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The Development of Community-Based Family Healthcare: A Cross-Sectional Study in Haidian, Beijing, China

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Abstract

The outbreak of Covid-19 affects China's health delivery system, and the current status of primary health services after the Covid-19 pandemic is not yet clear. To further explore the current status of demands of family health services, we conducted a cross-sectional survey, in the community of Haidian District, Beijing. Chi-square test analysis and multivariate logistic regression models were used to identify factors influencing residents' demands for family healthcare services. Results show that population of married (OR = 3.108), living with parents (OR = 2.171), degree of Junior high school and above (OR = 7.250) and high school (OR = 7.670), Annual income: 0 - 56,000 (OR = 3.680) and 72,001 - 88,000 (OR = 1.690) have significant demands for family health care. The approach to building primary health services in Haidian District is worth promoting, but it is also important to pay attention to the health inequalities that can occur when patients are moved down to the grassroots level.

Keywords

Community Health Service, Family Healthcare, Healthcare Utilization, Covid-19

1. Introduction

At present, the problem of population aging in China is very serious, and there is a tendency to intensify the development. The data of the seventh national census shows that the proportion of people aged 65 and above in China will be as high as 13.5% in 2020 [1], and the problems caused by population aging are focused on economic development and social construction. Unlike developed countries,

there is an obvious imbalance between the rate of population aging and the rate of social modernization and economic development in China, which makes it difficult for the young society to bear the aging population and leads to an increased social burden. The aging population brings not only financial expenditures in medical and pension services, but also changes the basic pattern of our labor force, leading to social development, stagnation in scientific and technological progress, and lack of vitality in economic development. It is expected that by 2050, the population over 65 years of age in China will reach 400 million, 150 million of whom will be over 80 years of age [2]. The negative consequences of the one-child policy, rural-urban migration, and the expansion of the "empty nest" population are eroding traditional family care for the elderly and further burdening the current health care delivery system. China is facing enormous health care challenges as a result of aging. In response to the increasingly prominent aging problem, the Fifth Plenary Session of the 19th Central Committee elevated the response to population aging to a national strategy for the first time, followed by the outline of the vision for 2035 in the 14th Five-Year Plan, which proposes to build an all-inclusive elderly care service system in the future. The construction of community medical institutions and family coordination, combined with medical and health care service system for the elderly has become the direction of community medical development.

Simultaneously, the aging situation in China is becoming increasingly severe. The average annual growth rate of the elderly population from 2001 to 2020 is about 3.3%, far higher than the world average; It is estimated that the elderly population in China will increase to 1/3 of the total population by 2050 [3], causing a huge impact on China's medical health system. As the population ages, the population size of chronic diseases continues to grow, further increasing the demand of our residents for community-based healthcare with cost-effective advantages. China has accumulated experience and exploration in the prevention and treatment of chronic diseases. Under the guidance of a series of national policies, the prevention and management of chronic diseases are progressing steadily [4]. The daily prevention and treatment of chronic diseases are based on various daily monitoring data, and chronic diseases, while challenging health care, emphasize the need to explore better chronic disease management strategies, and the treatment of chronic diseases lies in the combination of prevention and treatment, and the characteristics of community medicine make the community the best choice for the daily treatment of chronic diseases. At present, many countries in the world entrust the management of chronic diseases to outpatient clinics or community general practice clinics [5] [6] [7].

Medical and health care integration has been proven to have a positive effect in improving the quality of elderly services and reducing health care resources by realizing the combination of medical services and elderly services to solve the medical and health care problems of the elderly, which is a rational choice to actively cope with the aging of the population and meet the demand for diversified health and elderly services of the elderly population in China [8]. The position-

ing of urban community health care integration is to integrate community health resources with elderly care resources to provide timely, convenient, and accurate life care, health management, medical consultation, rehabilitation care, and hospice care services for the elderly at home in the community [9]. As the main provider of family health care services, community health service institutions participate in home elderly care services as an extension of social elderly health care services. Combining the actual medical service needs of the elderly at home with the actual supply capacity of community health service institutions, we provide community family medical services that meet the characteristics of the elderly groups in the region, thus effectively utilizing community health resources [10].

