



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

Analysis of Satisfaction Degree of Community Health Service for The Elderly in Nanning City, China

Xiaojun Xu

Email: s64584949001@ssru.ac.th

Sarisak Soontornchai

Email: sarisak.so@ssru.ac.th

Public Health Program, Suan Sunandha Rajabhat University

Somchai Bovornkitti

Email: Somchai.bo@ssru.ac.th

Public Health Program, Suan Sunandha Rajabhat University

Suppalak Fakkham

Email: Supaluk.fu@ssru.ac.th

Public Health Program, Suan Sunandha Rajabhat University

Xiaoqiang Qiu

Email: xqqiu9999@sina.com

Abstract

Objective To explore and analyze the satisfaction degree of community health service and its influencing factors of the elderly in Nanning city in western China, and to provide reference for improving the health level and health service level of the elderly in Nanning city. Methods A total of 675 elderly people over 60 years old were selected by random sampling in Nanning city to conduct a questionnaire survey. Chi-square test and binary logistics regression analysis were used to analyze the influencing factors of community health service satisfaction. Results The overall satisfaction of health service utilization of the elderly was not high, and the average score of each satisfaction was lower than 4; There were statistically significant differences in satisfaction scores of age, education level, pre-retirement occupation, family structure, medical security and annual medical expenses ($P < 0.05$). Old age (OR=2.898), occupation of enterprise OR individual industry and commerce before retirement (OR=0.15), annual medical expenses of 1000-3000, suffering from chronic diseases (OR=5.461), the number of visits to community health service center/station in the past six months is 1-3 times (OR=0.266), the first choice of county/city hospital (OR=2.4) 39), provincial hospital (OR=3.57) and clinic/self-treatment (OR=3.838) had



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

.....

a significant impact on the satisfaction evaluation of community health service ($P \leq 0.05$). Conclusion The satisfaction of community health service utilization needs to be improved. Policy guidance and resource integration can be strengthened to improve the function of community health service and improve the elderly's medical experience.

Keywords: The elderly, Community health service, Satisfaction, Health service utilization

Introduction

As one of the countries with the fastest aging process, China will face a huge pension burden and more social problems (Lu, et al., 2023). It is expected that in 2025, the elderly population in China will exceed 300 million, accounting for about 20% of the total population, marking that China has entered a moderately aging society. Population aged 60 and above among the permanent residents of Nanning City in 2020, a total of 129.18 million people, accounting for 14.8%. Primary medical services are the first barrier to people's health, and the development of community health services is an important way to protect and maintain people's health (Zhou, et al., 2023), which plays an important role in reducing health expenditure and improving the efficiency of the health service system. It is of important practical significance to explore the satisfaction of the elderly in the urban community of Nanning with the utilization of community health services to improve the level of community health services and meet the health and pension needs of the elderly in Nanning.

Objectives

To investigate the demographic characteristics (age, gender, education level), pre retirement occupation, housing situation, medical insurance purchase, annual medical expenses, health status, first visit selection, and satisfaction with community health service utilization among the elderly population in Nanning, China. Analyze the relevant factors that affect satisfaction, in order to improve the satisfaction of elderly people with health service utilization.

Research Scope

1. Population

The population studied is 1.2918 million people aged 60 and above among the permanent residents of Nanning City. The total number of samples collected in this survey is



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

675 people. The questionnaire mainly covers three urban areas in Nanning City. Sample inclusion criteria: age above 60 years old; The elderly living in the community; Have some cognitive ability and can communicate clearly.

2. Scope of research variable

Independent variables: 1. Demographic characteristics (gender, age, education level); 2. Family structure; 3. Pre-retirement occupation; 4. Medical security and annual payment of medical expenses.

Dependent variables: satisfaction, including 1. community health environment; 2. Attitude towards medical and nursing services; 3. Quality of medical services; 4. Convenience level; 5. Waiting time; 6. Fee price; 7. The effectiveness of diagnosis and treatment services.

3. Timing scope

Period from November 2022 to March 2023.

Research Methodology

1. research design

Assuming the correlation between the age, gender, educational level, pre retirement occupation, housing situation, medical insurance purchase, annual medical expenses paid, and satisfaction with community health service utilization among elderly people in Nanning city. By consulting relevant literature, preparing survey questionnaires, organizing unified training for investigators, contacting the community to conduct pre surveys, modifying questionnaires, and conducting formal surveys; Retrieve data entry, establish a database using SPSS 26.0, and conduct descriptive statistics and chi square test analysis on satisfaction and its influencing factors.

