

Analysis of the Willingness and Factors Influencing the Residents to Choose Between Chinese Medicine and Western Medicine under the New Coronavirus Pandemic: A Study in Zhejiang Province Community Health Service Center

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Abstract: Objective: To understand the willingness of Chinese residents to choose between Chinese and Western medicine in the face of sudden outbreak, this study aims to investigate and analyze the willingness and factors influencing Chinese residents (taking Zhejiang Province as an example) to choose between Chinese and Western medicine under the new coronavirus pandemic. **Methods:** The present study performed a large-scale cross-sectional online survey among 666 random residents in Zhejiang Province. We used questionnaires to investigate the feedback form from residents seeking medical care. In addition, a multivariate logistic regression model was used to analyze the influence of gender, education, medical reimbursement, and age on the choice of Chinese and Western medicine. **Results:** Among the patients with mild disease, 55.9% patients chose traditional Chinese medicine, while 44.1% chose Western medicine. Moreover, the proportion of patients with severe diseases who chose traditional Chinese medicine was 7.0%, while the rate of Western medicine was 93.0%. Among the patients suffering from mild diseases, the proportion of men who chose traditional Chinese medicine (46.2%) was lower than that of women (53.8%). The usage of Chinese medicine was preferred among residents of all ages, income levels, and educational backgrounds. A total of 93.0% of patients who chose Western medicine for treatment were severely ill, and the residents with severe diseases preferred Western medicine to Chinese medicine. People with high education and young were more inclined toward Western medicine for treatment compared with Chinese medicine. It was noted that people paid most attention to the medical insurance reimbursement ratio, followed by the distance between the medical institution and the place of residence. **Conclusion:** The acceptance of Chinese medicine among patients has generally increased; however, gender, educational background, and income still exert a great influence on the choice between Chinese and Western medicine.

Keywords: Chinese and Western Medicine; Willingness to Seek Medical Treatment; Influential Factors

1. Introduction

In the reform of the medical system, frictions have always existed between Chinese and Western medicine and attacks on the scientific nature of Chinese medicine.^{[1]-[3]} Toward the end of 2019, the invasion of the new coronavirus (SARS-CoV-2) enabled the medical method of integrated traditional Chinese and Western medicine to advance public's vision.^{[4],[5]} A better clinical effect was obtained with the rate of cure and discharge being 76.5%.^[6] To understand the willingness of Chinese residents to choose between Chinese and Western medicine in the face of sudden outbreak, this study aims to investigate and analyze the willingness and factors influencing Chinese residents (taking Zhejiang Province as an example) to choose between Chinese and Western medicine under the new coronavirus pandemic.

In a study of common diseases and symptoms in urban patients,^[7] 292 people were randomly sampled, and data analysis was carried out. We deduced that hypertensive cardiovascular and cerebrovascular diseases and neuropsychiatric diseases

were the leading diseases among patients. The lack of proper and correct guidance of Chinese and Western medicine is one of the crucial reasons for this phenomenon. During the new coronavirus pandemic, studies illustrated that Chinese medicine could significantly shorten the disease course.^[8] The successful fight with the new coronavirus pandemic also demonstrated that Chinese and Western medicine treatments have different benefits.^[9] As the first to implement the community general practice system in the United Kingdom or Australia, single Western medicine treatment is the mainstay, and the public has no more choices.^{[10][11]}

Thus, further detailed studies have been conducted on the application of Chinese and Western medicine in China, which prove that choosing between Chinese and Western medicine based on different diseases will lead to better results. Foreign countries lack a designated Chinese medicine department; hence, there are gaps in the related research. A part of the domestic population has a prejudice against traditional Chinese and Western medicine; however, the willingness of the domestic population to seek traditional Chinese and Western medicine and its influential factors have not been explored in detail, and there is a significant gap in research, and its practical value has not been explored.

The present study aims to examine the proportion of domestic Chinese and Western doctors seeking medical treatment under the new coronavirus pandemic. It is then compared with the current supply of Chinese and Western medicine and health resources to provide a reference for the rational allocation of health resources.

This study also analyzes and screens the factors that affect the willingness of residents to seek treatment with Chinese and Western medicine, integrate several major unfavorable factors that prevent residents from picking either Chinese medicine or Western medicine, and ultimately propose feasible improvement suggestions.

This study elucidates the primary factors that affect the residents' choice of medical treatment and residents' understanding of Chinese and Western medicine, and corrects their misunderstanding of Chinese and Western medicine.

