 12807 types of traditional Chinese medicine resources. From above, there exists 11,146 kinds of medicinal plants, 1,581 kinds of medicinal plants, 80 kinds of medicinal mineral.

**Wide application:** Drugs of traditional Chinese medicine in the prevention and treatment of common diseases and frequently-occurring disease, particularly older functional, chronic, refractory, non-infectious diseases, are widely used. At present, the State licensed total more than 9,000 kinds of proprietary Chinese medicine, about 58,000 approval numbers. Following the latest adjustment of the national essential drugs list of preparations (2004), it contains 2,033 species, 1260 for proprietary Chinese medicine.

**Dramatic effects:** Clinical practice shows that traditional Chinese medicine has its unique advantages in many difficult and complicated cases. For example, Lianhuaqingwen, a Chinese medicine capsules used to anti-influenza H1N1 shows that the effect of Lianhuaqingwen is better than Tamiflu (Roche Inc). What's more, it has shorter mean fever time and lower costs. Another example, recent research shows that the use of traditional Chinese medicine treatment of diabetes is more effect than western-based treatment. Generally about 1 to 3 months after treatment, fatigue can be improved significantly, visual acuity and clinical symptoms of pruritus and generalized pain also improved significantly. In addition, it also have a conditioning glycemec effect.

**Low price:** Besides advantages on therapeutic effect, characteristic of Chinese herbs in low cost treating makes it better able to meet the health needs of the public, especially the farmers. Survey results show that traditional Chinese medicine treatment costs an average of less than 70% of western medicine per person and low-income groups are called "lifesaving medicine".

## LITERATURE REVIEW

**A survey on development and utilization of Traditional Chinese Medicine (TCM) resources in rural area of Tongcheng Anhui:** The city of Tongcheng is located in the central of Anhui province, which in subtropical climate zone. It is a typical area of having a good geographic distribution and relatively

complete species of herbs in China. The herb resources are rich in 12 towns, mainly concentrated in Huang Jia, Da Guan, Fan Gang and Xin Du. These towns have a long history in cultivation and production of herbs. The herbal products mainly include rhizoma corydalis, ginkgo, platycodon, cornel, Eucommia ulmoides, Purple raw GuoJu, ganoderma, cordate houttuynia and so on. The annual output value of herbs in the whole city is almost 8 million Yuan. There are about 1000 mu of Ginkgo, Eucommia ulmoides and purple raw GuoJu, 400 mu of cornel, 300 mu of rhizoma corydalis, 200 mu of Eucommia ulmoides, as well as radix bupleuri. However, the city still has some problems about cultivation and use of herbs. Through this survey, we hope that we can make some feasible suggestions on the further development and utilization of herbs in this region and provide some valuable information for the rest cities in China.

## RESEARCH METHODS AND TECHNOLOGY

The investigation adopts interviews and questionnaires methods, assisting with the method of observation. To ensure the quality of the survey, we use the two-stage stratified cluster sampling method. We take samples from Tongcheng's rural areas. According to three different economic levels (good, moderate and bad), these samples are divided into three types. Besides, we also consider the distance which from sample towns to the city. Meanwhile, we visit the relevant government departments in the city of Tongcheng and interview related staffs randomly.

In general, this survey can be divided into three stages. The first stage is from November to December, 2013. During the month, we design the survey scheme, develop the survey target and content, determine the survey object and method, confirm the survey sample and trial questionnaire. The second stage is from January to March, 2014. Our tasks are send questionnaires and receive them on the spot, supplemented by site observation. The third stage is April, 2014. We count and analyze questionnaires data. Then, we draw a preliminary conclusion. Later, we obtain the final results through combining with literatures. Finally, we write the report.

Due to farmers and government persons are different in knowledge level, value concept and living environment, we designed two different questionnaires for them. We issued 200 copies, respectively. Eventually, the questionnaires were recycled 164 copies from the government and 156 copies from farmers. The former recycling rate is 82% and the later is 78%. The effective questionnaires from the government are 160 copies, with 80% efficient rate. Also, the effective questionnaires from farmers are 150 copies, with 75% efficient rate.

## THE RESULTS OF THE SURVEY AND ANALYSIS

Through the interview, we found some problems in the process of development and utilization of herb resources in Tongcheng and the analyses are as follows.

### **Ignore collecting the first-hand information of traditional Chinese medicine in the countryside:**

According to the survey, although Huang Jia, Da Guan, Fan Gang and Xin Du already have their own special herb planting base, these towns still lack important records about these herbs' production process, growth environment and characteristics. On the contrary, herbs grown in rest towns are relatively fragmented. We visited the remaining 10 towns and we found that there were only one or a few farmers grow herbs in a town with single variety. Moreover, the herbs are not grown as special economic plants. What's worse, most of these herbs grow at the edge of the field, forest and other pristine areas and people usually don't sort out and record them, nor explore their growing environment. The crowd don't think of herbs and remedies until they are sick, so there is a situation that local farmers cannot name lots of useful herbs and remedies.

