

Research on the Construction of Pastoral Elderly Care Communities from the Perspective of Healthy Aging

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ABSTRACT

Aging and urbanization are two major population problems facing the world today. Since the beginning of the 21st century, China has stepped into an aging society, and the pace of urbanization is accelerating. Cities are not only responsible for the country's success in the global competition, but also the main driving force of national economic growth. However, as the main area of population accumulation, the severity of aging is particularly prominent. Therefore, it is very important to solve the problem of urban population aging for the development of cities and the future development of the country. Based on China's special aging development trend and the country's future macroeconomic development strategy, the construction of rural elderly care community has become a solution with multiple benefits. This study constructs the design framework of the five dimensions of the sustainable development design concept, site selection and layout, function and zoning, living space and leisure activity space of the pastoral elderly care community, hoping to build the pastoral elderly care community according to local conditions, actively respond to population aging, and provide a replicable implementation path for solving the pension dilemma of the megalopolis.

KEYWORDS

Urbanization; Population aging; Pastoral pension; Urban Rural Coordinated Development

1. INTRODUCTION

China's urbanization and population distribution have obvious regional differences. Due to its superior geographical location and more developed economy, the eastern coastal areas have formed densely populated urban agglomerations, such as the Yangtze River Delta, the Pearl River Delta and the Beijing Tianjin Tangshan urban agglomerations, accounting for 5% of China's land area and contributing 42.2% of gdp [1]. The economy in the central and western regions is underdeveloped, the population aging development is slow, and the population distribution is relatively scattered. When more and more cities with large population density enter the aging stage, the demographic dividend that has made China move forward rapidly has become a burden for the government and even the whole country. However, in order for major cities in China to continue to have the ability to promote economic growth, major cities must constantly absorb new talents and labor to support urban development. This confluence with aging has formed the "paradox of population density", and urban agglomeration, as the advanced form of urban development, has formed a centralized center in population, labor force and retirement. How to solve the imbalance between "population aging" and "urbanization" is directly related to the sustainable development of major cities in China.

According to the spatial agglomeration of China's urbanized population and the characteristics of aging, this paper carries out the organic integration of urban and rural facilities in its densely distributed rural areas, focuses on the rural communities where the population has moved out, and

carries out the design of pastoral communities combined with the principle of sustainable development, so as to create an ideal living place for the aging population cities with orderly and alienated population, in order to build a comfortable and livable living space for the elderly and effectively alleviate the problem of urban pension; The overall utilization of resources in urban and rural areas will promote the coordinated development of regional economy, and make the elderly care services of the elderly population glow with new vitality.

2. ANALYSIS OF THE CURRENT SITUATION AT HOME AND ABROAD

(1) Research status abroad

Foreign research on pastoral care for the elderly began in Europe and America. By studying the relationship between the natural environment and human health care for the elderly, in the United States, the research team of the University of Michigan selected healthy care for the elderly to conduct a five-year follow-up study, and came to the conclusion that the elderly living and living in rural communities for the elderly have a 28% lower risk of Alzheimer's disease than those living in cities. This result verifies the positive role of pastoral care for the elderly in preventing the elderly from getting sick; In Germany, the city of Freiburg organically integrates the elderly care apartments and family farms, making the elderly care group "intergenerational living together" reflect the diversity of pastoral elderly care. From the above case study in Germany, it can be found that the control rate of depression of the elderly participating in the project is as high as 33%, reflecting the multiple positive effects of rural pension on physical and mental health. In addition, in Asia, South Korea, Japan and other countries, the main body of research is the combination of traditional culture and modern pension mode. For example, Nagano Prefecture, Japan, in the case study of exploring the pastoral pension mode, found that the chronic pain symptoms of the elderly participating in the project can be reduced by 40% by transforming the traditional courtyard farming activities into pension rehabilitation courses for the purpose of improving health.

(2) Domestic research status

On the basis of the research on the pastoral pension theory, many new pension models have emerged in China. For example, the combination of medical care and pension, pastoral pension, sojourn pension, rural pension resort, etc. On the one hand, the emergence of these new pension models has increased the practical significance of the pastoral pension model, provided an effective way for all regions to explore the pastoral pension model, and deepened the understanding of the connotation and extension of the pastoral pension model; On the other hand, the introduction of pastoral scenery into the elderly care environment has become one of the more acceptable elderly care models in the market. Among them, Fanjing Mountain health Valley in Tongren City, Guizhou Province has become an integrated pension base with pastoral scenery, entertainment, vacation and pension by virtue of mountain, forest and Chinese herbal medicine health preservation; The Tianfu Yiyuan garden in Chongzhou City, Chengdu, has complete facilities and equipment. At the same time, it combines medical care with nursing care. The elderly living in the garden have land in their hands, so they can grow some vegetables and fruits to eat and take care of themselves. Among them, Fanjing Mountain health Valley (operation period 2018-2023) has received 127000 elderly people, with a bed utilization rate of more than 85%. Tianfu Yiyuan has 200 mu of ecological farms with supporting facilities. The self-sufficiency rate of fruits and vegetables is 63%, and the annual per capita medical expenditure has decreased by 4200 yuan. These practical results also prove that the concept of pastoral pension has taken root, which has reference and innovative significance for the development of pension in China.