2. Population and sample

The overall research is based on the population aged 60 and above among the permanent residents of Nanning City in 2022; The total number of samples collected in this survey is 675, with a sample rate of approximately 0.6 ‰

Sample inclusion criteria: 1. age 60 and above; 2. the elderly living in the community; 3. have certain cognitive ability, can clearly express personal opinions. Exclusion criteria: non-resident elderly population.

3. Research tools and effectiveness

The research tool mainly uses survey questionnaires to investigate the relationship between the social demographic characteristics, pre-retirement occupation, family structure,



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

medical expense payment, and satisfaction with the utilization of social health services among the elderly.

Check the effectiveness and reliability of research tools

Conduct reliability and validity analysis on the questionnaire, conduct a preliminary survey, and review the questionnaire. Check for missing values, logical errors, etc. before making modifications to ensure the objectivity, accuracy, and completeness of the data.

4. Data collection

All questionnaires were filled in by the respondents themselves and collected on the spot after the unified trained investigators explained the survey purpose and filling method. If the respondents could not fill in the questionnaires by themselves for some reason, the investigators conducted an interview survey.

This study has been approved by the Medical Ethics Committee of Guangxi Medical University, and all elderly participants in the questionnaire survey have signed informed consent forms.

5. Data analysis

In this study, the elderly people who lived for more than 6 months all year round in the urban communities of Nanning city, age ≥ 60 years old, were used for quantitative research and statistical analysis of the research data. SPSS26.0 was used to establish a database, descriptive analysis was used to analyze the basic situation, Chi-square test was used to analyze whether the difference was statistically significant ($\alpha=0.05$), and logistic regression analysis was used to examine the satisfaction of health management services.

Descriptive statistical analysis. Use frequency (n) and percentage (%) to provide a basic description of the collected sample data.

Correlation analysis. Including Chi-square test and binary logistics regression analysis. Chi-square test was used to analyze the influencing factors of the satisfaction of the elderly community health service. Binary logistics regression analysis was adopted to explore the specific relationship between the elderly's satisfaction with community health services and its influencing factors.

Research results

1. General situation

A total of 675 questionnaires were issued in this survey, and 610 valid questionnaires were recovered, with a response rate of 90.37%. Among them, 272 (44.6%) were males and 338 (55.4%) were females; There were 262 (43%) aged 60 to 69, 287 (47%)



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

aged 70 to 79, and 61 (10%) aged 80 or older; In primary school, 270 (44.3%), 199 (32.6%) in middle school, and 141 (23.1%) in high school and college; 37 (6.1%) of them worked as government organs or soldiers, 157 (25.7%) as state-owned enterprises or public institutions, 100 as private enterprises or self-employed (16.4%), 224 as farmers (36.7) and 92 as freelancers (15.1%). 74 people lived alone (12.1%), 137 people lived with their spouses (22.5%), 395 people lived with their children (64.8%) at most, and 4 people (0.7%) were in nursing homes; 374 people (61.3%) had medical insurance for urban and rural residents, 140 people (23%) had medical insurance for urban workers, 6 had commercial insurance, 41 people (6.7%) had public medical insurance, and 110 people (18%) had other types of insurance; A maximum of 255 people (41.8%) spent less than 1,000 yuan per year on medical expenses, 174 people (28.5%) spent between 1,000 and 3,000 yuan, 94 people (15.4%) spent between 3,000 and 5,000 yuan, and 87 people (13.3%) spent more than 5,000 yuan on medical expenses.

2. Satisfaction of community health services among the elderly

The results showed that 127 (20.82%) and 279 (45.74%), 116 (19.02%) and 266 (43.61%) of the elderly chose "very satisfied" and "satisfied" on the attitude and environment of medical service, respectively. For the quality, convenience and waiting time of medical service, 224 (36.72%), 203 (33.28%) and 229 (37.54%) chose "general". The number of people who thought that the charge price and the effect of medical service were "not satisfied" and "very dissatisfied" were the most, 75 people (12.3%) and 9 people (1.48%), 49 people (8.03%) and 1 person (0.16%) respectively. The average score of the elderly's satisfaction with community health services is shown in Table 3. All satisfaction scores are lower than 4, among which the score of medical service attitude is the highest, which is 3.86+0.75. The environment of community health center was 3.77+0.81, the quality of medical service was 3.71+0.77, and the convenience of medical treatment was 3.67+0.82. The lowest scores were diagnosis and treatment effect and charging price, which were 3.32+0.79 and 3.23+0.77, respectively. 25% of the elderly believed that community health services had little effect on health.



