



Statistical Analysis of Grass-Roots Traditional Chinese Medicine Services

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Abstract. Objective: To study the current situation and problems in the service and utilization of Traditional Chinese Medicine (TCM) at the grass-roots level and realize the equity in health. Methods. Based on the 2014–2017 data from “National Statistical Extract of Traditional Chinese Medicine”, comparative analysis of the number of TCM service and the income in community health service centers, community health service stations, and township health centers. Results: 1. The proportion of TCM services exceeded the national requirements, and Village clinics service are below the national requirement, although they have increased significantly in recent years; 2. Grass-roots traditional Chinese medicine services achieved high benefits at a lower cost; 3. The lack of TCM services is particularly prominent in the most basic rural areas; 4. Only 27.81% of community health service centers and 10.87% of township health centers were able to provide more than 10 types of traditional Chinese medicine technical methods. Conclusion: It should strengthen the construction of grass-roots TCM talents, and improve the quality and effectiveness of TCM services, and promote the conditions of grass-roots medical services as well as increase the publicity of grass-roots TCM.

Keywords: Community Health Centre · Village Clinics · Traditional Chinese Medicine · Health Services

1 Introduction

At present, the overall scale of traditional Chinese medicine (TCM) has been continuously expanded, and its development level and service capabilities have been significantly improved, which has played a greater role in safeguarding the health of the people and deepening the reform of the medical health system, and gradually formed a new pattern for the overall development of medical care, health care, scientific research, education, industry, and culture. The new pattern of overall development is significantly increasing its contribution to economic and social development. However, there are some difficulties in the development of TCM, especially in the utilization and service of TCM at the grass-roots level.

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The grass-roots TCM service network is based on community health service centers, township health centers, community health service stations, and village clinics, which makes use of TCM medical equipment, staffing and service capabilities to basically meet the needs of urban and rural residents for TCM services, and makes TCM services more convenient, accessible and affordable for the people. While the capacity of grass-roots TCM services is weak, and the scale and level of development cannot meet the health needs of the people; and there is a lack of high-level TCM talents at the grassroots level, insufficient inheritance and innovation. The legal and policy system that adapts to the law of development of TCM at the grass-roots level needs to be improved; it is urgent to modernize the system and capacity of grass-roots TCM governance at the community level, and to strengthen the overall design and planning. Grass-roots TCM service capacity has become the top priority in the development of TCM, and it is also one of the breakthroughs in medical reform to solve the problem of “expensive and difficult medical treatment”. The government should strengthen active guidance, extensively publicize policies and measures related to grass-roots TCM services, mobilize the enthusiasm, initiative and creativity of all parties to participate in grass-roots TCM services, give full play to the main role of grass-roots TCM personnel, and create a good atmosphere for the whole society to care about and support grass-roots TCM services [1].

2 Current Situation of TCM Service Provision in Grass-Roots Medical and Health Institutions

The National Conference on TCM in 2007 stressed that we should develop the cause of TCM, maintain the advantages of TCM, and vigorously support the development of TCM, putting forward a new idea for the development of TCM – “go to the countryside, go to the community”.

In 2009, TCM entered the track of rapid development, forming a new pattern of comprehensive development in medical treatment, health care, education, scientific research, culture and industry. And it played an important role in promoting the goal of medical reform and safeguarding people’s health. Training on basic knowledge and appropriate techniques of TCM was carried out for community-level doctors. Grassroots medical and health institutions are encouraged to provide appropriate TCM technologies and services [2].

In 2015, the State Council issued the “TCM Health Service Development Plan (2015–2020)”, which reiterated the target and made it clear that all community health service institutions, township health centers and 70% of village clinics should be equipped with TCM service capability by 2020.

2.1 Grass-Roots Medical Health Institutions Providing TCM Services

Tables 1, 2, 3 and 4 show the number of community health service centers, community health service stations, township health centers, and personnel provided by the National Administration of Traditional Chinese Medicine “National Statistical Extract of TCM” from 2014 to 2017.

