



Research on the Influencing Factors of Community Elderly Care Service Quality: An Individual Difference Perspective

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Abstract

With the continuous increase of the aging population in China, community elderly care services have become the preferred choice for the majority of the elderly. The quality of community elderly care services directly affects the quality of life of the elderly. This study, through the investigation and data analysis of community elderly care services in third- and fourth-tier cities in China, from the perspective of individual differences of the elderly (age, gender, marital status, economic source, living conditions, self-care ability, whether suffering from major diseases or chronic diseases, and economic income), analyzes the main factors affecting the quality of community elderly care services, providing beneficial inspirations for improving the quality of community elderly care services.

Keywords: Community elderly care services; Service quality; Individual differences; Influencing factors

1. Introduction

Since China entered the aging society in 2001, it has been over 20 years. The trend of population aging has been intensifying. Facing the severe population situation, the Chinese government has continuously increased investment and gradually formed a social service system for the elderly that is jointly provided by families, communities and institutions. From Shanghai's pioneering "9073" elderly care model, Beijing's "9064" elderly care service system construction, to the successive support by the central government for over 200 regions to carry out pilot reforms of home and community elderly care services, through long-term practice and exploration, the construction of elderly care services in China has achieved remarkable progress. Community elderly care services have become an indispensable social public service in the lives of more and more elderly people, and the quality of community elderly care services has also become a livelihood issue related to the well-being of the elderly.

However, due to the insufficient market competition within community elderly care services, the quality of the services provided varies greatly, and in addition, due to the uncertain contextual factors in different regions, the coverage and levels of community elderly care services are very limited. Their economic and social benefits have always been unsatisfactory, and this is particularly prominent in the central and western provinces. Just like other service industries, community elderly care services also follow the "user-centered" principle, which is the core of the public service strategy. The subjective feelings of the elderly are the ultimate indicator for evaluating the quality of community elderly care services. Therefore, this study takes the elderly care service recipients in the main urban area of a certain third- and fourth-tier city in China as the research object, conducts an investigation and research on the current quality of community elderly care services, and explores the differences in demand for elderly care services due to individual differences. The aim is to answer how elderly care service enterprises can improve service quality through effective resource allocation, not only meeting the needs of the elderly but also preventing resource misallocation from causing waste, so that the respective resource and capacity advantages of each department can maximize economic and social benefits.

2. Literature Review

2.1 Research on Urban Community Elderly Care Service Models

At present, the main participants in urban community elderly care services in China exhibit a diversified feature. They are mainly managed by the civil affairs department, organized and executed by streets and communities, and specifically implemented by professional institutions and intermediary agencies. The ideas for building and developing community elderly care services in various regions are mostly government procurement of services, undertaken by streets and communities, supplemented by services provided by enterprises or social organizations.

The service providers for community elderly care services usually take the form of various levels of elderly care service centers, community elderly care service stations, day care centers, elderly canteens, and community elderly activity venues. Their actual operations can be carried out by entities such as industrial and commercial enterprises, private non-profit units, and social organizations.

In practice, these organizations often use the dual identities of "industrial and commercial + non-profit" to participate in the elderly care service market, retaining the social value orientation and non-profit characteristics of non-profit organizations while operating in an enterprise-like manner, and achieving sustainable development while providing elderly services (Gao Chuansheng, 2015). From the initial establishment of the organization, seeking survival and development, and obtaining the status of non-profit organizations, obtaining the status of non-profit organizations is a choice made by social investment under the imbalance of the resource allocation structure in the policy and market environment.

However, relying solely on the status of non-profit organizations can only obtain project opportunities. If one wants to complete the project well and maintain its operation, multiple resources need to be combined (Su Fang et al., 2016). Obtaining the status of industrial and commercial enables the organization to retain the integrity of property rights and market behavior capabilities, and increases the organization's self-sustaining ability. Therefore, the "dual identity" has almost become the default choice for entering the elderly care service industry.

At present, the research on the models of urban community elderly care services mainly adopts the form of case studies to explore the experiences and inspirations brought by different service models. For instance, Yang Yanan and Wang Xingxing (2021) analyzed the case of "White Cross Home Volunteer Association" in Tokyo Prefecture to explore the experiences and inspirations of non-profit organizations' participation in community elderly care services. Xiong Liang et al. (2021) conducted research on the construction of the "community +" precise assistance model for the families of the only child who lost their only child in China from the perspective of foreign community elderly care practices. Some scholars such as Wen Haihong and Wang Yihan (2019), and Yang Qianwen et al. (2021) analyzed the models of urban elderly care services from the perspective of China's practice respectively.