The outbreak of Covid-19 has further impacted China's primary public health service system, making it difficult to meet the health care needs of elderly patients with chronic diseases [11]. Elderly patients with multiple basic diseases will aggravate the progress of Covid-19 [12]. A study [13] of more than 70,000 Covid-19 patients in China shows that 80% of the dead patients are elderly, and 75% of the dead patients have basic diseases. This has sounded an alarm for us. It is very important to pay attention to the family health care of elderly patients with basic diseases. It is necessary to implement the operation status of community health services at the grassroots level and the needs of key patients.

At present, there are many studies related to community family healthcare services in China, but in the stage of normalized prevention and control of Covid-19 epidemic, the research on the status of community family healthcare services is in a blank state. Whether the equity of primary health services will be affected by the epidemic of Covid-19 deserves our attention. In this study, Beijing Haidian district, was selected to conduct a cross-sectional survey, to investigate current situation of community-based family health services in the post-Covid-19 epidemic era, aiming to provide scientific suggestions for further optimizing the community-based family health service system in Beijing in the context of the late Covid-19 epidemic through the study.

2. Questionnaire Design

Based on previous community research visits and previous research, we designed a questionnaire that includes: 1) Sociological information, 2) Smoking, 3) Drinking, 4) Sleep, 5) Basic diseases, 6) Physical discomfort, 7) Self-care ability, 8) Community health service items, 9) Use of community health services, 10) Demand for community family health services. 491 valid e-questionnaires were collected in communities in Haidian District.

3. Data Analysis

All e-questionnaires are distributed through the online platform and collected 491 valid e-questionnaires in communities in Haidian District. We used SPSS24 for statistical analysis, and Chi-square tests and multiple logistic regression were used.

4. Results

Results of Chi-square test (**Table 1**) show that Age ($p < 0.001$), Marital status ($p = 0.034$), Live partner ($p = 0.085$), Annual income ($p = 0.034$), Kind of underlying diseases ($p < 0.001$), Duration of illness ($p < 0.001$), Self-care ability ($p = 0.053$) are possible influences on family health care needs.

Results of logistic regression analysis (**Table 2**) show that population of Marital status: married (OR = 3.108), Live partner: parents (OR = 2.171), The degree of education: Junior high school and above (OR = 7.250), The degree of education: high school (OR = 7.670), Annual income: 0 - 56,000 (OR = 3.680), Annual income: 72,001 - 88,000 (OR = 0.44) have significant demands for family health care.

5. Discussion

In previous studies or consensuses, we prefer to provide comprehensive health care and medical security to vulnerable groups in the family, it is now indicated that we also need to focus on the needs of traditional families who need to care for their parents, and for whom the caregiving work of the elderly can add to the burden of their health. The results of this study show that residents generally have a strong need for family health care, which may be due to the high health awareness of the whole people in Haidian District, which leads residents to regard health care services as an accessible basic health resource. This possibility is also illustrated by data on educational attainment, which show that there is a strong demand for family health care among the population, especially the lower level of education. What is more noteworthy is that the demand for community-based family health services for residents with an annual income of 0 - 56,000 in Haidian District is significant, Low-income groups are provided with health care and demand for health care services. Various results show that the development of health care in Beijing has achieved significant achievements [14]. However, there is still a need to monitor the characteristics of the primary health service population to combat health inequities.

Haidian District adopts various measures to improve the utilization rate of primary health services, these are worthy of promotion and reference:

1) Professional service team

The team includes not only general practitioners, but also specialist nurses, physician assistants and community workers. Strengthen medical training through vertical cooperation, to ensure the sinking of high-quality resources of third-class hospitals. While constantly updating and improving business capabilities, it also leaves a good impression among residents.

2) Continuous optimization of practice policy

An incentive policy has been established to help the funds be distributed in combination with performance appraisal and supervision and evaluation results, which has improved the enthusiasm of medical staff. However, there are still deficiencies in the interpretation of practice policies, and service policies vary from community to community.

Table 1. Chi-square test—influencing factors of demand.

