Traditional Chinese and Mongolian Medicine Utilization Among Hypertensive Older Adults: Community Health Institutions, Hohhot, China

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Abstract

Traditional Chinese medicine (TCM) and traditional Mongolian medicine (TMM) systems treat hypertension in community health institutions within China's Inner Mongolia autonomous region. This paper aims to investigate the use and influence of TCM and TMM among hypertensive older Chinese adults receiving treatment at these community health institutions. A cross-sectional survey method was used in Hohhot, Inner Mongolia Autonomous Region. A total of 1,499 completed questionnaires were collected from eight community health service centers in four municipal districts of Hohhot between May and June 2022. In all, 662 (44.2%) respondents had used community hypertension treatment services in the last year. Of the 662 respondents, 213 (32.2%) used TCM hypertension treatment services, and 64 (9.7%) used TMM treatment services less frequently and at a lower cost. Chinese herbal medicine (63.5%) and Mongolian herbal medicine (74%) were used more than other treatments. Cognition, attitude, and service provision were the main factors that affected service utilization. Ethnicity also had an impact on TMM's service utilization. Older Chinese adults with hypertension did not fully utilize the TCM and TMM services provided. Further promotion and expansion of traditional medicine are needed from relevant government and health institutions.

Keywords

Community; health service utilization; hypertension; older Chinese adults; traditional medicine

Background

Hypertension and its complications burden patients, families, and society (Pan et al., 2017). China, a developing country, recorded 245 million hypertension cases in 2015 (Wang et al., 2018), with the prevalence in older Chinese adults reaching 53.2% (Wang & Li, 2019). This means that the prevention and treatment of hypertension in older Chinese adults are of great significance to their general well-being and that of Chinese society. Experience has shown that community prevention and treatment services are the most effective way of preventing and treating hypertension (Cai et al., 2019). In addition to the community health system, traditional Chinese medicine (TCM) is vital in preventing and treating hypertension. Over the years, clinical experiments have proven that applying appropriate TCM techniques and standard hypertension treatment procedures is essential in controlling patients' conditions and reducing complications (Tang & Xu, 2021; Zhang et al., 2021). The Chinese government has issued several policies to support the development of TCM. There is a particular emphasis on strengthening the TCM management service system of non-communicable diseases (NCDs) in primary medical institutions.

In Inner Mongolia, a minority autonomous region in Northern China, the prevalence of hypertension in older Chinese adults was 44.28% in 2013 (Chen et al., 2018). In 2015, the top cause of death was identified as cardiovascular disease (Inner Mongolia Autonomous Region Health Committee, 2016). To mitigate this trend, patients can, in addition to the use of Western Medicine (WM), also use TCM and TMM (traditional Mongolian medicine) to treat hypertension. TMM has its own set of theoretical foundations for the occurrence and development of chronic diseases. It also has much experience and valuable systematic diagnosis and treatment schemes in clinical practice (Yi et al., 2012). As necessary complementary and alternative medicines, TCM and TMM play an essential role in the healthcare system of the Inner Mongolia Autonomous Region and prove their unique value in hypertension prevention and treatment (Zheng & Shen, 2021).

Residents' utilization of community TCM services directly reflects the development of community TCM services. It also shows the positive response of residents to community TCM services. Previous studies on the demand and utilization of TCM community health services in China mainly focused on the utilization of TCM services in chronic disease groups. The studies were silent on the utilization of TCM services by elderly Chinese people with hypertension living in minority areas. Most current studies focus on some economically developed provinces and cities in China and rarely use ethnic minority areas as their research background. In recent years, the improvements in the Chronic disease management ability of community TCM and TMM services have become essential to constructing the grassroots medical and health service system in Inner Mongolia. The local government introduced a series of policies to promote the development of this field. In 2016, the People's Government of Inner Mongolia Autonomous Region proposed the Outline of the Development Strategy Plan for Traditional Chinese Medicine (Traditional Mongolian Medicine) (2016–2030), which pointed out that by 2020, 100% of community health service institutions will be able to provide traditional Chinese medicine (traditional Mongolian medicine) services. The unique advantages of TCM and TMM in health management have been fully utilized, with more standardized service standards and richer service projects and products.