2. Methods

2.1 Literature research

The literature was collected from CNKI, Weipu Chinese science and technology journal databases, online literature, and sorting, use of relevant papers and expositions at home and abroad. This provided the theoretical basis and support for the research.

2.2 Questionnaire survey

To investigate the medical condition of community residents, questionnaires were released through online and offline channels, and data were collected from multiple dimensions like hospitals and patients; the data were then summarized and analyzed to draw conclusions.

2.3 Interview method

Based on the interviewees' responses, we collected objective and unbiased factual materials, supplemented and improved the survey data, and expanded the research ideas of the subject.

2.4 Statistical analysis

Data analysis was performed using SPSS24.0 software. Then, descriptive statistics were applied to the survey results, and $\alpha = 0.05$ was chosen as the statistical test standard. The χ^2 test was performed on the correlation between different demographic characteristics in the questionnaire and the factors influencing each dimension.

3. Results

3.1 Basic characteristics of the research population

The study enrolled a total of 666 participants, including 117 males (22.0%) and 414 females (78.0%). Participants were mostly women (73.9%), 18–55 years (98.1%) and undergraduates (65.3%). Among female participants, the proportion of undergraduates and those aged 18–55 years was higher ($P < 0.05$) (Table 1).

3.2 Analysis of the tendency to seek a doctor and the main demographic factors when the research population suffered from mild diseases

In terms of mild diseases, a total of 55.9% of people chose traditional Chinese medicine for treatment, and the proportion of men who choose traditional Chinese medicine (46.2%) was lower than that of women (53.8%, $P < 0.01$). People aged 18–36 years had no tendency of picking between Chinese and Western medicine, while those aged 37–55 years were more inclined to choose Chinese medicine ($P < 0.01$). People with different education levels, different medical payment methods, and different monthly incomes were more inclined toward traditional Chinese medicine when they had mild illnesses ($P < 0.01$) (Table 2).

3.3 Analysis of the tendency to seek medical treatment and the main demographic factors in the study population with severe diseases

A total of 93.0% of severely ill patients selected Western medicine compared with mild illnesses. Among them, those who chose Chinese medicine for medical treatment were all women (100%, $P < 0.01$). People aged 18–36 and 37–55 years were inclined to choose Western medicine when they were severely ill ($P > 0.05$). High school, junior college, and undergraduate students were more inclined towards Western medicine when they suffered from severe diseases ($P < 0.01$). With the increase in the medical reimbursement ratio, people are more willing to choose Western medicine for treatment ($P < 0.05$). When the average monthly income was more than 2000, the people were more willing to choose Western medicine for treatment ($P < 0.01$) (Table 3).

3.4 Survey results of the impact of the condition of medical institution on the choice of Chinese and Western medicine

Per the survey results, people paid most attention to the medical insurance reimbursement ratio, followed by the distance between medical institution and the place of residence. Medical institutions/doctors that were advocated by acquaintances and the service attitude of medical staff had a crucial impact on people's choice of Chinese and Western medicine, while the doctor's professional title, the size of the medical institution, and the advanced level of equipment were generally not important (Table 4).

4. Discussion

4.1 Overall selection tendency of the study population

Utilizing an extensive cross-sectional survey data, we concluded that 55.9% of patients chose Chinese medicine for treatment when they had mild diseases while 44.1% preferred Western medicine to Chinese medicine. When suffering from severe diseases, the proportion of Chinese medicine consultation was 7.0%, while the consultation rate of Western medicine was 93.0%. Following the COVID-19 pandemic, the level of China's medical insurance governance has improved,^[12] the proportion of medical insurance reimbursements for community medical populations, and the distance between medical institutions and their place of residence have been more attended to. Besides, the education level and the level of income of patients significantly correlated with the tendency to choose between Chinese and Western medicine. Simultaneously, gender also played a role in the patients' choice between Chinese and Western medicine.