2.2 Research on Evaluation of Community Elderly Care Service Quality

The research on community elderly care service quality mainly focuses on the study of the quality and satisfaction of government-provided services. Zhang Liangwen et al. (2019) constructed a "structure-process-outcome" service quality evaluation system for elderly care institutions and provided policy suggestions for the formulation of elderly care service standards and service improvement in Xiamen City. Deng Baoguo and Yu Zeliang (2021) conducted an empirical study based on the data from the 2017-2018 China Elderly Health Impact Factors Tracking Survey, and argued that the community elderly care service system needs to be optimized according to the different needs of different elderly groups. Gan Lu et al. (2023) combined the demand differences of different elderly groups in the need for high-quality development of elderly care services in the new era, based on the SERVQUAL model, constructed an evaluation index system for the high-quality development of community home-based elderly care services, and provided references for the evaluation and improvement of the high-quality development of community home-based elderly care services. Zhang Lin et al. (2024) took Beijing as an example, starting from the multi-dimensional entities of "government – community - elderly", constructed a theoretical model of influencing factors of community home-based elderly care service quality, and identified and extracted the key influencing factors of community home-based elderly care service quality.

3. SERVQUAL Model and Community Elderly Care Service Quality Model

3.1 SERVQUAL Model

Three scholars from North America, A. Parasuraman, Valarie, A. Zeithaml, and Leonard L. Berry (hereinafter referred to as PZB, 1985), conducted a series of studies on how to evaluate, optimize service quality, and apply it to practical management. They believed that service quality should be the measurement of the overall quality of an organization's services by consumers, and clearly pointed out that the factors influencing service quality during the service process for customers include: tangibility, reliability, responsiveness, assurance (including capability, courtesy, credibility, and safety), and empathy (such as understanding, communication, and accessibility), and developed the now highly regarded SERVQUAL scale, which is widely applied in modern management and service quality management evaluation of non-profit organizations.

Wen Haihong and Wang Yihan (2019) based on this model analyzed the influencing factors of home-based community elderly care service quality from five dimensions: system, economy, technology, service personnel, and individuals. Gan Lu et al. (2023) believe that applying the SERVQUAL model to the research on the high-quality development of community elderly care services has certain applicability. This study will be based on the SERVQUAL model and explore the different manifestations of individual differences of the elderly in the evaluation of elderly care service quality from the perspective of recipients of community elderly care services, providing possible empirical evidence for this service quality model.

3.2 Community Elderly Care Service Quality Model

As a kind of community elderly care service specifically provided for the elderly, apart from the general service product characteristics such as intangibility, variability, inseparability and non-storability, compared with institutional elderly care or other elderly services, it also presents its own complexity and particularity, such as the diversity of service contents, the multiplicity of service supply entities, and the uncertainty of service environment. This further makes the quality management and assessment of community elderly care services more complex.

From a macro perspective, the current technical standards for community elderly care services in China are relatively lenient, and the requirements for physical hardware or other physical facilities are not very high either. Meanwhile, the demand for community elderly care services mainly comes from the elderly population in cities, as well as low-income families, the elderly with disabilities or dementia. They may not have strict requirements for the conditions of hardware facilities or the appearance and demeanor of service personnel, but they are more concerned about the actual perception of the elderly when they receive services and the satisfaction of their basic living needs. Their evaluation of service performance often relies more on intuitive feelings such as the taste of food, the tidiness of clothes, and physical comfort. Therefore, simply taking "visibility" as a dimension for evaluating the performance of community elderly care services is clearly insufficiently comprehensive. Correspondingly, adopting "perceptibility" as a dimension that can comprehensively reflect various perceptions such as vision, taste, touch, and hearing is more comprehensive and more in line with the original meaning of service perceptibility. American scholars Rust Roland T. and Tuck Siong Chung (2006) pointed out: Quality is an investment, and this investment must comply with economic laws... Not all quality investments are "worth the money". Therefore, taking "perceptibility" as an evaluation criterion is more appropriate.

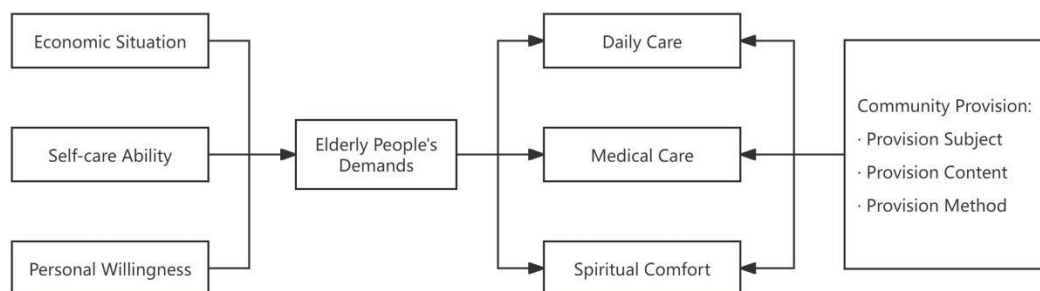
Taking all the above factors into consideration, based on the SERVQUAL model, this study divides the quality assessment of community elderly care services into five main dimensions: reliability, assurance, responsiveness, empathy and perceived quality.

3.3 Composition of Evaluation Contents for Community Elderly Care Service Quality

In 2017, the State Council issued the "Opinions on Formulating and Implementing Elderly Care Service Projects", clearly stating that it is necessary to vigorously support

professional service institutions and encourage other organizations and individuals to provide various services such as life care, medical care, and spiritual comfort for the elderly. Based on the above three basic needs of the elderly, and combined with the differences in income levels, health conditions, and individual wills of the elderly, the current community elderly care service system in China covering the contents, subjects, and methods of service supply has been formed (Figure 1).