By 2030, the health service capacity of TCM (TMM) will significantly improve, and its leading role in disease prevention will be fully utilized. TCM (TMM) will achieve full coverage of

disease prevention and health care services. However, no specific data confirmed the current situation and existing problems. This study investigated the use of community TCM and TMM hypertension service systems by older Chinese adults with hypertension in Inner Mongolia. It analyzed the influencing factors and preliminarily explored measures needed to improve the utilization rate of community TCM and TMM hypertension services. It provided policy recommendations for promoting elderly Chinese people with hypertension to fully utilize community TCM and TMM hypertension services. It provided a reference for the healthy development of community TCM and TMM hypertension service systems in Inner Mongolia.

Methods

Study setting, subjects, and sample size

This cross-sectional study was conducted in Hohhot, the Inner Mongolia Autonomous Region's economic, political, and cultural center. This city's community TCM service system is relatively complete. The study used the following inclusion criteria for the sampling: 60 years old and above, hypertension diagnosed within a year or more, and older Chinese adults with hypertension in the last year with a need for health care for their hypertension symptoms. The exclusion criterion involved the inability to understand the survey questions and failure to express one's opinions clearly. Cluster sampling was utilized, and 1,499 completed questionnaires were collected from eight community health service centers in four municipal districts of Hohhot. With the assistance of the Local Health Management Department, the researcher contacted the heads of the community health service centers and received their help to meet interviewees. Seven research assistants were recruited as investigators from the Faculty of Health Management, Inner Mongolia Medical University. They were trained in the rigors of data collection for this study over two days before commencing the actual data collection process. The data were collected from May to June 2022.

Measurement and data collection

We conducted face-to-face interviews using a 61-item structured questionnaire to collect information about utilizing WM, TCM, and TMM within the past 12 months of the older Chinese adults with hypertension in Hohhot. The questionnaire also collected relevant background characteristics to identify influencing factors linked to using different therapeutic methods among the respondents. No existing questionnaire dealt directly with the use of TMM and TCM among older Chinese adults with hypertension. Therefore, the researcher developed a new questionnaire specifically for this research. The questionnaire design is mainly based on Andersen's behavioral model of health services use. At the same time, some previous literature on utilizing TCM services and the "Family Health Questionnaire of the Fifth National Health Service Survey in China" was referenced. On this basis, the design was completed in conjunction with expert opinions.

The questionnaire is divided into the following five sections. The first is sociodemographic characteristics, which include gender, ethnicity, education level, family size, household monthly income per capita, and insurance status. The second is medical service provision, which deals with the distance of arrival at the nearest community health service agency, whether or not TCM and TMM treatment services were provided, the average waiting time

for the different treatment services, and the average consultation time for the different treatment services. The third is health belief, which deals with cognition and the attitude of TCM or TMM older Chinese adults towards treating hypertension. The fourth is need, which includes self-evaluation of health, self-evaluation of self-care ability, severity of self-assessment of hypertension, and the clinical stage of hypertension. The fifth is service utilization of WM, TCM, and TMM, dealing with the possibility of use, specific drug name, frequency of use, cost, name of other service items, and reason for non-use.

Data analysis

We used SPSS, Version 22.0, to produce descriptive and analytical statistics. A p value of less than .05 was considered statistically significant. We used binomial logistic regression models in this research. The application helped to analyze the association between selected independent variables and the TCM and TMM treatment services utilized by older Chinese adults with hypertension.