The 16th National and International Conference
 "Global Goals, Local Actions: Looking Back and Moving Forward 2024"
 20 March, 2024

Items	Very satisfied		satisfied		Average		Unsatisfied		Very dissatisfied		Mean	Standard deviation
	Number of cases	The rate of	Number of cases	The rate of	Number of cases	The rate of	Number of cases	The rate of	Number of cases	The rate of		
Community health facility environment	116	19.02	266	43.61	202	33.11	25	4.1	1	0.16	3.77	0.81
Health care service attitude	127	20.82	279	45.74	200	32.79	2	0.33	2	0.33	3.86	0.75
Quality of Medical services	94	15.41	270	44.26	224	36.72	21	3.44	1	0.16	3.71	0.77
Convenience	93	15.25	270	44.26	203	33.28	43	7.05	1	0.16	3.67	0.82
Waiting time	65	10.66	268	43.93	229	37.54	46	7.54	2	0.33	3.57	0.79
Charge price	24	3.93	188	30.82	314	51.48	75	12.3	9	1.48	3.23	0.77
Clinical service effect	72	11.80	104	17.05	384	62.95	49	8.03	1	0.16	3.32	0.79

Figure 1: Satisfaction of community health services for the elderly

3. Analysis of influencing factors of satisfaction

3.1 Comparison of satisfaction with community health services for the elderly.

According to the average total score of satisfaction, the subjects were divided into the satisfied group and the dissatisfied group for Chi-square test analysis, there were statistically significant differences in satisfaction scores of age, education level, pre-retirement occupation, family structure, medical security and annual medical expenses ($P < 0.05$), while there were no statistically significant differences in gender satisfaction ($P > 0.05$). The proportion of elderly people aged 90 to 96, those with high school or university education, those working in enterprises or engaged in individual businesses, those living with spouses, and those with employee or commercial medical insurance who are satisfied with community health services is the highest (>90%).



The 16th National and International Conference
 "Global Goals, Local Actions: Looking Back and Moving Forward 2024"
 20 March, 2024

Items	Options	Number of satisfied	Satisfaction rate	Number of dissatisfied	Dissatisfaction rate	X ²	P
Gender	male	242	89	30	11	0.1	0.7
	female	298	88.2	40	11.8		
Age	60-69 years old	240	91.6	22	8.4	8.54	0.035
	70-74 years old	161	87	24	13		
	Ages 75-79	83	81.4	19	18.06		
	Age 80 and older	56	88.5	5	8.2		
Literacy	Elementary school and below	224	83	46	17		
	Junior high	181	91	18	9		
	High school and secondary school	106	98.5	5	4.5		
	College and above	29	96.7	1	2.3		
	Administrative or military service	34	91.9	3	8.1	35.13	0.00
Pre-retirement occupation	State-owned enterprises or public institutions	151	96.2	6	3.8		
	Enterprises/individual industrial and commercial businesses	98	98	2	2		
	Farmers	180	80	44	19.6		
Family Structure	Freelancer	77	83.7	15	16.3		
	Living alone	67	77	17	23	12.53	0.006
	Living with spouse	128	93.4	9	6.9		
	Living with Children	361	88.9	44	11.1		
Health care	Staying in an aged care facility	4	100	0	0		
	Medical insurance for urban and rural residents	331	88.5	43	11.8	0.01	0.933
	Medical insurance for urban workers	131	93.6	9	6.4	4.586	0.033
	Socialized medicine	38	92.7	3	7.3	0.748	0.387
	Commercial health insurance	6	100	0	0	0.059	0.808
Annual personal medical costs	other	93	84.5	17	15.5	2.092	0.148
	Under 1,000	231	90.6	24	9.4	4.1	0.045
	1001-3000	151	86.8	23	13.2		
	3001-6000	85	90.4	9	9.6		
	6001-10000	37	82.2	8	17.8		
10,000 +	26	88.7	6	14.3			

Figure 2: Comparison of satisfaction with community health services among the elderly

3.2 binary logistics regression analysis of elderly community health service satisfaction.