Figure 1 Community-based Elderly Care Service System Based on Their Demands



As previously mentioned, the quality evaluation of community elderly care services is closely related to the perceived value of elderly care services by community-dwelling elderly people. Due to the significant differences among the elderly in terms of age, health status, economic conditions and lifestyle, even when facing the same service contents such as life care, medical care and spiritual comfort, their demands or expectations may vary greatly. This study will, based on the SERVQUAL model, focus on the perspective of the recipients of community elderly care services and explore the different manifestations of individual differences of the elderly in the evaluation of community elderly care service quality, providing possible validity evidence for this model.

4. Data Sources and Research Design

4.1 Data Sources

The uniqueness of community elderly care services determines that the assessment methods for their service quality are significantly different from those of regular services and institutional elderly care services. Therefore, when conducting performance evaluations of community elderly care services, it cannot be done in the same way as for other single services, simply following a unified standard. Instead, starting from the various needs of the elderly for community elderly care, a detailed analysis and assessment should be carried out based on the specific contents of the services.

This study adopted the method of stratified sampling by category to select 5 representative urban sub-districts in a certain third- or fourth-tier city in central China, where there are mature or high-rated community-based comprehensive elderly care service centers and residential community elderly care service stations. The elderly people within these areas were taken as the survey subjects. Combined with the 10 specific project categories of elderly

care services provided by the community in this city (Table 1), the study mainly investigated the provision and service quality of each elderly care service project, and collected the demographic characteristics information of the respondents.

Table 1 Classification of 10 Specific Items of Community Elderly Care Services

Service category	Subcategory of service	Service item
Life care	Meal Assistance Service	Group dining
		Home delivery of meals
		Door-to-door meal preparation
	Housekeeping service	Laundry service
		Interior cleaning
	Assisted bathing service	Home bath assistance
		Outdoor bath assistance
	Mobility assistance service	Escort service
		Outdoor walking companionship
	Purchase Assistance Service	Agent payment collection
Purchase agency service		
Medical care	Emergency assistance service	Lost person inquiry
		Door-to-door lock opening and key unlocking
		Water and electricity maintenance
	Patrol service	Safety monitoring
		Regular visit
Mental comfort or consolation	Medical assistance services	Family hospital bed
		Community hospital
	Nursing services	Disease care
		Rehabilitation guidance
		Rehabilitation assistance
Assistance and Entertainment Services	Chat Assistance Service	Chat companionship
		Life companionship
	Student Aid Services	Chess and card room
		Senior citizens' activity room
		Senior citizens' university

Note: The data sources are compiled by this research.

4.2 Questionnaire Design and Research

This survey questionnaire consists of two parts: The first part is to collect basic information of the elderly, covering 8 questions such as the age, gender, marital status, economic source, income level, living condition, self-care ability and whether (they have) suffered from major diseases or chronic diseases in the past. The second part is to evaluate the utilization situation, expectations and perceived performance of 27 specific service contents in 10 specific service item categories. According to the actual situation of the elderly receiving services, each type of community elderly care service quality is evaluated from 5 dimensions: reliability, assurance, responsiveness, empathy and perceptibility.

In this study, the measurement methods for each of the five dimensions of service contents adopted the Likert 5-point rating scale. According to the actual situation, five levels of expectations and perceptions ranging from "1 = strongly disagree" to "5 = strongly agree" were set. The elderly respondents rated each of the five dimensions based on their expectations and actual feelings towards the service items. The questionnaire for in-home survey of the elderly included a total of 60 questions. In addition to the assessment of each of the five dimensions of service contents, it also included the investigation of the specific service options commonly used for each service item to understand the specific preferences of the elderly for each type of service item. If a certain type of service item has not been used, all the items of that type will be skipped, and the options will be empty.

5. Empirical Analysis and Result Discussion

5.1 Descriptive Statistical Analysis of the Sample

A total of 550 questionnaires were distributed in this formal survey. After eliminating the questionnaires with incomplete information, 503 valid questionnaires were finally selected, with a total sample recovery rate of 91.45%. The basic information of individual elderly people receiving community-based elderly care services in the valid samples covered age, gender, marital status, economic source, income level, living condition, health status and self-care ability. The specific data are as follows:

Table 2 Descriptive Statistical Analysis of the Sample

Attribute	Demographic characteristic variable	Number	Percentage
Age	60 - 69 years old	306	60.84%
	70 - 79 years old	132	26.24%
	80 - 89 years old	65	12.92%
	90 years old and above	0	0.00%
Gender	Man	220	43.74%