Ethical consideration

The Committee for Research Ethics (Social Science) of Mahidol University approved the protocols of this research. In addition, informed consent was obtained from all respondents. Respondents could refuse to participate or withdraw from the interview at any time. This did not, in any way, affect their continuation of services. Also, confidentiality was ensured through the use of respondents' information codes. It was equally secured and ensured storage was prepared for paper questionnaires and electronic data sets.

Results

A total of 1,602 questionnaires were distributed. After excluding incomplete and invalid responses, 1,499 questionnaires were obtained with an effective rate of 93.6%.

TCM and TMM use in the past year

In total, 662 (44.2%) respondents had used community hypertension treatment services. Of the 662 respondents, 213 (32.2%) used TCM hypertension treatment services, while 64 (9.7%) used TMM. Respondents' preference for either TCM or TMM in treatment is supported by doctors' recommendations and effective treatment responses with a combination of TCM (TMM) and WM. For other respondents, the main reason for their aversion to TCM or TMM in the treatment of hypertension is ignorance. They do not understand TCM and TMM roles in the treatment of hypertension. Hence, they think that TCM and TMM treatments are not necessary.

The survey results on community TCM service items show that Chinese herbal medicine was used more at (63.5%), while acupuncture stood at (18.8%). The results show that massage (11.8%) and cupping (4.9%) were less used. For TMM, Mongolian herbal medicine was used more at (74%), while medicated baths and pricking blood therapy, which were less used, stood at (17.8%) and (1.4%), respectively. In terms of the number of times used, whether TCM or TMM, the number mainly was less than three times, 57.7% and 67.2%, respectively. Then,

judging from the medical expenditure, whether TCM or TMM was used, it was mainly less than 72 USD annually, which would be 48.4% and 62.5%, respectively.

Results of single-factor analysis

Tables 1 and 2 present the results of single-factor analysis for TCM and TMM treatment services, respectively. The analysis result found that there was significant difference in utilization of TCM hypertension treatment services among older Chinese adults with different educational levels, cognition and attitude, income levels, hypertension status and TCM treatment services provided ($p < .05$). This group of older Chinese adults with a higher level of education, a higher recognition and trust for TCM, a higher income, a more severe case of hypertension at a higher clinical stage, and living in communities providing TCM treatment services were more likely to choose TCM treatment services. There was no significant difference in gender, ethnicity, family size, health insurance coverage levels, distances of community health service institutions, health self-assessment, and self-care ability ($p > .05$). Compared to TCM, TMM hypertension treatment services were more likely to be used by those with 'Mongolian' interest, higher recognition and trust for TMM, higher income, and living in communities where TMM treatment services are provided. There was no significant difference in utilization of TMM hypertension treatment services among people of different genders, educational levels, family size, health insurance coverage, distance of community health service institution, health self-assessment, self-care ability, severity of hypertension, and the clinical stage of hypertension ($p > .05$).

Table 1: Results of Single-Factor Analysis in the Use of TCM Hypertension Treatment Services

	TCM Treatment Services Utilization			
Variable	**Yes Count, N (%)**	**No Count, N (%)**	X^2	p
Gender				
Male	80 (31.9)	171 (68.1)	.017	.896
Female	133 (32.4)	278 (67.6)		
Ethnicity				
Han	167 (30.8)	375 (69.2)	2.553	.279
Mongolian	32 (38.6)	51 (61.4)		
Other	14 (37.8)	23 (62.2)		
Educational Level				
Primary school and below	34 (21.7)	123 (78.3)	14.935	.001
Secondary school	60 (30.0)	140 (70)		
High school and above	119 (39)	186 (61)		
Family Size				
Alone	26 (28.3)	66 (71.7)	.750	.386
Living with family members	187 (32.8)	383 (67.2)		
Cognition				
Know about TCM	210 (49.5)	214 (50.5)	162.738	.000
Not know about TCM	3 (1.3)	235 (98.7)		
Attitude				
Believe strongly	120 (58.8)	84 (41.2)	105.613	.000
Moderately	93 (22.6)	319 (77.4)		
Do not believe at all	0 (0.0)	46 (100)		
Household Monthly Income Per Capita				