### **Farmers have a weak consciousness in protecting and utilizing herb resources:**

For all that the city of Tongcheng has a rich herb resource, the consciousness of protection, development and utilization is worrying. In the light of survey feedbacks, about 67% farmers who plant herbs are aware of the economic value of them, but they just sell them one time without further processing. These farmers are lack of consciousness and abilities to improve product added value. At the same time, a lot of rare medicinal herbs are in danger or extinct because of blind excavation, deterioration of ecological environment and weak consciousness of protecting. For example, once famous Tongcheng "Tin caulis dendrobii" has long been extinct for many years and now has a rare met.

### **Absent of guiding the guidance of development and utilization of Traditional Chinese Medicine (TCM) resources:**

The survey shows that herbs and folk remedies in rural Tongcheng have not been timely and detailed recorded. It has a close relation with the failed guidance of government management. Related departments are insufficient awareness of the importance of herb in the countryside, thus the exploitation and utilization of Chinese medicinal herbs in rural areas does not have a strong sense. Also is in the rural folk prescription and application of traditional Chinese medicine less manpower and material resources and capital, policy guidance to encourage is negligible, thus greatly affected the enthusiasm of farmers to grow herbs.

### **Lack of relevant inputs for the development of traditional Chinese medicine in rural areas:**

In our survey, many respondents were asked for the serious shortage of financial investment. It is currently a major obstacle in the development of Chinese medicine in rural areas. County and town hospital respondents tend to think more financial input to Western Medicine and General Hospital. It should intensify personnel training in Chinese medicine, Chinese medicine device configuration and other medical personnel to improve the treatment of investment. And Rural respondents felt that it should increase their cultivation of Chinese medicinal herbs on subsidies and grants.

### **Current problems of developing and utilizing Chinese traditional medicine resources in villages:**

Throughout the field survey above in Tongcheng, Anhui province, we combined with information of protecting, planting and utilizing herbs in some of the other parts of the country. On this basis, we believe that the current problems of developing and utilizing Chinese traditional medicine resources in villages are mainly in the following two aspects.

#### **The farmers:**

**Insufficient awareness:** In recent years, with the rapid development of Chinese socialist new countryside cause and the farmers' living standards, more and more peasants flip their houses on the land frequently, which damage plowland and destroy the habitat of Chinese herbal medicine. At the same time, because the economic value of planting herbs that promote farmers' enthusiasm is not fully reflected, coupled with limited literacy and etc., which results in farmers disregard to collect and collate the first-hand information of medicinal value, characteristics and grow environment of traditional Chinese medicine resources.

**Fault heritage:** Recently, Western medicine is popular while studying and researching Chinese medicine is relatively decreasing, which means Chinese medicine talents is reducing and the succession has already been in the crisis of dislocation. Currently, rural practitioners prescribe herbs, which are mostly spreading by ancestors and herbs they find by themselves are only a minority in the process of gathering. So there is still a considerable proportion of traditional Chinese medicine resources that no one exploring. Meanwhile, with the rapid increase of rural young adults going to school and working in the city, it is hard for older barefoot doctors to pass some good herbal medicine and folk remedies to the younger generation. According to the survey, we can also find that because of the low economic treatment and difficulty to carry out the work to other reasons, a striking phenomenon affecting Chinese doctors is the change from using Chinese medicine to Western medicine. Therefore, rural medical and health

institutions are showing lacking of Chinese medicine professionals in vary degrees.

**The government:**

**Insufficient policy guidance and incentive:** In the planned economy period, China mainly used leadership speech and administrative measures to protect and develop the traditional Chinese medicine career. However, with the establishment of market economy, especially the development of new rural construction, the pharmaceutical industry had been seriously affected.

Although the government has introduced a number of policy measures that adapted to the situation, then as for its ways, means, policy effectiveness and adaptability to the new era, there are some problems in urgent need of correction and improvement. What's more, the Western medicine topics are more in the current Exam of National Practitioners of Chinese Medicine Practitioner, which guide and encourage traditional Chinese medicine doctors to study and use Western medicine objectively, yet ignore the basic study to the theory of traditional Chinese medicine and clinical skills. As a result of that, it may easily cultivate the "neither Chinese nor Western" Chinese doctors who are not strong both in Western and traditional Chinese medicine. It is extremely unfavorable for the growth of Chinese medical teams and ultimately affected the people trust the efficacy of traditional Chinese medicine. In addition, for the lack of appropriate policy incentives, coupled with failed publicity, the farmers treat the benefit of planting herbs in no place and their moods for growing and using herbs resources are generally depressed.