	Woman	283	56.26%
	unmarried	0	0.00%
	Married	379	75.35%
Marital status	Widowed	64	12.72%
	Divorced	60	11.93%
	Pension	150	29.82%
	Child support	178	35.39%
Source of income	Financial assistance from relatives and friends	32	6.36%
	Other	143	28.43%
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	Live with children	107	21.27%
	Live with spouse	313	62.23%
Living conditions	Live with relatives and friends	6	1.19%
	Live alone	77	15.31%
	normal	209	41.55%
	Mild dependence	217	43.14%
Self-care ability in daily life	Mild dependence	48	9.54%
	Severe dependence	29	5.77%
Whether one suffers from serious diseases or chronic illnesses	No	104	20.68%
	Yes	399	79.32%
	Monthly income below 1000 yuan	115	22.86%
	Monthly income from 1001 to 2000 yuan	200	39.76%
Economic income level	Monthly income from 2001 to 3000 yuan	86	17.1%
	Monthly income from 3001 to 4000 yuan	51	10.14%
	Monthly income from 4001 to 5000 yuan	28	5.57%
	Monthly income above 5000 yuan	23	4.57%

Based on the statistical information of the valid samples retrieved from this survey, it can be found that the elderly population in the main urban area of this city who receive community-based elderly care services mainly have the following characteristics: mostly elderly people under 80 years old, mostly those living with their spouses, mostly those with mild dependence on self-care ability, and mostly those with monthly income below 2000 yuan. Their economic sources are diverse but their income is relatively low. The function of pensions in providing elderly care is still very limited. The elderly prefer to live at home and receive elderly care in the community. The services provided by community-based elderly care, such as daytime life care and spiritual comfort, have greatly facilitated elderly care in the community.

5.2 The Impact of Individual Differences on the Evaluation of Community Elderly Care Service Quality

5.2.1 The Influence of Age Differences on the Evaluation of Community Elderly Care Service Quality

Age groups can to some extent reflect the common characteristics of the demands of a certain age group. Through the analysis of the results of the evaluation of specific project service quality based on the age differences in Table 3, it can be found that the demands of different age groups of the elderly for the nursing services provided in community elderly care are relatively obvious. The elderly of advanced age have the lowest evaluation results for the quality of nursing services, which is closely related to the deterioration of physical fitness of the elderly with the increase of age. When providing nursing services, the community should pay special attention to the special needs of the elderly of advanced age.

Table 3 The Impact of Age Difference on Service Quality Evaluation of Different Categories

Service Category	Mean \pm Standard Deviation			<i>F</i>
	60-69 years old	70-79 years old	80-89 years old	
Meal Service	3.84 \pm 0.730	3.80 \pm 0.606	3.74 \pm 0.648	0.432
Housekeeping Service	3.72 \pm 0.751	3.55 \pm 0.748	3.75 \pm 0.751	1.306
Bath Service	3.57 \pm 0.495	3.62 \pm 0.491	3.55 \pm 0.504	0.256
Walking Assistance Service	3.89 \pm 0.716	3.75 \pm 0.751	3.92 \pm 0.870	1.020
Purchase Assistance Service	3.84 \pm 0.671	3.96 \pm 0.726	3.83 \pm 0.709	0.807
Emergency Assistance Service	3.42 \pm 0.846	3.51 \pm 0.703	3.39 \pm 0.934	0.553
Medical Assistance Service	3.50 \pm 0.692	3.74 \pm 0.864	3.43 \pm 0.647	1.901
Patrol Service	3.10 \pm 0.886	3.14 \pm 0.926	3.24 \pm 0.902	0.676
Nursing Service	3.68 \pm 0.709	3.20 \pm 0.761	3.08 \pm 0.768	4.235***
Spiritual Comfort Service	3.83 \pm 0.856	3.89 \pm 0.577	3.52 \pm 0.473	1.686

** $P < 0.05$. *** $P < 0.01$

5.2.2 The Impact of Gender Differences on the Evaluation of Community Elderly Care Service Quality

In this study, the results of the analysis on the specific project service quality evaluation of all the interviewed samples based on gender differences (Table 4) revealed that the gender differences among the elderly were not significant in terms of the specific project demands for different service categories of community elderly care services. As the elderly grew older, the gender differences in their care needs gradually weakened. This also helps guide community elderly care services to avoid some unnecessary waste of resources in the provision of specific projects.

Table 4 The Impact of Gender Differences on the Evaluation of Different Categories of Service Quality

Service Category	t-test of the mean equation		Mean \pm Standard Deviation	
	<i>T</i>	<i>P</i>	Man	Woman
Meal Service	0.298	0.736	3.87 \pm 0.714	3.79 \pm 0.704
Housekeeping Service	0.315	0.753	3.75 \pm 0.755	3.66 \pm 0.747

Bath Service	-1.347	0.179	3.57±0.497	3.58±0.494
Walking Assistance Service	0.85	0.396	3.91±0.721	3.85±0.746
Purchase Assistance Service	-0.863	0.389	3.82±0.653	3.88±0.703
Emergency Assistance Service	-0.408	0.683	3.39±0.855	3.46±0.827
Medical Assistance Service	-0.757	0.450	3.50±0.714	3.54±0.711
Patrol Service	1.18	0.238	3.13±0.923	3.12±0.866
Nursing Service	-0.767	0.443	3.87±0.712	3.93±0.742
Spiritual Comfort Service	0.075	0.940	3.87±0.865	3.75±0.734