In this study, 55.9% of patients chose Chinese medicine for treatment when experiencing mild diseases while 44.1% preferred Western medicine. When suffering from severe diseases, the proportion of Chinese medicine consultation was 7.0%, while the consultation rate of Western medicine was 93.0%. In 2016, a large-scale survey report illustrated that the investigation of the selection of Chinese and Western medicine services by community outpatients found that 556 community outpatients had a clear advantage in choosing Western medicine services in the treatment of mild and severe diseases, accounting for about 63% and 57%, respectively.^[13] The key reason for this difference is that the medical law in the new concept period has been strongly advocated by the country and has attained crucial results, and the public acceptance has broadly increased.^[14]

4.2 Highly educated, high-income people more inclined toward Western

medicine

A study conducted in China^[15] reported that people with high academic qualifications tended to prefer Western medicine. We speculate that people with high academic qualifications tended to use scientific and rational thinking and, hence, the preference for Western medicine, while the fundamental theories of Chinese medicine are more challenging to be understood by modern science. Through this study, we collected data after the new coronavirus pandemic. It is well accepted that traditional Chinese medicine has played a significant role during the COVID-19 pandemic. This study demonstrated that although people with higher education are willing to try Chinese medicine when they have mild illnesses, they prefer Western medicine when suffering from severe illnesses. Likewise, people in the 18–36 age group are willing to try Chinese medicine and Western medicine when they have mild illnesses, which accounts for 50% of people, but are more inclined toward Western medicine after suffering from severe illnesses. These findings suggest that although there is a specific effect of promoting traditional Chinese medicine during the new coronavirus pandemic, the high-income population and young adults are more willing to select familiar and relatively familiar Western medicine when they suffer from severe diseases.

4.3 Women are more willing to choose Chinese medicine than men

Men and women tend to choose Western medicine when they suffer from severe illnesses; however, there are differences in their tendency to seek medical attention when they have mild illnesses. One of the main reasons could be the difference in the curative effect between Chinese and Western medicine. Traditional Chinese medicine is simple and clean, and seeks to cure the root of the disease. It has excellent effects in chronic diseases, beauty and preventive health care,^[16] and its “preventive treatment” idea is broadly accepted by the public.^[17] However, women mostly suffer from various mild chronic diseases, such as irregular menstruation,^[18] and traditional Chinese medicine has minimal side effects and apparent effects.

4.4 Medical reimbursement costs affect the choice of Chinese and Western

medicine

The proportion of the reimbursement of medical expenses is a vital factor in people’s choice of medical institutions; this is in line with the conclusions from previous research.^[19] Perhaps, to promote traditional Chinese medicine at the grassroots level and encourage patients to choose traditional Chinese medicine, the proportion of traditional Chinese medicine expenses that are included in the reimbursement need to be increased. Currently, the development of traditional Chinese medicine is at a higher historical starting point,^[20] and the reform of traditional Chinese medicine drug costs should be used as a countermeasure to promote the rate of Chinese medicine treatment.

5. Limitations

This survey is limited by time, funding, workforce, and various other conditions. A total of 666 questionnaires were returned, and with a limited number of samples, these can only represent part of the characteristics of the choices of Zhejiang

residents of traditional Chinese and Western medicine. Among them, 73.9% were women, and the proportion of men was low, and the samples were under-represented. The research cannot be considered comprehensive and in-depth, and many limitations need further improvement.

6. Acknowledgements

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7. Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

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Tables

Table 1 The basic characteristics of study population.

Variables	Total (n=666)	Male (n=174)	Female (n=492)	P value
Age, N (%)				0.018
<18	9(1.4)	3(1.7)	6(1.2)	
18-36	357(53.6)	102(58.6)	255(51.8)	
37-55	297(44.6)	69(39.7)	228(46.3)	
≥55	3(0.5)	0	3(0.6)	
Education level, N (%)				<0.01
Elementary school and below	12(1.8)	0	12(2.4)	
Junior high school	47(7.1)	5(2.8)	42(8.5)	
High school or technical secondary school	48(7.2)	18(10.3)	30(6.1)	
Junior college	108(16.2)	18(10.3)	90(18.3)	
Undergraduate	435(65.3)	117(67.2)	318(64.6)	
Postgraduate	6(0.9)	6(3.4)	0	
City, N(%)				<0.001
Hangzhou	33 (5.0)	18(10.3)	15(3.04)	
Huzhou	3(0.5)	3(1.7)	0	
Jiaxing	3(0.5)	0	3(0.6)	
Ningbo	51(7.7)	18(10.3)	33(6.7)	
Wenzhou	354(53.2)	60(34.5)	294(59.8)	
Shaoxing	3(0.5)	0	3(0.6)	
Jinhua	12(1.8)	6(3.4)	6(1.2)	
Lishui	156(23.4)	51(29.3)	105(21.3)	
Taizhou	3(0.5)	0	3(0.6)	
Zhoushan	3(0.5)	0	3(0.6)	
Quzhou	45(6.8)	18(10.3)	27(5.5)	

Table 2 Multivariable Analysis: Patients with mild diseases and Major Demographic factors with Choice of Chinese and Western Medicine.