TCM Treatment Services Utilization				
Variable	**Yes Count, N (%)**	**No Count, N (%)**	X^2	p
Below 287 USD	38 (29.9)	89(70.1)	12.906	.002
288–574 USD	103 (27.9)	266 (72.1)		
575 USD and above	72 (43.4)	94 (56.6)		
Insurance Status				
None	10 (25.6)	29 (74.4)	7.215	.065
Basic medical insurance- System for urban residents	85 (39)	133 (61)		
Basic medical insurance- System for urban employees	95 (29.5)	227 (70.5)		
The new rural cooperative-Medical insurance	23 (27.4)	60 (72.3)		
Distance				
Within 500 meters	70 (27.9)	181 (72.1)	3.648	.161
501–1,000 meters	102 (35.5)	185 (64.5)		
Over 1,000 meters	41 (33.1)	83 (66.9)		
TCM Treatment Services (Provider)				
Yes	197 (56.8)	150 (43.2)	202.179	.000
No, or not sure	16 (5.1)	299 (94.9)		
Health Self-assessment				
Good	114 (31)	254 (69)	1.522	.467
Moderately	64 (31.8)	137 (68.2)		
Bad	35 (37.6)	58 (62.4)		
Self-care Ability				
Fully self-care	178 (31.3)	391 (68.7)	2.770	.250
Semi-self-care	34 (39.1)	53 (60.9)		
No self-care ability	1 (16.7)	5 (83.3)		
Severity of Hypertension				
Serious	29 (45.3)	35 (54.7)	15.648	.000
Moderately	115 (36.5)	200 (63.5)		
Not serious	69 (24.4)	214 (75.6)		
The Clinical Stage of Hypertension				
Stage 1 hypertension	57 (27.5)	150 (72.5)	8.763	.033
Stage 2 hypertension	54 (41.2)	77 (58.8)		
Stage 3 hypertension	18 (40)	27 (60)		
Not sure	84 (30.1)	195 (69.9)		

Table 2: Results of Single-Factor Analysis in the Use of TMM Hypertension Treatment Services

TMM Treatment Services Utilization				
Variable	**Yes Count, N (%)**	**No Count, N (%)**	X^2	p
Gender				
Male	26 (10.4)	225(89.6)	.221	.638
Female	38 (9.2)	373 (90.8)		
Ethnicity				
Han	34 (6.3)	508 (93.7)	44.180	.000
Mongolian	24 (28.9)	59 (71.1)		
Other	14 (37.8)	23 (62.2)		
Educational Level				
Primary school and below	8 (5.1)	149 (94.9)	4.930	.085
Secondary school	22 (11)	178 (89)		