** $P < 0.05$. *** $P < 0.01$

5.2.3 The Impact of Differences in Marital Status on the Evaluation of Community Elderly Care Service Quality

Through the analysis of the evaluation results of specific items of different types of community elderly care services chosen by elderly people with different marital statuses (Table 5), it is found that the differences in the quality evaluation of care services are obvious due to the different marital statuses of the elderly. The quality evaluation scores of married elderly people are lower compared to those of widowed and divorced elderly people. Married elderly people usually take family care as the control group for the evaluation of care service quality and often have higher expectations for various care services, thus having a lower evaluation of the actual perceived service quality; while divorced or widowed elderly people living alone have more urgent needs for care services and are more likely to obtain satisfaction, which is in line with the actual situation of elderly care for the elderly group. Therefore, in community elderly care services, the supply of care services should pay more attention to the care needs of elderly people living alone and strengthen the attention to various care needs of elderly people living alone.

Table 5 The Impact of Differences in Marital Status on Service Quality Evaluation of Different Categories

Service Category	Mean ± Standard Deviation			<i>F</i>
	Married	Widowed	Divorced	
Meal Service	3.79±0.686	3.93±0.769	3.91±0.776	1.041
Housekeeping Service	3.67±0.749	3.74±0.768	3.84±0.745	1.401
Bath Service	3.56±0.498	3.62±0.489	3.65±0.483	0.427
Walking Assistance Service	3.87±0.733	3.60±0.744	3.76±0.734	2.082
Purchase Assistance Service	3.82±0.673	3.73±0.724	3.89±0.664	1.400
Emergency Assistance Service	3.42±0.825	3.45±0.911	3.49±0.856	0.251
Medical Assistance Service	3.52±0.713	3.61±0.728	3.46±0.691	1.381
Patrol Service	3.67±0.894	3.55±0.921	3.38±0.812	2.780
Nursing Service	2.83±0.725	3.14±0.673	3.14±0.723	5.041***
Spiritual Comfort Service	3.77±0.795	3.90±0.875	3.88±0.708	0.971

** $P < 0.05$. *** $P < 0.01$

5.2.4 The Impact of Differences in Economic Income Sources on the Evaluation of Community Elderly Care Service Quality

According to the "Decision of the State Council on Improving the Basic Pension Insurance System for Enterprise Employees" in 2005, China gradually established a multi-level pension insurance system. However, due to the imperfect pension system in the early stage, the number of elderly people who can support their lives with only pension income in today's society is still relatively limited. Even though the residents' urban medical insurance and new rural cooperative medical care have been implemented in recent years and have covered the vast majority of people, they have alleviated a considerable amount of pressure. In third- and fourth-tier cities, there are still a considerable proportion of elderly people who need subsidies from their children or even relatives and friends to maintain a normal life.

Through the analysis of Table 6 on the results of evaluating the quality of community elderly care services based on different sources of economic income, it can be seen that the perception differences of the elderly with different sources of economic income regarding the performance of assistance services for walking and emergency assistance are relatively obvious. With the transformation of social concepts, the idea of "raising children to support the elderly" is gradually weakening, making elderly people face more and more difficulties in all aspects such as clothing, food, housing, and transportation. For services that have significant impacts on physical and mental health and require a large amount of cost expenditure, such as necessary daily care and medical care, even if a certain cost is paid, it will be regarded as a necessary expenditure.

Different income sources do not show significant differences in the selection of such service items. However, for seemingly non-essential expenditures such as travel services, door opening and lock opening, and home appliance repairs that can be solved by oneself or postponed for a while, for elderly people without stable sources of income, they often feel stressed due to economic problems and have relatively high expectations for government and community elderly care services, which will affect their perception and evaluation of the quality of community elderly care services. Thus, "having a place to rely on and being cared for in old age" is not just empty talk or a slogan; it is a real survival issue facing every elderly person. To implement community elderly care services effectively, more subsidies or preferential policies should be given to these types of services to help elderly people improve their quality of life.

Table 6 The Impact of Differences in Economic Income Sources on Service Quality Evaluation of Different Categories

Service Category	Mean \pm Standard Deviation				<i>F</i>
	Pension	Child support	Relatives' and friends' assistance	Other	
Meal Service	3.82 \pm 0.65 9	3.86 \pm 0.714	3.78 \pm 0.739	3.84 \pm 0.77 9	0.353

Housekeeping Service	3.69±0.77 0	3.68±0.751	3.74±0.740	3.72±0.75 1	0.187
Bath Service	3.63±0.48 4	3.53±0.501	3.59±0.494	3.48±0.50 8	0.584
Walking Assistance Service	3.92±0.79 4	3.86±0.727	3.93±0.701	3.52±0.57 0	2.935* *
Purchase Assistance Service	3.89±0.67 3	3.88±0.685	3.77±0.690	3.87±0.67 0	0.529
Emergency Assistance Service	3.69±0.84 1	3.41±0.918	3.53±0.747	3.30±0.67 9	2.325* *
Medical Assistance Service	3.58±0.72 7	3.54±0.696	3.46±0.740	3.42±0.60 7	0.82
Patrol Service	3.19±0.89 7	3.08±0.900	3.08±0.875	3.15±0.90 7	0.394
Nursing Service	3.87±0.73 7	3.97±0.718	3.88±0.747	3.76±0.66 4	1.100
Spiritual Comfort Service	3.97±1.82 6	3.82±1.808	3.69±1.775	3.90±1.58 3	1.38