**Lack of legislation basis:** Correctly evaluating to the efficacy of traditional Chinese medicine through scientific research and providing objective criteria for the protection of endangered species in rural herbs, which are preconditions for strengthening the protection and utilization of traditional Chinese medicine resources legislation. Currently, the investigation about the national rural endangered herbal background information is lagging behind and the research about the quantitative criteria and reason for the endangered is far not enough so that related protection legislation systems lack necessary foundation.

**Limited funding and energy-putting:** Recently, "Drug or checkup dependent doctors", "excessive prescribing" and do unnecessary medical tests are becoming "hidden rules" for hospitals and doctors to seek economic interests. While the Chinese medicine mainly provide outpatient service, combined with traditional Chinese medicine prices are generally cheap, so the output efficiency is far lower than Western medicine. Thus, driven by economic interests, rural

grassroots medical institutions pay more attention to Western medicine and they are inclined to Western medicine in personnel training, equipment introduction, energy-putting and other aspects. Even simple Chinese medicine hospital is no exception. More seriously, in recent years, funding invested in the pharmaceutical industry is going down respectively in the proportion of GDP and fiscal spending. Meanwhile Chinese medicine funding exists imbalance in terms of both vertical and horizontal. Longitudinal situation is that funding is less with the grassroots lower and horizontal situation is closely related to the attention degree of local government.

**Inadequate supervision of law enforcement:** Because Chinese medicine clinic generally does not depend on high-precision equipment and practice facilities are relatively undemanding, individual doctor is widespread. However, a few practitioners claim "secret recipe" and "pure Chinese medicine treatment". They play illegal medical practice and try every trick to mislead the public, which has been seriously disrupting the Chinese medical market. Therefore, it not only makes patients suffer losses, but also destroys the good image of Chinese medicine in people's minds. And this cause people to fall in confidence and needs for Chinese medicine services. There is no doubt that this is directly related to inadequate relevant supervisory, law enforcement and ineffective combat of relevant pharmaceutical inspectorate.

## CONCLUSION AND RECOMMENDATIONS

**Countermeasures and suggestions for developing and utilizing of traditional Chinese medicine resources:** To sum up, the conservation, development and utilization of current rural herbal resource is in the extensive state overall. In order to put rural pharmaceutical industry into the healthy development track as soon as possible, we should focus on the following areas.

**The farmers:**

**Establish conservation awareness:** Farmers should strengthen protection to herbs in grass fields and woods. In recent years, with the gradual development of Chinese medicine market and government investment increasing year by year, they should learn to plant herb by using the extra farmland then obtain economic value. At the same time, they should strengthen the legal concept and establish goals and ways to protect, develop and utilize medical resources under the premise of no chaos occupation and farmland destroy.

**Strengthen civil heritage:** As the older rural generation of doctors who master a unique recipe, they should promptly identify suitable successor and pass

the relevant secret to them as soon as possible. What's more, farmers should pay attention to record and organize themselves or learn from others in Chinese medicine herbs and peculiar prescription. In addition, we should actively encourage the relevant professional medical graduates return to villages and study rural medicine herbs and remedies. We should also support medical professional and technical personnel to practice in rural areas and provide them help they need.

**The government:**

**Strengthen policy support:** Government should introduce the relevant benefiting-farmers policy as soon as possible and focus on guiding farmers to grow the economical Chinese herbal medicines. Exploring to make special incentives for farmers in planting herbs, we should combine the development of medicine with promoting local economy and construct new socialist countryside combined with promoting sustainable development in the pharmaceutical industry. In addition, we can try to build rare medicinal plants nature reserves around the countryside and explore on-site or off-site conservation for distinguishable medical herbs, then create a new way to enrich people and flourish herbs.

**Strengthen legislation protection:** At present, there is still no specific law related to the protection, development and utilization of traditional Chinese medicine resources, for example, making "Law for Wild Medicinal Resources Protection". Also, it should be organically coordinated with other environmental resources protection laws, which is necessary ensure to achieve the sustainable use of medical resources and sustainable development of the pharmaceutical industry. Therefore, we should pay close attention to the relevant survey research and implementation and establish a solid foundation for legislation. It is reported that China will launch the fourth national census of traditional Chinese medicine resources on the basis of the previous three national census, which has taken a solid step forward for the introduction of relevant legislation guarantee. Boli (2014), the president of Chinese Academy of Traditional Chinese Medicine pointed out "In the census process, the combination of census and develop, building conditions and research, which will be able to promote the healthy development of the entire pharmaceutical industry. Well, as for the list, intellectual property protection of traditional Chinese medicine. Some countries hurry to register for different purposes and that is infringing our rights. From the perspective of our country, these belong to the Chinese nation", when he had a guest interview in Xinhua Website during the two sessions in 2014.