Variable	TMM Treatment Services Utilization Yes Count, N (%)	No Count, N (%)	X^2	*p*
High school and above	34 (11.1)	271 (88.9)		
Family Size				
Alone	8 (8.7)	84 (91.3)	.116	.734
Living with family members	56 (9.8)	514 (90.2)		
Cognition				
Know about TMM	62(27.4)	164(72.6)	124.020	.000
Not know about TMM	2 (0.5)	434 (99.5)		
Attitude				
Believe strongly	32 (43.2)	42 (56.8)	110.732	.000
Moderately	32 (6.3)	475 (93.7)		
Do not believe at all	0 (0.0)	81 (100)		
Household Monthly Income Per Capita				
Below 287 USD	15 (11.8)	112(88.2)	8.565	.014
288–574 USD	25 (6.8)	344 (93.2)		
575 USD and above	24 (14.5)	142 (85.5)		
Insurance Status				
None	1 (2.6)	38 (97.4)	7.540	.070
Basic medical insurance- System for urban residents	24 (11)	194 (89)		
Basic medical insurance- System for urban employees	26 (8.1)	296 (91.9)		
The new rural cooperative- Medical insurance	13 (15.7)	70 (84.3)		
Distance				
Within 500 meters	24 (9.6)	227 (90.4)	.571	.752
501–1,000 meters	30 (10.5)	257 (89.5)		
Over 1,000 meters	10 (8.1)	114 (91.9)		
TMM Treatment Services (Provider)				
Yes	59 (38.3)	95 (61.7)	188.546	.000
No, or not sure	5 (1.0)	503 (99.0)		
Health Self-assessment				
Good	41 (11.1)	327 (88.9)	4.559	.102
Moderately	12 (6.0)	189 (94)		
Bad	11 (11.8)	82 (88.2)		
Self-care Ability				
Fully self-care	53(9.3)	516（90.7）	.750	.687
Semi-self-care	10 (11.5)	77 (88.5)		
No self-care ability	1 (16.7)	5 (83.3)		
Severity of Hypertension				
Serious	9 (14.1)	55 (85.9)	1.648	.439
Moderately	30 (9.5)	285 (90.5)		
Not serious	25 (8.8)	258 (91.2)		
The Clinical Stage of Hypertension				
Stage 1 hypertension	17 (8.2)	190 (91.8)	5.455	.141
Stage 2 hypertension	19 (14.5)	112 (85.5)		
Stage 3 hypertension	2 (4.4)	43 (95.6)		
Not sure	26 (9.3)	253 (90.7)		

Results of logistic regression analysis

Tables 3 and 4 present the binomial logistic regression analysis results for TCM and TMM

treatment services. The dependent variable was whether older Chinese adults with hypertension had used TCM or TMM for hypertension treatment services. The variables with statistical differences in single-factor analysis were the independent variables. Logistic regression with a backward selection model was used to analyze the factors influencing the utilization of TCM or TMM treatment services. Entry p value = .20 and stay p value = .05. For TCM treatment services, the final included variables are to check whether a patient knows about TCM, believes in TCM, and knows that the community provides TCM services (p <.05). As for the OR value of the analysis, the order of factors checks whether the patient knows about TCM, is aware that the community provides TCM services, and believes in TCM. For TMM treatment services, in addition to the above three variables, the included variables also comprise ethnicity as a factor. Consequently, the order of factors seeks to ascertain whether the patient knows that the community provides TMM services, knows about TCM and ethnicity, and believes in TMM.

Table 3: Results of Binomial Logistic Regression Analysis for TCM Hypertension Treatment Services

Variable	B	S.E	Sig.	OR
Cognition				
Know about TCM Yes (vs. No)	3.393	0.605	0.000	29.759
Attitude				
Moderately (vs. Believe strongly)	-0.649	0.228	0.004	0.522
Do not believe at all (vs. Believe strongly)	-19.079	4987.427	0.997	0.000
TCM Treatment Services (Provider)				
Yes (vs. No or not sure)	2.591	0.295	0.000	13.348
Constant	-4.947	0.666	0.000	0.007
Pseudo R^2 (Nagelkerke)		0.576		
-2 log Likelihood		479.796		
X^2		351.918***		

Note: *** $p < .01$

Table 4: Results of Binomial Logistic Regression Analysis for TMM Hypertension Treatment Services

Variable	B	S.E	Sig.	OR
Ethnicity				
Mongolian (vs. Han)	0.937	0.423	0.027	2.551
Other (vs. Han)	1.192	0.700	0.088	3.293
Cognition				
Know about TMM Yes (vs. No)	2.648	0.757	0.000	14.131
Attitude				
Moderately (vs. Believe strongly)	-1.406	0.391	0.000	0.245
Do not believe at all (vs. Believe strongly)	-17.377	4100.567	0.997	0.000
TMM Treatment Services (Provider)				
Yes (vs. No or not sure)	3.121	0.513	0.000	22.674
Constant	-5.175	0.852	0.000	0.006
Pseudo R^2 (Nagelkerke)		0.617		
-2 log Likelihood		193.665		
X^2		226.995***		