** $P<0.05$. *** $P<0.01$

5.2.5 The Impact of Differences in Living Arrangements on the Evaluation of Community Elderly Care Service Quality

Through the analysis of the evaluation results of community elderly care service quality based on different living arrangements (Table 7), it is found that the number of elderly people living with relatives and friends is extremely small. Most of them are elderly people of advanced age who are unmarried, widowed, and have no children. They receive the least social support and can only rely on other relatives for care. They have a heavy burden of self-care and seldom accept medical assistance services. Therefore, their perception of the quality of medical assistance services is the lowest.

Based on the survey data, further analysis of the specific demand for medical assistance services reveals that for elderly people with high expectations for family disease beds, it is mainly the elderly who live with their spouses or children. While for those who live with relatives or are alone, they have higher expectations for community hospitals. The demand for medical assistance services among elderly people with different living arrangements is significantly different. Therefore, in community elderly care services, the supply of medical assistance services and the allocation of resources should pay more attention to the medical assistance needs of elderly people with different living arrangements, allocate resources reasonably, and improve the efficiency of service supply.

Table 7 The Impact of Residential Mode Differences on Service Quality Evaluation of Different Categories

Service Category	Mean ± Standard Deviation	<i>F</i>
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	Live with children	Live with spouse	Live with relatives and friends	Live alone	
Meal Service	3.85±0.685	3.78±0.780	3.78±0.765	3.80±0.610	0.193
Housekeeping Service	3.68±0.728	3.75±0.796	3.69±0.811	3.80±0.761	0.358
Bath Service	3.58±0.494	3.59±0.495	3.50±0.506	3.58±0.502	0.341
Walking Assistance Service	3.37±0.726	3.33±0.772	3.50±0.724	3.37±0.718	0.523
Purchase Assistance Service	3.87±0.666	3.81±0.741	3.87±0.687	3.81±0.644	0.173
Emergency Assistance Service	3.46±0.836	3.51±0.840	3.23±0.842	3.24±0.831	1.478
Medical Assistance Service	3.62±0.676	3.57±0.747	3.22±0.852	3.39±0.795	2.698**
Patrol Service	3.67±0.919	3.53±0.804	3.44±0.776	3.71±0.921	1.033
Nursing Service	3.38±0.744	3.42±0.736	3.40±0.597	3.55±0.759	0.515
Spiritual Comfort Service	3.84±0.775	3.70±0.877	3.79±0.597	3.87±0.913	0.564

** $P < 0.05$. *** $P < 0.01$

5.2.6 Impact of Differences in Daily Living Self-care Ability on the Evaluation of Community Elderly Care Service Quality

Through the analysis of the service quality evaluation results of specific community elderly care services for different elderly individuals with varying levels of self-care ability (as shown in Table 8), it was found that the differences in self-care ability among the elderly do not significantly affect the majority of the demands for community elderly care services. Analyzing the reasons, perhaps about 85% of the respondents in this survey were normal or moderately dependent individuals. This also reflects that the main audience group of community elderly care services is still the elderly group with basically healthy physical conditions and strong self-care ability.

The differences in the quality evaluation of emergency assistance services mainly reflect the demand differences between normal or moderately dependent individuals and moderately to severely dependent individuals. Comparatively speaking, there are relatively obvious differences in the specific contents of emergency assistance demands between these two groups of people in daily life. This also suggests that community elderly care services should pay more refined attention to the special needs of different groups in specific practices.

Table 8 The Impact of Differences in Daily Living Self-care Ability on Service Quality Evaluation of Different Categories

Service Category	Mean \pm Standard Deviation				<i>F</i>
	Normal	Mild dependence	Moderate dependence	Severe dependence	
Meal Service	3.81 \pm 0.7 33	3.86 \pm 0.696	3.83 \pm 0.643	3.65 \pm 0.745	0.812
Housekeeping Service	3.69 \pm 0.7 43	3.67 \pm 0.742	3.75 \pm 0.781	3.96 \pm 0.824	1.079
Bath Service	3.57 \pm 0.4 97	3.58 \pm 0.495	3.67 \pm 0.477	3.41 \pm 0.501	0.973
Walking Assistance Service	3.88 \pm 0.7 53	3.87 \pm 0.728	3.91 \pm 0.733	3.84 \pm 0.688	0.704
Purchase Assistance Service	3.84 \pm 0.6 94	3.86 \pm 0.638	3.88 \pm 0.803	3.84 \pm 0.746	0.067
Emergency Assistance Service	3.41 \pm 0.8 45	3.36 \pm 0.837	3.74 \pm 0.751	3.68 \pm 0.839	2.632 **
Medical Assistance Service	3.54 \pm 0.7 23	3.58 \pm 0.694	3.32 \pm 0.627	3.48 \pm 0.838	0.957
Patrol Service	3.34 \pm 0.9 46	3.18 \pm 0.855	3.06 \pm 0.802	3.04 \pm 0.895	1.244
Nursing Service	3.84 \pm 0.7 17	3.97 \pm 0.732	3.87 \pm 0.670	3.93 \pm 0.917	0.586
Spiritual Comfort Service	3.79 \pm 0.8 41	3.85 \pm 0.760	3.81 \pm 0.755	3.95 \pm 0.773	0.647

