
| RESEARCH ARTICLE

How Will Our Retirement Life Be? An Analysis of Elderly Care through the Lens of the Forest Therapy Industry

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| ABSTRACT

With the development of the social economy and the arrival of the aging era, the issue of elderly care has increasingly gained social attention. This matter not only concerns the personal interests of individuals but also represents a significant focal point in the construction of social welfare systems, influencing the development direction of multiple industries. As the elderly population continues to grow, there is a pressing need for innovative and sustainable care solutions. Among the diverse elderly care models, the forest therapy industry emerges as a new direction, providing seniors with a comfortable natural environment that promotes physical and mental health. This approach not only enhances the well-being of older adults but also serves as an important avenue for rational and sustainable development through the utilization of forest ecological products. This paper explores the connection between elderly care models and the forest therapy industry, offering insights into the current state and future development of the Chinese elderly care sector. By examining the benefits of integrating forest therapy into existing care frameworks, this study aims to provide practical recommendations. It is hoped that these insights will serve as a reference for stakeholders in the Chinese elderly care industry, promoting the positive role of forest therapy in optimizing and enhancing elderly care models for a healthier, happier aging population.

| KEYWORDS

Elderly care industry, Forest therapy, Diverse elderly care models, Aging population, Sustainable elderly care

| ARTICLE INFORMATION

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1. Introduction

1.1 Research Background

Population ageing represents an objective trend in the evolution of human society, and the provision of elder care is a social reality that China must confront as it progressively transitions into an ageing society. The "National Plan for the Development of the Elderly Career and Pension Service System for the Fourteenth Five-Year Plan," issued by the State Council of China, underscores the significant size of the elderly population, the rapid pace of ageing, and the evolving nature of the needs of older adults, which are shifting from mere subsistence to developmental support. This transformation renders the establishment of a robust elder care profession and pension system increasingly critical and urgent, posing a considerable challenge. To effectively address this issue, it is essential for society to actively engage with the national strategy on population ageing. There is an urgent need to expedite improvements in social security, elder care services, and health support systems. Furthermore, continuous advancements must be made in five key areas: providing nourishment, ensuring medical care, offering meaningful activities, fostering a sense of belonging, and cultivating joy among the elderly. By doing so, we can ensure that older adults reap the benefits of reform and development, thereby enhancing their quality of life in their later years.

1.2 Literature Review

Forest therapy, or “forest bathing,” involves visiting forests or engaging in therapeutic activities in natural settings to enhance health and well-being (Li, 2013; Park et al., 2007). The Yuping Mountain Declaration, presented at China’s first annual conference on forest recreation, defines it as a service that promotes physical and mental health while extending life. This view highlights the unique benefits of forests, including rich ecological landscapes, nutritious resources, and cultural elements, and integrates traditional Chinese medicine principles focused on wellness, supported by suitable health and leisure facilities. Forest recreation includes holidays, convalescence, health care, and elder care, all contributing to enhanced well-being (Wu et al., 2018). The Declaration stresses the vital role of forests in health promotion and their synergy with Chinese medicine for comprehensive care, addressing urgent needs in the elder care sector, and exemplifying high-quality elderly care.

Recent research shows that forest recreation positively impacts the elderly, mitigating cognitive, psychological, and physical risks associated with dementia in at-risk older adults, indicating its potential as a preventive measure (Lim et al., 2021). It also improves blood pressure, reduces cortisol levels, and enhances the quality of life in hypertensive patients, proving valuable for stress management and overall well-being (Sung et al., 2012). Additionally, time spent in nature boosts immune function, increasing resistance to infections (Chae et al., 2021). Activities like walking, meditation, and social interaction in forest settings promote physical health while fostering mental clarity and emotional resilience, demonstrating that forest recreation can alleviate common geriatric conditions such as anxiety, depression, and chronic pain.