Note: *** $p < .01$

Discussion

Services provided by community health institutions: Older Chinese adults with hypertension and the low utilization rate of TCM and TMM

A significant finding in this study is that 44.2% of the older Chinese adults with hypertension had received hypertension treatment services provided by community health institutions in the last year. According to a study in Jilin Province, China, 42.3% of older Chinese adults with chronic diseases have visited the community service center in the past year (Yang & Liu, 2016). In addition, the proportion of this group of patients in Zhengzhou, China, is 41.25% (Wang, 2020). Judging from these comparative data with other cities in China, Hohhot is consistent with what is obtainable in those cities. This shows that older Chinese adults with hypertension still prefer to choose comprehensive hospitals for treatment. What this suggests is that older Chinese adults with hypertension have a low acceptance and recognition impression of community health services. Hence, their participation is weak.

Furthermore, 14.2% of the older Chinese adults with hypertension had used TCM hypertension treatment services provided by community health institutions in the last year. For TMM hypertension treatment services, the proportion of the patients involved is 4.3%. Unfortunately, few surveys are specifically targeted at the use of TCM or TMM treatment services for hypertension in the community at present. The implication is that the data cannot be compared directly. However, the data can also be used for indirect comparison. For example, 20% (66 residents out of 330, mainly young and middle-aged people) of residents suffering from chronic diseases have used community TCM services in Hangzhou City, China (Sun et al., 2018).

On the other hand, 40.36% (134 of 332 older Chinese adults) of older Chinese adults have used community TCM services in Yuhuan City, China (Chen et al., 2022). Part of the study's findings above is that the frequency of occurrence is relatively low. A good number of older Chinese adults with hypertension only sought treatment once or twice a year. The average utilization cost is approximately 72 USD. Interestingly, the TCM and TMM service items were mainly drug therapy. Acupuncture, massage, and cupping were rarely used.

Another important discovery by the research is that 38.2% of the respondents were more willing to accept the integrated TCM and WM treatment, which is way higher than the WM option in isolation. These results showed that older Chinese adults highly demand TCM services. However, the utilization rate is low due to various reasons. The first reason may be that WM mainly treats hypertension in China. The TCM system only comes in as an auxiliary treatment. Interestingly, this utilization result may also be related to the COVID-19 epidemic in China. This challenge has made elderly patients reduce their visits to medical institutions.

Factors affecting the use of TCM and TMM treatment services

Consistent with previous studies, this study showed that the use of community TCM services was more likely to occur in older Chinese adults with hypertension who had higher income (Ampomah Gyamfuah et al., 2015; He et al., 2018; Mani et al., 2015; Wode et al., 2019) and higher education (Chen et al., 2022; Kemppainen et al., 2018). They may have attained more vital learning abilities and acquired TCM knowledge and broader TCM knowledge

acquisition channels (Chen et al., 2019). Moreover, some studies have established that the higher the education level of older Chinese adults, the higher their health literacy level and their demand for TCM treatment (Zheng, 2022). Specifically, they have higher requirements for their health. They pay more attention to health care and hope to better regulate their bodies through TCM opportunities and options.

Moreover, since TCM is a complementary approach in the treatment of hypertension, its advantage for older Chinese adults is to regulate the body and control the occurrence of complications. Regrettably, TCM use incurs additional expenditure. Older Chinese adults with low income may not be willing or able to pay for additional treatment costs like their counterparts with higher incomes.