** $P < 0.05$. *** $P < 0.01$

5.2.7 The Impact of Whether Having Had Major Diseases on the Evaluation of Community Elderly Care Service Quality

Based on the analysis of the results of evaluating the specific service quality of community elderly care by elderly people who had or had not suffered from major diseases or chronic diseases (Table 9), it can be found that the differences in the evaluation of the service quality of specific projects of community elderly care due to having or not having major diseases or chronic diseases among the elderly are significant. Analyzing the reasons, the risk of sudden onset of major diseases or chronic diseases for the elderly who had such diseases is significantly higher than that for the elderly who did not have such diseases. Therefore, the demand and expectation for providing medical assistance and nursing services by the community are higher. In the process of providing medical and nursing services, the supply of community elderly care services should focus on such groups and better ensure that the elderly can enjoy a peaceful old age.

Table 9 The Impact of Whether Having Had Major Illness on Different Categories of Service Quality Evaluation

Service Category	t-test of the mean equation		Mean \pm Standard Deviation	
	<i>T</i>	<i>P</i>	No major diseases or chronic illnesses	Suffering from serious diseases or chronic illnesses
Meal Service	0.879	0.380	3.9 \pm 0.669	3.8 \pm 0.719
Housekeeping Service	-0.910	0.365	3.62 \pm 0.724	3.72 \pm 0.758
Bath Service	0.119	0.905	3.59 \pm 0.495	3.57 \pm 0.496
Walking Assistance Service	-1.053	0.293	3.77 \pm 0.651	3.90 \pm 0.753
Purchase Assistance Service	0.342	0.551	3.92 \pm 0.717	3.84 \pm 0.672
Emergency Assistance Service	0.934	0.351	3.51 \pm 0.840	3.41 \pm 0.839
Medical Assistance Service	-2.535	0.013**	3.33 \pm 0.610	3.57 \pm 0.726
Patrol Service	0.979	0.311	3.21 \pm 0.856	3.10 \pm 0.899
Nursing Service	2.982	0.003***	3.63 \pm 0.716	3.34 \pm 0.720
Spiritual Comfort Service	-0.292	0.77	3.78 \pm 0.833	3.81 \pm 0.784

** $P < 0.05$. *** $P < 0.01$

5.2.8 Impact of Income Level Differences on the Evaluation of Community Elderly Care Service Quality

Through the analysis of the results of evaluating the specific service quality of community elderly care selected by the elderly with different income levels (Table 10), it is found that the differences in the elderly's demand for community elderly care services due to different income levels are not obvious. The reasons for this might be two: First, nearly 80% of the respondents in this survey have a monthly income of less than 3,000 yuan. As they grow older, the expenses for medical care and elderly care will increase year by year. Under the pressure of elderly care, their expectations for elderly care services will not be too high, and they will be content with what they have. Second, with the development of the social economy, different income-level elderly groups have the same aspiration for a good life and are not overly affected by the level of income. This reflects that the supply of community elderly care services should pay more attention to the real needs of the elderly group and avoid unnecessary waste of resources.

Table 10 The Impact of Income Level Differences on Different Categories of Service Quality Evaluation

Service Category	Mean ± Standard Deviation						<i>F</i>
	Below 1000 yuan	1000 - 2000 yuan	2001 - 3000 yuan	3001 - 4000 yuan	4001 - 5000 yuan	Above 5000 yuan	
Meal Service	3.74±0.715	3.88±0.707	3.82±0.690	3.84±0.706	3.65±0.745	3.85±0.732	0.513
Housekeeping Service	3.78±0.777	3.72±0.729	3.58±0.727	3.70±0.805	3.62±0.865	3.71±0.690	0.436
Bath Service	3.63±0.484	3.54±0.499	3.58±0.496	3.61±0.493	3.68±0.478	3.38±0.496	1.43
Walking Assistance Service	3.46±0.751	3.44±0.726	3.07±0.689	3.19±0.733	3.55±0.785	3.46±0.706	1.987
Purchase Assistance Service	3.84±0.719	3.82±0.653	3.91±0.681	3.93±0.778	3.86±0.640	3.89±0.641	0.332
Emergency Assistance Service	3.47±0.824	3.42±0.886	3.52±0.776	3.28±0.877	3.47±0.697	3.33±0.816	0.771
Medical Assistance Service	3.63±0.790	3.57±0.723	3.47±0.684	3.27±0.550	3.38±0.289	3.53±0.640	1.616
Patrol Service	3.65±0.865	3.49±0.893	3.58±0.809	3.95±1.034	3.98±0.915	3.71±0.787	1.868
Nursing Service	3.97±0.701	3.90±0.770	3.81±0.702	3.97±0.696	3.75±0.856	3.94±0.539	0.465
Spiritual Comfort Service	3.81±0.913	3.79±0.730	3.79±0.794	3.86±0.815	3.82±0.842	3.62±0.724	0.617