Variables	Total (n=531)	Choose Western Medicine (n=234)	Choose Chinese Medicine (n=297)	P value
Gender, N (%)				0.001
Male	117(22.0)	63(26.9)	54(18.2)	
Female	414(78.0)	171(73.1)	243(81.8)	
Age, N (%)				<0.001
<18	9(1.6)	0(0)	9(0.3)	
18-36	306(57.6)	153(65.4)	153(51.5)	
37-55	207(38.9)	81(34.6)	126(42.4)	
≥55	9(1.6)	0(0)	9(0.3)	
Education level, N (%)				<0.001
Elementary school and below	27(5.1)	9(3.8)	18(6.1)	
Junior high school	9(1.6)	9(3.8)	0(0)	
High school or technical secondary school	18(3.4)	0(0)	18(6.1)	
Junior college	135(25.4)	45(19.2)	90(30.3)	
Undergraduate	333(62.7)	162(69.2)	171(57.6)	
Postgraduate	9(1.6)	9(3.8)	0(0)	
Medical payment method, N (%)				0.004
Medical insurance	414(78.0)	198(84.6)	216(72.3)	
Public medical	63(11.9)	18(7.7)	45(15.2)	
Own expense	54(10.2)	18(7.7)	36(12.1)	
Average monthly income, N (%)				<0.001
<2000	180 (33.9)	81 (34.6)	99 (33.3)	
2000-4000	63 (11.9)	27 (11.5)	36 (12.1)	
4000-6000	162 (30.5)	72 (30.8)	90 (30.3)	
≥6000	126 (29.4)	54 (23.1)	72 (24.2)	

Table 3 Multivariable Analysis: Patients with serious diseases and Major Demographic factors with Choice of Chinese and Western Medicine.

Gender, N (%)	Total (n=516)	Choose Western Medicine (n=480)	Choose Chinese Medicine (n=36)	P value
Male				0.001
Female	120(23.3)	120(25.0)	0	
Age, N (%)	396(76.7)	360(75.0)	36(100)	0.519
<18				
18-36	318(61.6)	294(61.3)	24(33.3)	
37-55	198(38.4)	186(29.7)	12(66.7)	
Education level, N (%)				<0.001
Elementary school and below	6(1.2)	0	6(16.7)	
Junior high school	6(1.2)	6(1.25)	0	
High school or technical secondary school	30(5.8)	24(5.0)	6(16.7)	
Junior college	72(14.0)	60(12.5)	12(33.3)	
Undergraduate	396(76.7)	384(80.0)	12(33.3)	
Postgraduate	6(1.2)	6(1.25)	0	
Medical payment method, N(%)				0.008
Medical insurance	420(81.4)	390(81.25)	30(83.3)	
Public medical	60(11.6)	60(12.5)	0	
Own expense	36(7.0)	30(6.25)	6(16.7)	
Average monthly income, N(%)				<0.001
<2000	186(36.0)	174(36.25)	12(33.3)	
2000-4000	66(12.8)	54(11.25)	12(33.3)	
4000-6000	168(32.6)	156(32.5)	12(33.3)	
≥6000	96(18.6)	96(20.0)	0	

Table 4 Multivariable Analysis: Patients and Major Demographic factors with Choice of hospital.

Factors Affecting the Choice of Chinese and Western Medicine	Very important	Important	General	Unimportant	P value
Doctor's title	60(8.85)	105(15.49)	291(42.92)	222(32.74)	<0.01
The size of the medical institution and the advanced level of equipment	27(3.98)	51(46.2)	273(59.1)	327(49.7)	<0.001
Distance between medical institution and place of residence	66(9.73)	207(30.53)	267(39.39)	138(20.35)	<0.01
Medical insurance reimbursement ratio	66(9.73)	219(32.3)	225(33.19)	168(24.78)	<0.01
Service attitude of medical staff	30(4.42)	120(53.1)	288(42.48)	240(35.4)	<0.001
Does the medical institution/doctor have any acquaintances recommended	48(7.08)	177(26.11)	306(45.13)	147(21.68)	<0.001