**Increase capital investment:** We should ensure that rural medicine work has a special investment and support the development of the pharmaceutical industry financially. First, financial income should be invested

in villages' and towns' hospitals and we should strengthen service of "bridge" and "shade" so that farmers can easily get near to superior Chinese medicine service. Second, we should change the investment way that shift "institutional investment" to "project inputs". It should be carried out the project inputs according to different needs and characteristics of medical institutions and let money play a role in maximize. And also we need to evaluate to the effects timely in order to improve funding efficiency, which is to be a basis for the next input. Third, investment projects should be diversified, should not be confined to the house to invest. They should focus on personnel training, suitable medicine device, application of technologies for adaptation and other aspects, in order to meet the needs of different institutions at different stages. Last but not least, it is essential for us to actively encourage and guide social and private fundings to invest in rural pharmaceutical industry, so it could be the situation that has multiple supports and developments.

**Step up supervision:** All levels of governments should improve the standards of Chinese medicine, scientific research, education and management based on careful inherit and reform and innovation coupled with efficient use of herbs under the guidance of the scientific concept of development and follow its own law of Chinese medicine. What's more, we also have to strengthen guide, regulate and supervise for the rural Chinese herbs market and crack on illegal hunting and trading precious medicine resources severely. Meanwhile, taking positive action and making new distribution for people's health are also needed to effectively avoid the herb production local-politicization, lack of scale and intensification.

**Create a widespread atmosphere:** I would like to suggest that we can name the day neighboring the Dragon Boat Festival as "National Week (Day) of Chinese Medicine". People locally can also carry out the commemoration relevant to Chinese traditional medicine, for example, holding academic conference about ZhongJing Zhang, Simiao Sun, Shizhen Li, Tianshi Ye and so on, for that China and people around the world understand, accept and use Chinese medicine. The influence and status of Chinese medicine will improve accordingly. Take the "Promotion of Traditional Chinese Medicine in China" for example, is the largest scientific propaganda activity ever undertaken in term of the scale and influence, which theme is "Inheriting quintessence of traditional Chinese medicine, spreading excellent culture and sharing health and harmony". It has been gaining great social and economic interests since 2007.

During the process to the development and utilization of rural medicine, we can take a photo and edit the remedies, then advertise by publications to the whole society. What's more, we can apply for tangible

material and cultural heritage for great herbal medicine and folk remedies and ask for patent and protection. On this basis, we can also actively build our medical herbs brand, run into the international pharmaceutical market and attract global attention. Finally, it is a good way to try to establish a folk medicine herb exhibition, open tourist routes of medicinal base and the projects of Chinese massage and health diet and so on. In these ways, we can fully meet the needs of modern consumers, so that more people will benefit from the pharmaceutical industry and the medical culture will be in popular deeply.

**Conclusion:** Rural medicine and herbal remedies are precious heritages that ancestors left us and it is our unshaken duty to protect and use these ethnic essences. This is the urgent proposition for our Chinese medicine researchers and workers. We must inherit fine traditions and take effective measures based on national, province and hometown reality conditions, so that we could achieve sustainable development and utilization of traditional Chinese medicine resources and strive to create a new situation in the pharmaceutical industry of our great motherland.

#### **ACKNOWLEDGMENT**

This study is supported by “The outstanding talented person plans” project of Bengbu College.

#### **REFERENCES**

- Boli, Z., 2014. Hope to Start the Fourth National Census of Traditional Chinese Medicine Resources. Retrieved form: [http://news.xinhuanet.com/politics/2014/03/07/c\\_126235339.htm](http://news.xinhuanet.com/politics/2014/03/07/c_126235339.htm).
- China Network, 2011. Promotion of Traditional Chinese Medicine in China. Yunnan Culture Popularization Week Starts. Retrieved form: [http://www.gov.cn/jrzq/2011/09/17/content\\_1949998.htm](http://www.gov.cn/jrzq/2011/09/17/content_1949998.htm).
- Food and Drug Administration of Tongcheng City, 2010. Twelfth Five-year Development Plan of Tongcheng Herbal Industry. Retrieved form: <http://tc-fda.gov.cn>.
- National Science and Technology Terminology Committee, 2008. Resources Science and Technology Noun. Scientific Publishing, pp: 104-105.
- Pan, Y., 2010. Herbs crisis terminally ill. *Environment*, 4: 23.
- Wang, Y., 2009. Chinese medicine to anti a flow virus has unique advantages. *J. Community Med.*, 20: 47.
- Zhongyuan, Z. and X. Lei, 2008. Analysis of the impact of policy factors in the rural pharmaceutical industry. *Chinese Health Serv. Manage.*, 9: 612.