As shown in Table 5, the respondents were divided into 2 groups according to the average score of satisfaction. The satisfied group was defined as the average score ≥ 3 , while the dissatisfied group was defined as the average score < 3 . The satisfaction groups were the dependent variables (the satisfied group was assigned 1, the dissatisfied group was assigned 2). After verification, the regression model of this study was statistically significant. Demographic characteristics, whether suffering from chronic diseases, the number of visits to community health service centers/stations in the past six months, and the first institution of medical treatment are included as independent variables for binary logistics regression analysis. The results showed that old age, pre-retirement occupation was enterprise or individual industry and business, annual medical expenses were 1000-3000, chronic disease, the number of visits to community health service center/station was 1-3 times in the past six months, the first choice of county/city hospital, provincial hospitals and clinics/self-treatment had a significant impact on the evaluation of community health service satisfaction ($P \leq 0.05$). Among them, the elderly $OR = 2.898$ (compared with the young elderly); Before retirement, the occupation of enterprises OR individual industrial and commercial



The 16th National and International Conference
 "Global Goals, Local Actions: Looking Back and Moving Forward 2024"
 20 March, 2024

personnel OR=0.15 (compared with government agencies), the annual payment of medical expenses in 1000-3000 its OR=2.074 (compared with the cost of less than 1000), suffering from chronic diseases OR=5.461, the number of visits to community health service center/station 1-3 times OR=0.266 (compared with In the number of 0), the satisfaction evaluation of the elderly on the community health service had a promoting effect; The first choice of county/city hospital OR=2.439, provincial hospital OR=3.57 clinics, self-treatment OR=3.838 had a negative effect on the satisfaction evaluation of community health services. (*Indicates this item as a reference)

Influencing factors	B	S.E.	Wald	P	OR	95%CI of OR	
						Lower	Upper
Age	0.166	0.57	0.85	0.771	1.118	0.386	3.611
	0.908	0.571	2.53	0.112	2.48	0.81	7.59
	1.047	0.589	7.965	0.047	2.848	0.896	9.035
Literacy	0.278	0.341	0.664	0.415	0.758	0.389	1.477
	0.719	0.562	1.637	0.201	0.487	0.162	1.466
	0.902	1.152	0.612	0.434	0.406	0.042	3.883
Residence situation	0.887	0.499	3.16	0.075	0.412	0.135	1.09
	0.677	0.372	3.319	0.068	0.508	0.245	1.05
Pre-retirement Careers	0.989	0.785	1.588	0.208	0.372	0.08	1.73
	1.898	0.997	3.91	0.050	0.15	0.21	1.058
	0.42	0.726	0.334	0.563	1.822	0.367	6.322
Medical security	0.375	0.752	0.249	0.618	1.455	0.334	6.348
	1.042	0.446	0.009	0.926	0.959	0.4	2.229
Pay medical expenses each year	0.73	0.357	4.174	0.041	2.074	1.03	4.17
	0.338	0.449	0.566	0.482	1.402	0.581	3.38
	0.92	0.528	2.913	0.088	2.463	0.875	6.937
Whether you have a chronic disease	0.424	0.542	0.612	0.434	1.528	0.528	4.419
	1.698	0.399	18.142	0.000	5.461	2.501	11.92
Number of visits to community health service centers/stations in the last six months	1.323	0.604	4.797	0.029	0.266	0.087	0.87
	0.761	0.781	0.949	0.330	0.467	0.101	2.16
	9.41	0.661	2.025	0.155	0.39	0.107	1.42
Choice of first diagnosis facility when sick	1.123	0.406	0.92	0.762	0.884	0.399	1.96
	0.892	0.365	5.965	0.015	2.439	1.193	4.98
constant	1.273	0.333	14.63	0.000	3.57	1.86	6.85
	1.345	0.314	18.364	0.000	3.838	2.075	7.1
constant	3.126	0.968	11.029	0.001	0.4		

Figure 3: Binary regression analysis of satisfaction with community health services among the elderly

Discussion

The overall satisfaction of elderly people with community health services is not high, belonging to the category of moderate satisfaction. They have a weak willingness to seek medical treatment at community health service institutions, and their satisfaction level with community health services is relatively low. The evaluation of price and diagnosis and treatment effect is poor, reflecting the overall service level and quality of grass-roots health service institutions are not high. Among them, being old, working for enterprises or individual businesses before retirement, not paying high medical expenses per year, suffering from chronic diseases, and going to community health service centers/stations 1-3 times in the



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

past six months have a significant promoting impact on the satisfaction evaluation of community health services.