3. THE DESIGN CONCEPT OF PASTORAL PENSION COMMUNITY

Because of its beautiful natural environment and rich pastoral atmosphere, the pastoral pension model has become an ideal choice for a large number of elderly people in recent years. However, under the situation that the urban-rural dual structure is difficult to break the structural dilemma, China's rural pension system is relatively backward, the pension facilities are insufficient, and the pension resources have great difficulties in capital investment, site, personnel and other aspects [2]. Therefore, the functional design of the pastoral elderly care community should adopt a gradual general idea, and design a three-stage spatial transformation mechanism of "self-care, assistance and care", so as to meet the different functional needs of the whole elderly care cycle and achieve sustainable development.

(1) Elastic space reservation under the transition from self-care to intermediary assistance

The original service group of the pastoral elderly care community is the self-care elderly group. During this period, the elderly were healthy and had strong activity ability, so the key functions considered in the design should be the elderly's daily activities and daily rest places. However, with the passage of time, the initial service group will gradually change to the assistance type, and the physical health and action ability of the elderly may change at this time. Therefore, certain flexibility can be reserved in the form of architectural space and spatial layout in the design, that is, considering that the architectural space and spatial layout form should have certain variability to meet the new needs of the elderly.

(2) Modular design and multifunctional layout optimization

The pastoral pension community building should have spatial flexibility. Standardized and modular design can be adopted, and the living unit can be expanded or transformed according to the needs; Light partition wall can also be used to facilitate space change in the future; The design of multifunctional public space can be used to meet the needs of the elderly; A certain amount of elastic space can be reserved in the overall architectural layout to adapt to the layout of some new functional spaces in later buildings.

(3) Concept of sustainable development

The design of pastoral elderly care community also needs to pay attention to resource utilization, so as to achieve sustainable development. Use energy-saving building technology to save energy, and widely use renewable energy such as solar energy and wind energy in the design to provide green energy for the community. The rural ecological environment should be considered in the functional design, and the green belt and ecological wetland should be used to reduce the damage to the natural environment; Or set up garbage collection and classification facilities in the community to realize recycling.

4. IMPLEMENTATION PLAN FOR THE CONSTRUCTION OF PASTORAL ELDERLY CARE COMMUNITY

(1) Location and layout of elderly care community

The "elderly subject and guest" of the rural elderly care project refers to the elderly living in the city where they move out. According to the living characteristics of "elderly subject and guest", the elderly can be divided into long-term settlement type, seasonal migration type (presented as migratory bird type pension) and short-term experience type pension groups. According to the mobility characteristics of the "elderly host guest", the project selection needs to consider the convenience of transportation, such as the traffic and investment stations in the adjacent area, the convenient passage of the main roads, the emergency rescue life passage, etc., so as to reduce the fatigue of going back and forth, facilitate the family and relatives to visit, and facilitate the timely rescue of sudden diseases.

The area selected for the project should also have a good ecological environment, such as fresh air, clear water, fresh green space, etc.

According to the scale of land use and functional requirements, the layout mode of rural elderly care community mainly forms three typical forms: The centralized layout responds to the limited land with intensive design, and integrates public service modules such as medical treatment and entertainment through comprehensive buildings. Its advantages lie in efficient management and full utilization of resources, but space intensification is easy to weaken the pastoral experience, which is more suitable for the elderly who need high-frequency care. The decentralized layout relies on the open space, and the building units are naturally embedded in the pastoral texture to retain the local flavor to the greatest extent. The scattered buildings create an immersive natural living atmosphere, but the management problems caused by the scattered service facilities are more prominent, which is suitable for the energetic elderly who pursue pastoral interest. The combined layout innovation adopts the "core+satellite" structure, radiates the surrounding independent residential units with the central service area as the hub, and takes into account the service convenience and environmental integration. Although this flexible mode can balance function and experience, it has high requirements for planning, design and operation management, and needs to accurately control the spatial scale and service radius. The essence of the three modes is the game between service efficiency and natural experience: centralized mode strengthens functionality but weakens ecology, decentralized mode on the contrary, combined mode tries to build dynamic balance. The core of the design is to find a suitable critical point between institutional management and local continuity according to the characteristics of the elderly group and site conditions.