In addition, the data in this study support existing findings that patients with different severity of illness have other uses for and attitudes to TCM (Liang et al., 2014; Pan et al., 2013). The increase in the use of TCM in treating hypertension is positively related to the rise in the severity of hypertension. In terms of the reasons for the need for TCM treatment for hypertension, older Chinese adults who thought their hypertension was severe were generally those who had hypertension for a long time and, as a result, had related complications. Moreover, according to the criteria for hypertension staging, there will be corresponding complications when the hypertension is at a higher stage (Wang, 2014). TCM has a significant effect on hypertension complications as it helps reduce it to a reasonable level. It also helps in rehabilitation physiotherapy from some complications (Gao, Zhang et al., 2022; Gao, Liu et al., 2022; Jiang et al., 2022). In addition, when hypertension is at a severe stage, people tend to use more therapies to improve and make its treatment more effective (Sun et al., 2019). It was no surprise then that the proportion of patients who chose the combination of TCM and WM began to rise as a result of the need to engender a better response to hypertension treatment. In this survey, 55.6% had a good health status assessment, while 42.7% believed their hypertension was not severe. This perception explains the reason for their low utilization rate of TCM services.

For the use of TMM, the older Chinese adults of Mongolian ethnicity use TMM significantly more than their counterparts from Han ethnicity. This supports existing findings that suggest that different ethnicities are associated with traditional medicine use (; He & Liu, 2015). On the one hand, since Mongolians have more contact with TMM, they have a deeper understanding of their own medicine and use it more (Ma et al., 2018). On the other hand, the Han ethnicity has more trust in TCM. They would prefer to choose TCM over TMM. The implication is that the utilization rate of TMM by the Han ethnicity would be low. In addition, the study discovered that older Chinese adults with higher income levels used TMM significantly more than their lower-income counterparts. This conclusion is consistent with TCM's use above.

Another finding is that older Chinese adults with a correct understanding and high trust in TCM and TMM services were likelier to receive the combined services. This also confirms the conclusions of previous research (Jin & Qiu, 2015; Sun et al., 2018). In this survey, 43.4% of the respondents knew about TCM, and only 5.7% said they knew it very well. Furthermore, only 30.8% fully trusted TCM. Going forward, 23% of the respondents knew about TMM, but only 7% said they knew it very well. When it comes to trust, only 12% fully trusted TMM. The recognition and trust the respondents have in TMM is lower than the recognition and trust they have in TCM. This is one of the reasons for the low utilization rate of TCM and TMM treatment services in the area. The reality is also probably due to the insufficient number of practitioners of TCM and TMM in the community.

Moreover, the inadequate publicity of the knowledge of TCM and TMM in hypertension treatment in the community is another reason. Consequently, to improve the acceptance of TCM and TMM hypertension services by older Chinese adults with hypertension, it is necessary to improve their correct awareness of these services. Community health institutions and relevant departments should advocate targeted popularization for TCM and TMM service knowledge. They should tactically reverse the residents' inherent habit of seeking medical treatment and popularize the idea of 'treating diseases before they cause illness.' They should also cultivate and build loyal customers of TCM and TMM services in the communities.

The survey showed that the community health service institutions providing TCM and TMM hypertension treatment services increased the actual use of TCM and TMM procedures. According to Hohhot's policy (Implementation Plan for the Revitalization of Traditional Chinese Medicine "Mongolian Medicine" in 2021), 100% of community health service institutions can provide TCM and TMM treatment services. However, the data indicated that only 52.4% of the respondents knew that their communities offer TCM or TMM services. This situation contributes to the low utilization rate of TCM and TMM services. Judging from the available data, community health institutions cannot provide satisfactory TCM and TMM treatment services. This has also led to people's unwillingness to use community services. It can be seen from the analysis that although the number of TCM and TMM services in Hohhot's communities is growing constantly, the quality of service delivery does not meet people's preferences and requirements. Again, due to the shortage of TCM and TMM talents and a worrisome low level of expertise among the technical team, the community TCM and TMM hypertension treatment services remain trifling. This also suggests that the scope of TCM and TMM's appropriate technical services is narrow, weakening their advantages and features. This has led to the reality that the utilization rate is not high even though the older Chinese adults with hypertension in the community have a high demand for community health services of TCM and TMM.

