Experimental Study on Satisfaction Evaluation of Community Service Facilities for Older People Under the Background of Healthy Cities

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Abstract. This paper looks primarily at the assessment of satisfaction with community service facilities for seniors in healthy cities. Through a detailed literature review, twelve factors were identified which related to seniors' satisfaction and the corresponding rating system was established accordingly. According to this, the study designed the questionnaire to investigate the satisfaction of the old facilities in three communities around Nanjing Agricultural University. The study then used SPSS to process the results of the survey and examined the correlation between the factors and the elderly's satisfaction. In terms of it, the study put forward the corresponding measures to improve facilities for the aged in these communities. The results shows that the essential factor of community satisfaction is the satisfaction of medical facilities. In contrast, the accessibility of public facilities and community welfare had almost no impact on the satisfaction of the elderly. In addition, as communities focus more on the physical aspects and less on the psychological aspects of older people, the construction and improvement of healthy communities should focus more on the spiritual needs.

Keywords: Healthy cities · Service facilities for the elderly · Satisfaction evaluation

1 Introduction

With the increasing awareness of the importance of physical and mental health and the ageing population, people require a much healthier city and more age-friendly communities [1]. This study focuses on the satisfaction evaluation of community service facilities for older adults in a healthy city, and it also raises several measures for healthy communities' development. The study establishes an assessment index system and uses it to assess satisfaction with services provided to elders in three communities in Nanjing. To collect data on senior satisfaction, the study carried out around 100 questionnaire surveys in three communities around the Nanjing Agricultural University. Moreover, the study explored some approaches to improve the community service facilities in terms of the evaluation results.

Due to environmental pollution, noise and traffic congestion in cities, most people live a fast-paced and stressful modern life. The World Health Organisation (WHO)

appeals to the role of health in development [2]. In 1994, WHO first defined the healthy city as an organic whole combined with healthy people, a healthy environment, and a healthy society, which can be improved constantly to realise its full potential [3]. The satisfaction evaluation of healthy cities is an efficient method to enhance urban planning. Community, as one of the key factors of a city, has a direct impact on the health of its residents. Research on community satisfaction is relatively mature in European countries, while it is just beginning in China. Research in Western countries focuses on three main themes: feelings of people (e.g., mental health and physical activities), social influence (e.g., policy and management), and natural environment (e.g., climate change and environment). Ní Mhaoláin et al. found that the mental health of the elderly and their participation in physical activities are as important as their physical health [4]. Maass et al. examined the relationship between neighbourhood social capital and life satisfaction and self-rated health. They found that social money had a stronger positive impact on life satisfaction than health [5]. Ester et al. used principal components analysis to select factors influencing the planning of public parks for older people. The result showed that social connection is considered the most essential element [1]. As for research in Chinese, Cheng and Yan found that the subjective well-being of the Chinese aged was affected by numerous social and health-related factors, and society should pay more attention to the mental health of the elderly [6]. Lu et al. examined the gap between the need and supply of community services in China and its relationship with the life satisfaction of the elderly [7]. However, previous studies of community satisfaction rarely addressed the evaluation of satisfaction with community service facilities for older people.

Additionally, here is little research to establish a scientific and systematic evaluation indicator system suitable for the Chinese community. To fill the gap in the existing studies, this study demonstrates a new system of evaluation indicators for older people to evaluate community services facilities. The study of community satisfaction will benefit the government in building healthier more efficiently managed, socially effective and humane communities for older citizens.

The article will first explain the methodology used in the study. This will be followed by a description of the empirical study and an analysis of the data from the study. Finally, the article will look at some future measures to improve community planning for older people.

2 Methods

2.1 Study Population

The study was conducted in three surrounding communities of the Nanjing Agricultural University, which has numerous older people. It randomly selected 100 older people aged 65 and above to fill in the questionnaire. These selected older people needed to fulfil three conditions: the elderly should have lived in the area for at least one year; the participants are able to complete questionnaires with the help of a surveyor; the participants should complete the questionnaire voluntarily and ensure its authenticity. In addition, this study surveyed in three different types of communities around Nanjing Agricultural University to acquire reliable data. The faculty community of Nanjing

Agricultural University is over 50 years old, and some internal facilities are old and dilapidated. Dongyuan community is a standard commercial housing community, which has been built for 20 years. It is an old and general community with inadequate and outdated facilities. The Rongtai community is a commercial housing community with better amenities. It is fairly new and upscale, which has been built for around 10 years. Different types of communities in the survey presents distinctions in the individual conditions of community residents, differences in the sense of community, willingness to participate in the public and the image of the community. The study on different community types can reduce the limitation of community research objects.

2.2 Measures

2.2.1 Literature Review

This paper mainly focused on the following three topics: healthy cities, community service facilities, and resident satisfaction. It summarises the gaps between current research and development prospects through the analysis of several relevant literature and relevant practice cases. These laid a solid theoretical foundation for the establishment of an evaluation index system.