Table 1. Number of grass-roots medical institutions and personnel providing TCM services in 2014

	Total number of institutions (units)	Number of institutions with licensed (assistant) physicians in TCM (units)	Proportion of institutions with licensed (assistant) physicians in TCM (%)	Number of practicing (assistant) physicians in TCM (person)	Proportion of practicing (assistant) physicians in TCM (%)	Chinese pharmacist (person)	Proportion of Chinese pharmacists (personnel) (%)
Total	50691	32821	-	100451	-	30779	-
community health service centers	5659	4709	83.21	24266	18.07	7365	26.98
community health service stations	9365	4964	53.01	10126	23.69	1558	27.24
township health centers	35667	23148	64.9	66059	15.26	21856	29.74

Note: (1) The number of community health service centers, community health service stations and township health centers did not include branches;

(2) The proportion of TCM practitioners (assistants) and the proportion of Chinese pharmacists (personnel) refer to the proportion of physicians and pharmacists in similar institutions.

Table 2. Number of grass-roots medical institutions and personnel providing TCM services in 2015

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
Total	51003	46491	91.15	105357	-	30319	-
community health service centers	5899	5715	96.88	25691	18.55	7540	26.6

(continued)

Table 2. (continued)

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
community health service stations	9552	7724	80.86	10913	25.29	1559	28.04
township health centers	35552	33052	92.97	68753	15.59	21220	28.43

Note: (1) TCM Branches were not included in this table;

(2) Statistics on the number of community health service centers (stations) and township health centers equipped with practitioners (assistant) of traditional Chinese medicine, with incomes of Chinese herbal medicine, prescriptions of TCM, medical technology of TCM and health management of TCM since 2015;

(3) The proportion of TCM practitioners (assistants) and the proportion of Chinese pharmacists (personnel) refer to the proportion of physicians and pharmacists in similar institutions.

Table 3. Number of grass-roots medical institutions and personnel providing TCM services in 2016

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
Total	51344	49550	96.51	109648	-	30020	-
community health service centers	6082	5930	97.5	27082	18.91	7649	26.5
community health service stations	9806	8164	83.26	11414	25.66	1623	28.08

(continued)

Table 3. (continued)

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
township health centers	35456	33444	94.33	71152	15.64	20748	27.22

Note: (1) TCM Branches were not included in this table;
 (2) Statistics on the number of community health service centers (stations) and township health centers equipped with practitioners (assistant) of traditional Chinese medicine, with incomes of Chinese herbal medicine, prescriptions of TCM, medical technology of TCM and health management of TCM since 2015;
 (3) The proportion of TCM practitioners (assistants) and the proportion of Chinese pharmacists (personnel) refer to the proportion of physicians and pharmacists in similar institutions.

Table 4. Number of grass-roots medical institutions and personnel providing TCM services in 2017

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
Total	52185	49161	94.21	116019	-	29661	-
community health service centers	6387	6274	98.23	29128	19.30	7928	26.45
community health service stations	10289	8792	85.45	12435	26.50	1689	29.05

(continued)

Table 4. (continued)

	Total number of institutions (units)	Grassroots medical and health institutions providing TCM services		Practising (assistant) physician of TCM		Chinese pharmacist (person)	
		Number of institutions (units)	Proportion (%)	Number of people (person)	Proportion (%)	Number of people (person)	Proportion (%)
township health centers	35509	34095	96.02	74456	16.00	20044	26.13

Note: (1) TCM Branches were not included in this table;
 (2) Statistics on the number of community health service centers (stations) and township health centers equipped with practitioners (assistant) of traditional Chinese medicine, with incomes of Chinese herbal medicine, prescriptions of TCM, medical technology of TCM and health management of TCM since 2015;
 (3) The proportion of TCM practitioners (assistants) and the proportion of Chinese pharmacists (personnel) refer to the proportion of physicians and pharmacists in similar institutions.

Table 5 Number of village clinics and personnel provided by the National Administration of TCM “National Statistical Extract of TCM” from 2014 to 2017.