1.3 Problem Statement and Objectives

Based on our research, we believe that forest therapy aligns with holistic health care principles and is a valuable part of the emerging elderly care industry. Integrating forest recreation into elderly care plans can provide significant therapeutic benefits, improve quality of life, and reduce medical costs, highlighting its growth potential. However, the forest therapy industry in China is still in its early stages. Taiwan Province began research in the 1980s, but the concept was only officially introduced in mainland China in 2012 (Zhang et al., 2020). The increasing demand for elderly care due to a rising aging population has driven further development in related sectors. This study aims to explore how to enhance the role of forest therapy in China’s current elderly care model by analyzing the development status of both industries and their interconnections.

2. Current Status of Forest Therapy Industry Development

2.1 Development History of Forest Therapy

The pioneering establishment of the world’s first forest bathing base in the German town of Baden-Willischöhein marks a seminal moment in the evolution of this practice. In 1982, Japan’s Forestry and Wildlife Agency pioneeringly advocated the incorporation of forest bathing into a healthy lifestyle, foreshadowing the formal introduction of the concept of forest therapy in 2006. Parallely, Korea and Taiwan developed distinct concepts centered on forest rest and recuperation, further enriching the landscape of forest-based wellness initiatives.

The 21st century has witnessed a remarkable global surge in forest recreation, with the concept evolving into a more nuanced and comprehensive framework. Konu has introduced an innovative approach to developing forest recreation products, leveraging virtual products and tailoring these offerings to the diverse needs of different population groups, including tourists. Finland’s forest therapy tourism stands as a testament to this trend, with the design of its services tailored to meet the specific requirements of Japanese visitors (Wu et al., 2018).

The diversified forest therapy methods that have emerged in the 21st century, fueled by their rapid pace of development, not only signify the immense potential of this sector but also represent a burgeoning healing modality sought after by those aspiring for a higher quality of life. Furthermore, the comparatively low cost of participation and the often superior outcomes achieved have rendered forest recreation increasingly popular, garnering widespread acclaim and adoption among diverse populations.

2.2 Forest Therapy in China

Forest therapy, as an integral component of the burgeoning big health industry (Sun, 2015), enjoys a promising development trajectory in China, exhibiting a robust momentum of growth. Since 2013, China has promulgated a series of policies aimed at fostering the development of the health service industry, accelerating the senior care service sector, and promoting the reform and advancement of the tourism industry. These initiatives have provided a solid policy foundation and charted a clear course for the expansion of both the health service and recreation sectors (Wu et al., 2018). Currently, China is vigorously propelling the rural leisure and tourism industry forward, harnessing innovative models such as “Tourism +” and “Ecology +” to foster deep integration between the primary industries (agriculture and forestry) and tertiary industries (services) like tourism, education, culture, and recreation. This integration aims to elevate the standards of public service facilities for leisure agriculture, rural tourism, and forest therapy.

Forest recreation encompasses three interrelated aspects: forest medicine, forest healing, and forest health care, each elucidating the therapeutic potential and scope of this practice. Forest medicine delves into the therapeutic, rehabilitative, healthcare, and recuperative effects of the forest on the human body from a medical perspective. Forest health care, an alternative treatment approach, harnesses the forest environment while augmenting other necessary therapies and human interventions, enabling individuals to achieve disease prevention, stress reduction, rehabilitation, and health enhancement amidst the joys and pleasures of the forest. Forest permaculture, a unique tourism modality, invites tourists to engage in sustainable agricultural practices within suitable forest areas, fostering both mental relaxation and physical well-being (Wu et al., 2018). These three dimensions are complementary and have broad applicability, catering to the recreational and healthcare needs of a diverse range of individuals. Wu et al. (2019) conducted a comparative study on hypertensive patients in Zhejiang Province using forest therapy, examining its impact on blood pressure. The results indicated that forest environments help lower blood pressure, improve mood, and enhance antioxidant activity, benefiting the health of hypertensive patients, especially among the elderly. Similarly, Liu et al. (2021) studied the relationship between adolescent mental health and forest environments, finding that moderate walking in forests can regulate mental health. The same applies to the elderly; appropriate walking is beneficial for their physical health, and the forest environment can enhance their happiness and well-being on a psychological level.

In China, forest therapy is developing rapidly, gradually establishing comprehensive service facilities and systems. Guided by scientific research and theory, it integrates natural ecological environments, cultural contexts, and well-developed infrastructure with scientific health activities and comfortable recreational services, meeting people's increasing pursuit of quality of life.