2.2.2 Construct Evaluation Index System

By summarising the previous study with the current condition of Chinese communities, this study combined several theories to support the evaluation index system. Community satisfaction is defined as residents' subjective evaluation of communities by comparing their expectations and actual feelings of communities [8]. Community satisfaction includes a number of areas such as economy, health care, neighbourhood environment and education [9]. As for the elderly, health is a more critical factor in their life. Therefore, this study divided the evaluation indicators into physical space environment and social support environment in terms of the physical and mental health of the elderly. Additionally, the study explored the potential influence factors of community service facilities for the elderly by Maslow's hierarchy of needs. Maslow presented a classification of basic needs, including five levels: physiological, safety and security, belongingness, esteem, and self-actualisation [10]. Based on this, the physical space environment was divided into neighbourhood environment, services and facilities; and the social support environment was divided into social participation, communication and information. This study then developed 12 items to measure the satisfaction with community service facilities for older people and established a satisfaction evaluation index system as follows (Table 1).

2.2.3 Questionnaire Survey Method

The study created a satisfaction questionnaire based on the evaluation index system, including five parts: primary condition of individuals, neighbourhood environment, services and facilities, social participation, and communication and information. Most survey questions utilised a 5-point Likert scale, including the following: very satisfied,

Table 1. Satisfaction Evaluation Index System of Community Service Facilities for the Elderly

Evaluation Objective	First level indicators	Second level indicators	Third level indicators
Community service facilities for the elderly	Physical space environment	Neighbourhood environment	Accessibility of public facilities
			Optional transportation
			Community security
		Services and facilities	Medical facilities
			Nursing institutions for the aged
			Fitness facilities
	Social support environment	Social participation	Education and training activities
			Recreation activities
			Public participation
		Communication and information	Community welfare
			Neighbourhood communication
			Legal aid

somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, very dissatisfied. During the questionnaire survey, participants were asked to provide their personal information and their comments about the facilities of communities they live. The questionnaire was designed in simple language, with specific and precise questions to ensure that older people were able to complete them efficiently.

3   Data Analysis and Results

3.1   Descriptive Analysis

3.1.1   Basic Condition of Study Population

A random sample of 100 older people was selected for this study and 86 valid questionnaires were received. Table 2 summarises the basic characteristics of older people. During the survey, most of the study population were aged between 60 and 70, and the number of male and female respondents is similar. In the aspect of education level, most older adults have a junior secondary education or above. In terms of family numbers, almost all the senior residents live with their children or partners, indicating that they can obtain direct daily care and be comforted from their children. In addition, above 40% of the study population's monthly income is more than twenty thousand yuan, followed by 5000 to 10000 yuan, which means most older people are in good economic condition.

Table 2. Descriptive Analysis of Study Population

Variables	Category	Population	Percentage
Age group	60–70 years	36	41.86%
	71–80 years	26	30.23%
	81-90years	24	27.91%
Gender	Men	40	46.51%
	Women	46	53.49%
Education	≤6 years	4	4.65%
	7–12 years	38	44.18%
	≥13 years	44	51.16%
Family members	Live alone or share a home	12	13.95%
	Living with partner	20	23.26%
	Living with children or parents	54	62.80%
Monthly income	<5000 yuan	16	18.60%
	5000–10000 yuan	22	25.58%
	10000–20000 yuan	12	13.95%
	>20000 yuan	36	41.86%

3.1.2 Basic Information of Communities

The study draws on the descriptive analysis of the indicators of community service facilities in the questionnaire.

3.1.2.1. Accessibility of Public Facilities

People in the three communities have easy access to nearby infrastructures. The nearest public facilities are within 15-min walking distance. The elderly usually travel by bus, underground or on foot, while a small portion of them cycle. Although the transportation is quite convenient, the survey found that most of the elderly do not use the public facilities frequently. That is because some of them thought it was unsafe to go to the surrounding public facilities for traffic congestion and high driving speed. This means that the traffic needs to be improved to be more pedestrian-friendly.

3.1.2.2. Community Security

The security in these three communities is relatively poor. These communities all have sacurity guards but have no restrictions on access.

3.1.2.3. Medical Facilities

It is convenient to walk from these three communities to the respective community health service centre, which takes only 10–15 min. However, when experiencing severe

diseases, most older adults chose to go to major hospitals for examination because of the lack of crisis response in community health service centres.

3.1.2.4. Nursing Institution for the Aged

None of the three communities have a residential care facility for the elderly. In the survey, some older people were willing to be cared for in nursing institutions, while the majority preferred to stay at home. The results suggest that the community should currently focus on building facilities for the elderly at home, while using aged-care institutions as a support.

3.1.2.5. Fitness Facilities

The three communities all have fitness and entertainment facilities, such as a table tennis rooms, gyms, yoga studios, etc. However, the elderly seldom use the fitness facilities, mostly once or twice a week, and prefer to take a walk in their leisure time. When asked why they dislike using the facilities, the majority of those thought that the fitness facilities were not safe enough for older people to use. The result suggests that communities need to establish more age-friendly fitness facilities according to the need of the elderly, such as community parks, squares, benches and, pavilions.