Data show that the proportion of community health service centers, community health service stations, township health centers, and village clinics that provide TCM services from 2014 to 2017 is gradually increasing. In 2015, the proportion of community health service centers, community health service stations and township health centers providing TCM services exceeded the national requirements of 95%, 70% and 90%, respectively. And in 2015, the proportion of village clinics was 60.28%, lower than the national requirement of 65%, but the proportion increased significantly in recent years.

2.2 Current Status of TCM Service Provision and Utilization in Grass-Roots Medical and Health Institutions

Analyzing the income and expenditure and services of village clinics nationwide from 2009 to 2017 provided by the National Administration of TCM “National Statistical Extract of TCM” (as shown in Table 6), it is concluded that the income of village clinics nationwide from 2009 to 2017 accounted for Ratio, expenditure percentage, expenditure rate of return.

2.2.1 Proportion of Expenditures on Village Clinics with TCM as the Mainstay and Integrated Chinese and Western Medicine

From 2009 to 2017, the expenditures of village clinics with TCM as the mainstay and integrated Chinese and Western medicine accounted for 29.86%, 30.40%, 31.03%, 33.35%,

Table 5. Number of village clinics and personnel providing TCM services from 2014 to 2017

	Number of village clinics (number)	Village clinics that provide TCM medical services*		Number of practicing (assistant) physicians (person)	Number of Practitioners (Assistant) of TCM (Person) Number of practicing (assistant) physicians in TCM (person)	Number of village doctors (person)	Village doctors who specialize in TCM or can learn Chinese and western medicine	
		Number of institutions (units)	Proportion (%)				Number of people	Proportion (%)
2014	590854	202980	34.35	139787	32007	985692		
2015	587472	354113	60.28	145567	24623	962514	126341	13.13
2016	587640	369263	62.84	147754	26440	932936	127455	13.66
2017	584851	388518	66.43	155075	29014	900995	131615	14.61

Note: (1) The number of village clinics did not include branches;
 (2) In 2014, village clinics providing TCM medical services refer to those whose medical practices mainly include TCM, integrated traditional Chinese and western medicine, and ethnic medical services.
 (3) * From 2015, statistics were made of village clinics that mainly focus on TCM, integrated traditional Chinese and western medicine, ethnic medicine, have Chinese medicine cabinet, and carry out TCM medical technology and TCM health management.

33.18%, 34.16%, 41.19%, 40.90%, and 40.57%. The proportion of expenditures on clinics in villages with TCM as the mainstay and integrated traditional Chinese and Western medicine maintained an overall upward trend. It increased from 29.86% in 2009 to 33.35% in 2012 and 40.90% in 2017.

2.2.2 Proportion of Income on Village Clinics with TCM as the Mainstay and Integrated Chinese and Western Medicine

The income of village clinics where TCM is dominated and combined with traditional Chinese and Western medicine accounted for 29.52%, 30.22%, 30.82%, 33.49%, 33.67%, 34.16%, 40.98%, 40.74%, 40.45%. The income share of village clinics based on TCM and integrated TCM and Western medicine has basically maintained a growing trend, increasing from 29.52% in 2009 to 40.45% in 2017.

2.2.3 Expenditure Rate of Village Clinics with TCM as the Mainstay and Integrated Chinese and Western Medicine

The overall rate of return of village clinics with traditional Chinese medicine as the mainstay in the country and village clinics with integrated TCM and Western medicine are

Table 6. The proportion of income, proportion of expenditure and rate of return of expenditure of village clinics in China from 2009 to 2017

	proportion of income			proportion of expenditure			rate of return of expenditure		
	Mainly western medicine	Mainly TCM	Integrated TCM and western medicine	Mainly western medicine	Mainly TCM	Integrated TCM and western medicine	Mainly western medicine	Mainly TCM	Integrated TCM and western medicine
2009	70.4773	2.4538	27.0688982	70.1358342	2.4871	27.3771	9.7256	7.7333	7.9648
2010	69.776	2.3738	27.8501957	69.6016894	2.4146	27.9837	11.4806	9.3214	10.6716
2011	69.1767	2.4097	28.4135191	69	2.4367	28.5924	11.1915	9.6326	10.1671
2012	66.7801	2.4855	31	66.6508359	2.5007	30.8485	11.1088	10.2176	10.4841
2013	66.3341	2.6386	31.0273332	66.8187992	2.5853	30.5959	7.9948	11.0251	10.3179
2014	65.8383	2.6897	31.4720337	65.8435528	2.6683	31.4881	10.2267	11.1175	10.1791
2015	59.0183	3.0528	37.9288572	58.8112421	3.048	38.1408	11.2592	11.0447	10.2528
2016	59.2581	3.0049	37.7369452	59.0984146	2.9906	37.911	11.78	12.0108	10.967
2017	59.5477	3.0036	37.4486754	59.4252309	2.9892	37.586	13.66	13.9719	13.011