Bringing this to bear on TMM, the situation seems even less optimistic. Based on the current supply of TMM in Hohhot, each community can choose either TCM or TMM services for residents. This is usually done following the situation of the community. However, the number of community health institutions that can provide TMM services has mainly become insufficient due to the low proportion of Mongolian people in Hohhot and the fact that TMM resources are not as rich as TCM's. In a situation where WM and TCM have occupied the primary market, the implication is that the lack of demand and supply dramatically limits the development space of TMM. This shows that improving the possibility of older Chinese adults with hypertension using TMM services under the premise of limited resources is a significant concern. In addition, knowing how to effectively carry out the application of appropriate technologies of TMM in the field of chronic diseases such as hypertension is equally a concern. Indeed, getting the application done in the community and a host of other challenges are essential in deciding a solution for the current low utilization of TMM and its weak supply.

Strengths and limitations

This is the first study on the utilization of TCM and TMM services in the treatment of older Chinese adults with hypertension. There are still some deficiencies in the research which need future research attention. Firstly, one limitation of this study is that the sample used therein came only from Hohhot. The Inner Mongolia Autonomous Region is a vast territory with unbalanced economic and social development opportunities. So, the survey results may not be extrapolated to other regions. Secondly, as the respondents were asked to recall the service

usage of the previous year, recall bias may lead to the expansion or decline of access frequency. In addition, Hohhot was experiencing the outbreak stage of the COVID-19 epidemic in the year covered by this survey. The impact of epidemic prevention and control measures may have reduced the actual utilization rate of the people at the time. Thirdly, considering the practical feasibility of the questionnaire (If the questionnaire is too long, the older Chinese adults will not fill it out), this study lacks measurement of some dimensions, such as cognition and attitude towards TCM and TMM.

The survey was not in-depth and did not include a more abundant scale of measurement items. The research hypothesis was also not fully explored. Relevant measurement items shall be enriched if possible in the future. Fourthly, while the longitudinal analysis may capture changes in service utilization behavior and other related reasons, the cross-section design adopted in this study cannot consider such changes continuously. Vertical analysis is encouraged to be used to accurately assess the factors influencing service utilization in the future. Last but not least, the quantitative nature of this study made it impossible to garner a deeper understanding of respondents' motivations and beliefs. A qualitative method must be tried for further investigation.

Conclusion and recommendations

In conclusion, this study discovered low patronage for TCM and TMM among older Chinese adults with hypertension in community health institutions in Hohhot, China. Strengthening TCM and TMM service quality and availability is essential for awareness. Also, increasing the consciousness and trust of the local Chinese older adults would go a long way in promoting TCM and TMM preference in primary health care centers. To further improve the utilization of community TCM and TMM treatment services for older Chinese adults with hypertension in this area, this study has a set of convictions. The first is that community health institutions should constantly and consistently strengthen the publicity and structuring of relevant policies and knowledge of TCM and TMM services in the future. They should also explore new models and new ways of promoting the application of TCM and TMM services in grassroots medical institutions. In addition, they should also create an excellent cultural atmosphere for TCM and TMM management. They are to equally promote public awareness and improve TCM and TMM services most effectively.

Secondly, the government should continue strengthening the economic foundation needed for the well-being of older Chinese adults through the income redistribution system and increase support for TCM and TMM. They aim to improve the reimbursement ratio of TCM and TMM in community medical institutions further and widen the reimbursement ratio difference between community medical institutions and hospitals. The government can also promote and encourage people to go to community medical institutions for TCM and TMM treatment. Thirdly, in building and improving the TCM and TMM medical service network, the government should consider the rational allocation of TCM and TMM medical resources and improve the comprehensive service capacity of TCM and TMM. They should also strengthen chronic disease diagnosis and treatment capacity with TCM and TMM. Finally, the government should refine its current policies and improve subsequent support measures to develop community TCM and TMM services.

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