** $P < 0.05$, *** $P < 0.01$

6. Summary and Discussion

6.1 Summary

According to the "14th Five-Year Plan for National Health" released by the State Council in 2022, it is predicted that by 2035, the average life expectancy of Chinese people will exceed 80 years. The extension of average life expectancy is not only a remarkable achievement of economic and social progress, but also poses more severe challenges to the social elderly care service industry. The physical functions of the elderly continue to decline with age, and their ability to take care of themselves in daily life is also gradually decreasing. Although the number of elderly people in China is huge, currently, the majority are of low age, and it can be foreseen that in the near future, the demand for elderly care by the elderly population will increase sharply, and the performance management of community elderly care services based on the perceived value of "service characteristics" by the elderly group will undoubtedly become a focus of attention.

From the survey results of this study, the individual factors that affect the evaluation of community elderly care service quality mainly include: age, marital status, economic source, living condition, self-care ability, and whether suffering from major diseases or chronic diseases.

The differences in the demand for nursing services among different-aged elderly people are quite obvious. The deterioration of physical condition with age is closely related to this. When providing nursing services in the community, special needs of the elderly in their advanced age should be given more attention.

The perception of nursing service quality varies significantly among elderly people with different marital statuses. Elderly people living alone and divorced or widowed have more urgent demands for nursing services. The supply of nursing services should pay more attention to the nursing needs of elderly people living alone.

The differences in the perception of assistive walking service and emergency assistance service quality vary significantly due to different economic income sources. For these categories of services, more subsidies or preferential policies should be given to help improve the quality of life of the elderly.

The differences in the perception of assistive medical service quality vary significantly among elderly people with different living conditions. Elderly people with higher demands and expectations for family beds are mainly those living with spouses or children. Elderly people living with relatives or alone have higher expectations for community hospitals. The differences in the demand for assistive medical services among elderly people with different living conditions are obvious. Therefore, the supply and resource allocation of assistive medical services in community elderly care services should pay more attention to the assistive medical needs of elderly people with different living conditions, and allocate resources reasonably to improve the efficiency of service supply.

The differences in the perception and evaluation of assistive emergency service quality among elderly people with different levels of self-care ability are quite obvious. The specific contents of assistive emergency service demand of the middle and severe dependent groups are different from those of physically healthy elderly people. This also suggests that community elderly care services should pay more refined attention to the special needs of different groups in specific practices.

Elderly people who have suffered from major diseases or chronic diseases have obvious differences in the perception and evaluation of assistive medical service and nursing service quality. Community elderly care services should pay more attention to such groups when providing medical and nursing services to better ensure that the elderly can enjoy the benefits of social progress in their old age.

The above findings provide useful inspirations for the further development of community elderly care services: When designing community elderly care service projects, it is necessary to take into account the different needs generated by individual differences among the elderly and provide diversified community elderly care services tailored to the individual characteristics of the elderly. In addition, the differences in the demand for specific projects of different categories of community elderly care services among elderly people due to gender and income level are not obvious. This is consistent with the current overall improvement of social economic levels and the enhancement of cultural confidence, and the aspiration of the broad masses of people for a better life. The supply of community elderly care services should also treat every elderly person equally and let every elderly person enjoy the dividends of social progress in this era. At the same time, it also helps to guide community elderly care services to avoid unnecessary waste of resources in specific project provision.

6.2 Discussion

With the growing prominence of the aging problem and the increasing government investment in Community-based elderly services, the study of the performance of Community-based elderly services will become a major topic of general concern in the management field. Through the empirical analysis of the third- and fourth-tier cities in the central region, this study has formed some research conclusions with reference value, but there are still some limitations and shortcomings, which require further in-depth research.

Firstly, in terms of questionnaire design, since 10 different service items were surveyed at one time, the content of the questionnaire design is relatively large in total, but it also weakens the richness of the measurement of individual dimensions in specific service categories. During the investigation, it is possible that the elderly may affect the collection of real data due to impatience, which may to some extent affect the quality of the data.

Secondly, due to the limitations of various resources, the sampling and selection of sample numbers in the questionnaire survey are also subject to certain restrictions. Only one elderly group receiving community elderly care services in a city is selected for investigation, resulting in an unbalanced random sample distribution and the obtained measurement results may not be precise enough.

In the future, by combining China's requirements for actively responding to population aging and developing elderly care undertakings, we can continuously expand the research methods and ideas, optimize the model structure, and promote the scientific and reasonable development of community elderly care service performance evaluation methods.

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