7.9455%, 5643%, 10.1251%, 10.4641%, 10.3730%, 10.524%, 10.3114%, 11.0433%, 13.0815%, showing an overall increase trend. Grassroots TCM services have obtained higher benefits at lower costs, and magnified the effect of the medical reform to benefit the people.

2.3 Establishment of Comprehensive TCM Service Area

At the end of 2015, 70.83% of community health service centers nationwide had set up comprehensive service areas for TCM such as TCM halls and TCM clinics. Comprehensive TCM service areas have been set up in all community health service centers in Beijing, Hunan and Qinghai provinces; Community health service centers in 12 provinces (autonomous regions and municipalities) that have established comprehensive service areas for TCM account for less than 60%; The lowest is Jiangxi Province, accounting for 5.45% [3].

At the end of 2015, 54.81% of township health centers nationwide have set up TCM comprehensive service areas. And seven provinces (autonomous regions and municipalities) have established more than 80% of township hospitals with integrated TCM service areas. Among them, 94% were in Yunnan Province, 93% in Hainan Province, 89% in Tianjin City, 85% in Ningxia, 83% in Sichuan Province, 81% in Shandong Province, and 80% in Chongqing City.

3 The Problems Faced by the Grass-Roots TCM Service Provision and Utilization Capacity

At present, the fairness, accessibility and convenience of TCM for the people have been significantly improved. However, the current grass-roots TCM service system is not

mature and perfect, the existing grass-roots TCM service capacity is still weak, and the development level is still unable to meet the needs of urban and rural residents for TCM, so there is a long way to go to improve the grass-roots TCM service capacity.

3.1 TCM Services Are Still Unavailable in Some Areas

TCM services are still unavailable in some areas, especially in the most basic rural areas, where the lack of TCM services is particularly prominent [4]. In 2016, 2.5% of community health service centers, 16.74% of community health service stations, 5.67% of township health centers, and 37.16% of village clinics still cannot provide TCM services.

3.2 The Service Capacity of TCM at the Grassroots Level Is Still Insufficient

TCM services include acupuncture, moxibustion, scraping, cupping, minimally invasive Chinese medicine, massage, ironing and fumigation bath, and other traditional Chinese medicine techniques and other methods. In 2015, only 27.81% of community health service centers and 10.87% of township health centers can provide more than 10 types of TCM techniques; 17.10% of community health service stations and 5.70% of village clinics can provide more than 5 types of TCM technical methods. In the next few years, the service capacity of grass-roots TCM still needs to be improved.

3.3 Lack of Grass-Roots TCM Talents

The lack of grass-roots TCM talents is still the most prominent “shortcoming”. Due to limited conditions, low incomes, and small personal career development space in grass-roots medical and healthy institutions, there is a widespread phenomenon that TCM personnel cannot be recruited or retained. The shortage of personnel, unstable team, lack of successors and other issues are still very prominent [5].

3.4 The Grass-Roots TCM Protection Mechanism Is Not in Place

The grass-roots TCM medical institutions have poor conditions and lack of equipment. The capacity and level of TCM services in various regions and fields are not balanced, resulting in large gaps in work between provinces, between eastern and western regions, and between urban and rural areas. Problems such as inadequate implementation of policies are still prominent in many places, and there is an urgent need to further increase work and continue to improve the service capabilities of grass-roots TCM [6].