3.1.2.6. Social Participation

The survey shows that education, training and recreational activities are held between two and four times a year in the three communities. However, Fig. 1 shows that the majority of plder people usually participant once a year. Therefore, communities should increase the frequency of activities and select topics which older people interest in through questionnaires.

3.1.2.7. Communication and Information

These communities do not have any community welfare, such as psychological counselling, companionship, home visits, or other services for the aged. In addition, Fig. 2 shows that the communication between the elderly and their neighbours is frequent, which can eliminate the loneliness of the elderly. As for the legal aid, only one community has the service, but it is not predominantly for the elderly.
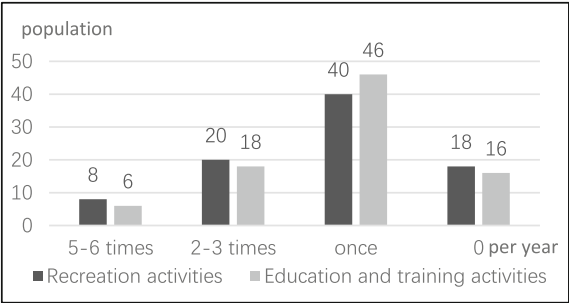
Fig. 1. Frequency of older people participating in activities
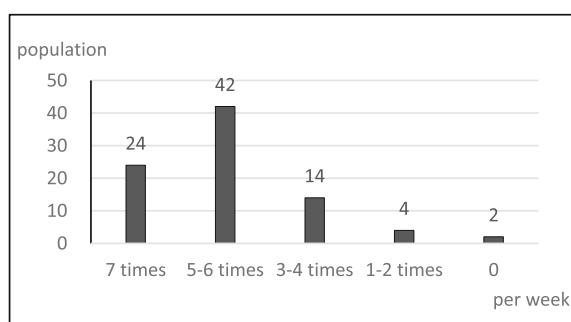
Fig. 2. Neighbourhood communication frequency of the elderly

Table 3. Correlation Analysis

Correlation	Influence Factors			
	Accessibility of public facilities	Neighbourhood communication	Medical facilities	Fitness facilities
The satisfaction of community service facilities	0.081	0.677**	0.720**	0.588**
Correlation	*Education and training activities*	*Recreation activities*	*Community welfare*	*Community security*
The satisfaction of community service facilities	0.601**	0.672**	0.067	0.439**

* At level 0.05 (double-tailed), the correlation is significant, ** at 0.01 level (double-tailed), the correlation is significant.

3.2 Correlation Analysis

Correlation analysis was conducted on the questionnaire data using SPSS to examine the correlation between the indicators and older people's satisfaction with community service facilities. Table 3 illustrates that community security, medical facilities, fitness facilities, education and training activities, recreational activities, and neighbourhood communication are all positively and significantly correlated with the overall satisfaction of the old facilities in communities. However, the accessibility of public facilities and community welfare work have little correlation with community satisfaction. Medical facilities service has the most significant influence on the satisfaction of older people, while community security has the lowest correlation among the significant influencing factors. The community welfare has the lowest correlation among all influencing factors.

4   Discussion

4.1   Improvement Strategies for Community Service Facilities

4.1.1   Establish a Healthy Community Medical Service System

In this study, the service of medical facilities is the most influential factor among the 12 selected items. This result indicates that almost all the older adults in this survey have a high requirement for the high-quality service of medical facilities. Thus, it is significant for communities to improve their health care centre. Due to the low immunity, older people are vulnerable to chronic diseases, such as hypertension, heart disease, and diabetes. Communities should set up more facilities for treatments of chronic diseases, forming a community medical service system, and incorporating regular home visits for medical check-ups and care.

4.1.2   Establish an Activity System for the Elderly

The survey found that older people lack contact with the outside world. The factors of educational and training activities and recreational activities also significantly influence the elderly's community satisfaction. Based on the result, various activities should be organised for older people and clubs should be formed according to their interests. For example, older people should be encouraged to participate in volunteer activities. Communities should build cultural centres where they can learn and organise events.

4.2   Limitations

First, the research areas are not representative of all Chinese communities. Second, the survey adopted random sampling to select a limited number of samples, and the questionnaire results may contain some errors. Finally, the evaluation indicator system established in this study is immature and unscientific, and needs further studies and improvement.

5   Conclusion

The study selected 12 influential factors which affect satisfaction of community service facilities and established the satisfaction evaluation indicator system. Furthermore, the study acquired the information on the satisfaction of the elderly by questionnaires and analysed the data through descriptive and correlation analyses. The results indicate that communities should concentrate on improving medical facilities in the physical space environmental construction and organise more activities in the construction of social support environment. This study contributes to community satisfaction studies by providing empirical research and establishing an evaluation indicator system. It also draws attention to older people's health, and reminds people to more concern about the mental health of the elderly.

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