3. Diverse Elderly Care Models and Forest Therapy

3.1 Reasons for the Emergence of a Pluralistic Model of Aging

During the Thirteenth Five-Year Plan period, China saw rapid progress in elder care and the development of its elderly service system. The country improved policies and regulations related to aging, strengthened mechanisms for protecting the rights of the elderly, and enhanced preferential treatment policies. The regulatory framework for elderly services became more robust. Diversified social security measures have built confidence among the elderly, with expanded basic social insurance and improved pension benefits for retirees and residents. Long-term care insurance pilot programs are advancing, exploring frameworks, standards, and management methods, while commercial pension and health insurance are gaining traction.

The elderly care system is continually improving, with the number of care facilities rising from 116,000 to 329,000 and available beds increasing from 6.727 million to 8.21 million (Figure 1 and Figure 2). Governments have promoted public elderly care institutions, supported those in financial hardship, and established care systems for elderly individuals in rural areas. Home-based community care is developing rapidly alongside institutional services, with effective initiatives for universal elderly care. By 2020, life expectancy rose to 77.9 years, and individuals aged 65 and above receive free health management services at primary healthcare institutions.

The elder care sector is accelerating, with more educational institutions and enriched cultural life for the elderly, promoting their active participation in community governance and initiatives. Efforts to create livable environments and protect the rights of the elderly are ongoing, alongside rapid transformation in industries catering to them, driven by technological advancements. The integration of new industries—such as education, culture, health, and travel—has become increasingly mainstream. Various modes of elder care are being widely explored and implemented by the public.

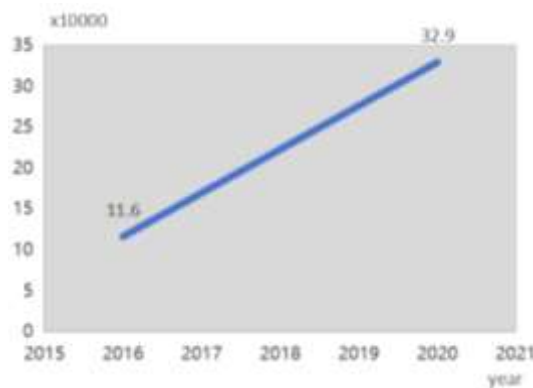


Figure 1: Changes in the number of institutions and facilities for the elderly during the thirteenth five-year period

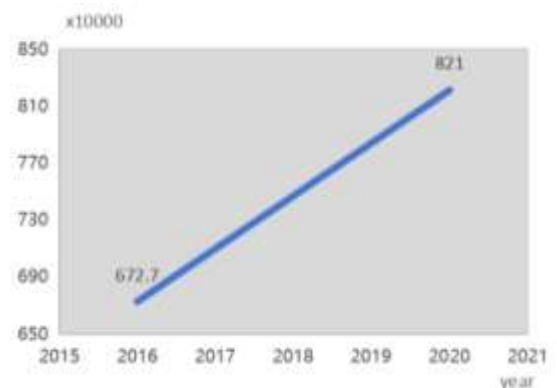


Figure 2: Changes in the number of beds for the elderly during the thirteenth five-year period

3.2 Sojourn Elderly Care Model

The sojourn elderly care model has emerged as the trendiest among new elderly care options in recent years. As society evolves, the overall social welfare system—especially the pension framework—has gradually improved, providing the elderly with alternatives to traditional retirement. Recent retirees tend to be better educated, more adept at using the Internet and high-tech products and exhibit greater energy and independence concerning their finances, hobbies, and lifestyles (Liu, 2020). They seek a dignified and fulfilling old age marked by enriching experiences, particularly in the early stages of retirement when they enjoy better mobility and abundant energy. Increasingly, elderly individuals are choosing a migratory lifestyle, traveling between two or more cities. In China, for example, many seniors head to Hainan Province, a tropical region, to enjoy a warm winter, much like how people worldwide visit Hawaii during the Christmas holidays. By residing in multiple locations, seniors can fulfill their needs for favorable climates, cultural engagement, and entertainment. Additionally, traveling encourages physical activity and contributes positively to their overall health.