According to Maslow's hierarchy of needs theory, physiological and safety needs, including employment, elderly care, and medical security, are the most important human needs. When these needs are not met, they directly endanger life and quality of life. Therefore, it is necessary to understand the health service needs of the elderly, formulate reasonable health service policies, better meet their health needs, improve their satisfaction with utilization, and improve their quality of life.

Suggestion

The government needs to strengthen policy and financial support to improve the medical technology and quality of community health service institutions. Improve the publicity of community health services, improve the overall utilization, enhance the elderly's awareness and service acceptance willingness and strengthen the implementation of the goal of "minor illnesses at the grassroots level, major illnesses at the hospital, and rehabilitation at the grassroots level" by promoting the expansion of high-quality medical resources and balanced regional layout.

Reference

- Chen L. & Wang L. (2023). The impact of accessibility of community care services on life satisfaction of urban elderly people. *Chinese Journal of Population Science*, (01), 56-69.
- Chen Z., Liu J. F., Chen W., Miao, Q. & He, X. F. (2020). Prevalence of chronic diseases, intention to seek medical treatment and influencing factors among the elderly in Changsha City. *Practical Preventive Medicine*, (03), 270-273.
- Dong F., Zheng X., Xiao S., Xue Y., Xue B., Zhang J. & Zhang Z. (2022). An analysis of subjective well-being and its influencing factors among the elderly under different chronic diseases in Shanxi Province. *Medicine and Society*, (11), 88-94.
- Han H., Xu Y., Wang W., Xu W., Chen Q. & Yang. (2022). A study on the influence of community-built environment on the residential satisfaction of the elderly: A case study of Hefei City, Anhui Province. *Human Geography*, (06), 118-128.
- He, Z. Y. & Yu, J. X. (2017). Universal Health coverage and improvement of Primary health care service capacity: A new theoretical framework. *Exploration and Contention*, (02), 77-81+103.



The 16th National and International Conference
"Global Goals, Local Actions: Looking Back and Moving Forward 2024"
20 March, 2024

-
- Lu T. (2019). Analysis on implementation of basic public health service project in Nanning. *China's public health management*, (01), 25 to 28. doi: 10.19568 / j.carol carroll nki. 23-1318.2019.01.007.
- Lu X., & Xu X. (2023). Construction status and path of Livable community for the elderly in Guangxi under the background of healthy aging. *Journal of Guangxi Medicine*, (16), 2045-2048.
- Qian L. & Shen D. (2022). Status quo and reform methods of public health management in community health service institutions. *Chinese Health Standard Management*, (13), 64-67.
- Qin, Z. H., Liu, S., Lu, Y. J., Tang, J., Gao, Z. F. & Zheng, R. Y. (2021). Demand willingness and influencing factors of home hospital bed service for the elderly in Xuzhou city. *Modern Preventive Medicine*, (01), 105-109.
- Wang, C., Xu, J., Yang, L., Xu, Y., Zhang, X., Bai, C., Kang, J., Ran, P., Shen, H., Wen, F., Huang, K., Yao, W., Sun, T., Shan, G., Yang, T., Lin, Y., Wu, S., Zhu, J., Wang, R., Shi, Z., ... China Pulmonary Health Study Group. (2018). Prevalence and risk factors of chronic obstructive pulmonary disease in China (the China Pulmonary Health [CPH] study): a national cross-sectional study. *Lancet (London, England)*, 391(10131), 1706–1717.
- Xu, L. & Ji, X. (2019). A study on community pension satisfaction and its influencing factors based on Wuhan City. *Journal of Qiqihar University (Philosophy and Social Sciences Edition)*, (03), 65-69.
- Yang, Y., Wu, W., Chen, Y., Wang, X. & Wu, T. (2020). Study on the needs and influencing factors of home-based care service for the elderly in Guangzhou urban area. *China Market*, (12), 34-36.
- Zhao, Y., Fan, T., Xue, G., Li, H. & Liu Q. (2022). Demand attributes and influencing factors of KANO in community home nursing service for elderly with chronic diseases. *Journal of Jining Medical College*, (01), 25-29+38.
- Zhou, S. & Liu, X. Y. (2019). A meta-study on satisfaction of elderly care services in urban communities based on the needs of the elderly. *Journal of Changsha Civil Affairs Vocational and Technical College*, (04), 2-5.
- Zhou, Z. & Fan, X. Quality of primary medical and health services and improvement strategy in western China. *Journal of Xi 'an Jiaotong University (Social Sciences Edition)*, 1-13.