	Against (%)	Neutral (%)	Supported (%)	χ^2	p
Total	11 (2.24)	164 (33.40)	316 (64.36)		
Age					
18 to 44 years old	2 (0.41)	17 (3.46)	24 (4.89)	176.865	<0.001
45 to 64 years old	9 (1.83)	144 (29.33)	264 (53.77)		
≥65 years old	0 (0.00)	3 (0.61)	28 (5.70)		
Marital status					
married	11 (2.24)	155 (31.57)	294 (59.88)		
unmarried	0 (0.00)	4 (0.81)	4 (0.81)	38.078	0.034
Divorced/widowed	0 (0.00)	5 (1.02)	18 (3.67)		
Live partner					
spouse	2 (0.41)	41 (8.35)	100 (20.37)		
parents	6 (1.22)	52 (10.59)	82 (16.70)	27.108	0.085
children	3 (0.61)	35 (7.13)	91 (18.53)		
other	0 (0.00)	36 (7.33)	43 (8.76)		
Annual income					
0 - 54,000	9 (1.83)	57 (11.61)	66 (13.44)		
54,001 - 72,000	1 (0.20)	42 (8.55)	84 (17.11)	38.792	0.034
72,001 - 88,000	0 (0.00)	37 (7.54)	74 (15.07)		
≥88,001	1 (0.20)	28 (5.70)	92 (18.74)		
Kind of underlying diseases					
None	0 (0.00)	0 (0.00)	2 (0.41)		
Suffering from 1 type	11 (2.24)	162 (32.99)	271 (55.19)	277.548	<0.001
2 to 3 types	0 (0.00)	1 (0.20)	35 (7.13)		
4 or more types	0 (0.00)	1 (0.20)	8 (1.63)		
Duration of illness					
0 to 6 years	3 (0.61)	51 (10.39)	101 (20.57)		
7 to 9 years	6 (1.22)	30 (6.11)	68 (13.85)	68.536	<0.001
10 to 12 years	1 (0.20)	45 (9.16)	86 (17.52)		
≥13 years	1 (0.20)	38 (7.74)	61 (12.42)		
Self-care ability					
Totally self-absorbed	9 (1.83)	116 (23.63)	224 (45.62)		
Semi-self-care	2 (0.41)	42 (8.55)	77 (15.68)	36.180	0.053
Cannot take care of oneself	0 (0.00)	6 (1.22)	15 (3.05)		

Significance greater than 0.1 are listed.

Table 2. Logistic regression analysis of demand.

Variables	OR	95% CI	p
Marital status: married	3.108	2.149 - 4.120	0.024
Marital status: unmarried	3.892	1.368 - 5.086	0.123
Marital status: Divorced/widowed			
Live partner: spouse	1.092	0.457 - 1.633	0.752
Live partner: parents	2.171	1.343 - 3.207	0.007
Live partner: children	1.116	0.441 - 1.662	0.695
Live partner: other			
The degree of education: Junior high school and above	7.250	3.489 - 13.473	0.009
The degree of education: high school	7.670	3.540 - 13.535	0.008
The degree of education: undergraduate	3.284	2.809 - 3.434	0.151
The degree of education: Master's degree or above			
Annual income: 0 - 56,000	3.680	2.789 - 4.818	0.000
Annual income: 56,001 - 72,000	1.568	0.944 - 1.944	0.074
Annual income: 72,001 - 88,000	1.690	1.023 - 2.336	0.044
Annual income: >88,001			

3) Perfect medical coverage

As the administrative level of Haidian District, a subordinate district of Beijing Municipality. The population size is equivalent to that of a prefecture-level city, and as an economic and educational region, Haidian District has abundant medical insurance resources. Haidian District continues to improve the medical insurance system, improve the medical insurance reimbursement rules, and achieve refined, humanized and scientific management, which ultimately leads to the rational and effective use of medical resources.

4) Policies guide patients to grassroots medical institutions

Since the implementation of the new medical reform in Beijing, by canceling the drug price markup, establishing a hierarchical system of service fees, adjusting the price of medical services, and establishing a hierarchical diagnosis and treatment system, residents have been effectively guided to go to grass-roots medical institutions for medical treatment, so that patients have sunk to the grass-roots level, increasing the utilization rate of community health resources.

6. Conclusion

Covid-19 has aroused our attention to public health and health care of key groups. Further measures are needed to provide community health services that are tailored to the needs of the population. Pay attention to the reform of medical service supply, improve diagnosis and treatment through vertical cooperation, actively explore the reform of the medical payment system, and improve the acces-

sibility of basic health services. Promoting patient access at the primary level also monitors health inequities. The ultimate goal is to truly integrate community health services into people's lives.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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