4 Countermeasures for the Provision and Utilization of TCM Services at the Grass-Roots Level

4.1 Construction of Grass-Roots TCM Talent Team

The quality, ability and reasonable degree of distribution and structure of grass-roots TCM personnel play a crucial role in the public health area, whether the country can

provide high quality TCM services to residents. How to position the development of grass-roots Chinese medicine talents, and how to effectively improve the service quality of grass-roots Chinese medicine? Personnel resources department must strengthen the top-level design in national policies and regulations.

4.2 Improve the Quality and Effectiveness of TCM Services

There is a serious shortage of grass-roots health human resources, which is a problem faced by both developing and developed countries. At the present stage, it is necessary to give full play to the advantages of human resources of secondary and tertiary hospitals, and form a seamless link with primary medical institutions with the help of modern technologies and methods, such as the Internet and information, which will play an important role in improving the service capacity of grass-roots TCM.

4.3 Improve the Conditions of Grass-Roots Medical Services

Grass-roots medical and health institutions must improve their service conditions by increasing financial input. It is necessary to sink the focus of investment, so that rural doctors can more safely guard the “bottom of the net” of rural medical health services.

4.4 Strengthen the Propaganda of Grass-Roots TCM

The understanding of TCM is too extreme or one-sided, not enough in the country side. Many farmers began to find the help from TCM services when Western medicine is ineffective. And few villagers realize that TCM is safer and more reliable in the case of the same treatment. Therefore, it is very important to promote TCM health education in rural areas. Experts from county-level TCM hospitals can give lectures on TCM knowledge in rural areas, or popularize TCM health knowledge by TV stations. Strengthen the propaganda of TCM, more people would enjoy the advantages of TCM service treatment.

5 Conclusion

With the reform and opening up policy, the grass-roots Chinese medicine service has made remarkable achievements in China. At present, the traditional Chinese medicine continues to play a greater role in maintaining people's health and deepen the reform of the medical and health system.

While the service capacity and development scale of traditional Chinese medicine at the grass-roots level cannot meet the health needs of the people. It is short of high-level talents of traditional Chinese medicine at the grass-roots level and insufficient inheritance and innovation. The low concentration of traditional Chinese medicine industry affects the sustainable development of traditional Chinese medicine, too. There is an urgent need to improve the modernization level of the grass-roots TCM governance system, and to strengthen the overall design and overall planning of the governance capacity.

Strengthening the TCM service capacity of grass-roots medical institutions would play an important role and have unique advantages in the process of hierarchical diagnosis and treatment of medical reform.

It is urgent to give full play to the role of TCM in grass-roots medical care, and promote the development of national physician pavilion, TCM outpatient departments and clinics in grass-roots medical institutions. And health authorities should strengthen the construction of national physician pavilion, outpatient departments and clinics in primary medical institutions and actively implement relevant policies.

Looking forward to the near future, the health service capacity of traditional Chinese medicine will be significantly enhanced, and its leading role in the prevention of diseases and its synergistic role in the treatment of major diseases will be brought into full play. With the improvement of the health service capacity of traditional Chinese medicine, it will realize the ecological green development of traditional Chinese medicine, which lays a solid foundation for the construction of a healthy China.

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References

1. Liu YL, Cao XJ, Lv J (2018) Analysis of the main influencing factors and policy suggestions on the implementation effect of grass-roots TCM services in a city. *J TCM Manag* 26(02):1–4
2. Zhang JZ (2017) Efforts to improve the service capabilities of grass-roots TCM. *Rural Health China* 19:22–24
3. Geng H, Xiao LP, Wang XY, Jiang X, Zhao Q, Yang HQ (2017) Investigation and countermeasure analysis of grass-roots TCM service ability in frontier minority areas. *China Med Herald* 14(01):86–89
4. Liu B, Zhang WX (2014) Research on development status and strategy of TCM in grass-roots medical institutions. *J TCM Manag* 22(05):641–643+647
5. Dou L (2013) Research on financial compensation for promoting the development of TCM service in grassroots medical institutions. Shan Dong University
6. Zhou QD, Tian DM (2012) Reflection on the current situation of TCM development in basic TCM hospitals. *J Hebei Union Univ (Med Ed)* 14(01):113–114

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