(2) Function and zoning design of elderly care community

From the perspective of site conditions, the functional zoning design of the pastoral elderly care community should be adapted to local conditions. While making good use of the natural resources on the terrain, it should make rational use of the terrain and topography, carry out multi building layout, protect the natural landscape, and form a spatial level at the same time; The use of terrain elevation difference, water body and artificial waterscape to design hydrophilic platforms or waterfront footpaths will increase the opportunities for the elderly to get close to nature. From the perspective of the shape and scale of the group, the functional zoning design of the pastoral elderly care community should be flexible and diverse, and different types of group forms can be divided according to the requirements of the elderly. For example, the multi family group composed of oneortwo households can not only maintain privacy but also facilitate the formation of neighborhood exchanges, but also form a unified scale comprehensive residential group through multiple groups, and centrally set up various service facilities. From the perspective of sunshine, the functional zoning design of pastoral elderly care community should appropriately optimize the sunshine environment and improve the comfort of living, such as arranging various main activity spaces in the south, maximizing the use of natural lighting functions, and reasonably planting shading facilities or green belts. In terms of service and communication mode, the functional zoning design of the pastoral elderly care community should be people-oriented, pay attention to human care while taking into account human-computer efficacy, and design free and flexible public activity space to facilitate the elderly to spontaneously organize various activities; At the same time, make full use of the intelligent management system, people-oriented, and design personalized services. The functional zoning design of rural elderly care community should avoid going to the extreme of "Hotel" and "hospital". Hotel style design is easy to be rigid and single, without personality, and hospital style design will easily produce a depressing atmosphere. From this point of view, designers should achieve a balance between function and emotion, and build a fully functional and warm elderly care community through natural elements, variable space and humanized services.

(3) Living space design

The excessive protection of the elderly in contemporary society may weaken their self-efficacy and make the elderly fall into the dilemma of "protective dependence". In response to this phenomenon, through space design innovation, the pastoral elderly care community not only meets the needs of basic care, but also strives to rebuild the elderly's life autonomy. Its living space mainly presents two forms. The centralized residential unit breaks through the institutional characteristics of the traditional pension apartment and reconstructs the spatial logic of "home". On the basis of standard bedrooms and toilets, a living room is added to form a public communication hub, the kitchen space retains the right of cooking autonomy, and the balcony is used as a natural interface to extend the life scene. This design enables the elderly to maintain a personalized pace of life in the group life through functional compounding, forming a new mode of "living alone in the group". Decentralized courtyards reconstruct the rural residential prototype, and establish a three-level space sequence with courtyards as the core: indoor space ensures the privacy of life, gray spaces such as podium and veranda serve as buffer zones, and outdoor courtyards form a living theater with natural infiltration through cultivable vegetable gardens and recreational pavilions. This spatial pattern not only continues the local memory, but also creates an opportunity for neighborhood interaction, so that the elderly can rebuild social connection in a familiar environment.

(4) Leisure space design

The leisure activity space design of the pastoral elderly care community is an indoor and outdoor integrated leisure activity space based on the concept of space multi angle combination. Social participation is the premise for the elderly to realize their own value [4]. As one of the main contents of the pastoral elderly care community, leisure activity space is very important to enhance the social participation of the elderly and promote their physical and mental health and social interaction. Considering the difference between centralized layout and decentralized layout, the design of leisure activity space should follow the principle of rational and people-oriented, the functional place should be combined with emotional place, and the pastoral rural atmosphere should be fully considered to meet the needs of the elderly.

The centralized layout adopts the strategy of "dynamic and static zoning+scene implantation": the indoor space builds multiple activity scenes through open gradients. The whole open area is equipped with fitness equipment and dance venues to strengthen physical interaction; Hand workshops and chess corners are set up in the semi enclosed area to promote cognitive collaboration; A soundproof book bar and meditation room are built in the quiet area to meet the spiritual needs. The outdoor space reconstructs the value chain through the farming theater, connecting the traditional farm tools display area with the participating vegetable garden and fish pond, so that the productive landscape can be transformed into the field of ability certification, and the elderly regain their sense of self-efficacy in farming practice. The decentralized layout relies on the mechanism of "courtyard ecology+natural infiltration": each courtyard forms a miniature pastoral system, and the vegetable garden and breeding area form a catalyst to stimulate the elderly's sense of responsibility for caring for their lives; The tea mat and reading corner under the cane frame transform the rest behavior into a natural healing process. The public open belt strengthens the community connection through pastoral narration, and forms a resident social network node by connecting the pavilion, flower field and waterscape with a winding path. The embedded design of sun shading facilities and elderly seats ensures the barrier free participation of the elderly [5].

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