Forests, the most remarkable terrestrial ecosystems, offer cooler temperatures in summer, making them desirable summer retreats in China. Forest recreation, as a significant component of the forest service industry, represents a promising aspect of the future travel and retirement sector. It provides the elderly with opportunities for relaxation and enjoyment while also enabling quality time with their descendants. Moreover, forests offer children space for recreation and opportunities for nature education during their summer breaks. Forest recreation services cater to the needs of both the elderly and children, providing a contemporary model that fulfills familial requirements while addressing both material and spiritual needs.

3.3 Community Home-Based Care Model

The Community Home-Based Care Model is a regional social welfare service for the elderly, organized at the community level. It has become the most popular elderly care model today, as it effectively combines traditional home-based care with community services. This model is particularly prevalent in East Asia, especially in China, where community-based aging is the primary approach to elderly care. China's 14th Five-Year Plan emphasizes the development of universal elderly care services, with a significant focus on enhancing the supporting infrastructure for community-based elderly care. The community environment plays a crucial role as a key indicator and supportive facility for aging in place. To ensure a high quality of life for older adults, it is essential that they have access to a conducive natural environment, a vibrant cultural atmosphere, and facilities for sports and fitness.

Forests provide an excellent natural foundation that, with appropriate renovation and development, can be transformed into valuable cultural and fitness venues. Urban areas cannot thrive without greenery, and localized forests can be integrated into the broader framework of urban forestry. In a broader sense, forest recreation encompasses activities and processes aimed at maintaining, preserving, and restoring human health through interaction with forests and their environments. The remaining natural or artificially created forests within communities can serve this vital role of promoting and sustaining health. Consequently, forest recreation is an integral aspect of community care, contributing to the supporting facilities necessary for effective community-based aging.

3.4 Smart Elderly Care Model

The Smart Elderly Care Model results from the integration of elderly care and high technology, utilizing innovative solutions to meet the diverse needs of seniors. In 2012, the Life Trust in the United Kingdom officially introduced the concept of "intelligent aging." Following this, Zuo (2024) China pioneered the idea of intelligent aging, emphasizing the use of information technology and modern scientific advancements to enhance elderly life services and management. This approach aims to elevate the quality of life for seniors while harnessing their wisdom and experiences, fostering a happier, more dignified, and fulfilling life. By improving their quality of life and effectively utilizing their accumulated knowledge and expertise, this model enhances the overall value of their golden years.

Smart elderly care is a needs-driven paradigm that leverages a smart elderly care platform as its cornerstone. It facilitates the seamless connection between supply and demand, aggregating diverse elderly care service resources and linking seniors, caregivers, service providers, and government agencies. This integrated system maximizes the efficacy of social support mechanisms (Liang et al., 2022).

The wisdom embedded in intelligent aging ought to permeate all facets of the aging experience, particularly the choice of aging environments. Numerous longevity zones exist globally, attracting elderly individuals who aspire to extend their lifespan. Wu et al.'s (2022) research underscores that these regions exhibit significantly lower standardized incidence rates of malignant tumors compared to national and global averages, indicating a potential environmental factor contributing to reduced disease incidence and enhanced longevity. However, given the limited capacity of these longevity areas, not all seniors can reside there. Consequently, intelligent aging endeavors to replicate these benefits by investigating the environment's influence on longevity

and adopting strategies to select and modify environments to create more elder-friendly habitats conducive to longevity and happiness.

Forests, intimately tied to the environments of longevity regions, have garnered substantial research attention, particularly in the context of forest recreation, which originated from the German concept of forest bathing in the 20th century. These studies have consistently highlighted the myriad health benefits offered by forest environments. As such, forest recreation and intelligent aging intersect, presenting a novel aging paradigm that integrates nature's healing powers with technological advancements.

4. The Organic Integration of Forest Therapy and Elderly Care

Elderly care can be divided into two stages: the first stage is characterized by the ability to engage in independent activities and care for oneself, while the second stage, influenced by physical conditions, requires assistance and care from others for daily living. Seniors in these two stages have different needs, and forest therapy can effectively meet these varying requirements by providing appropriate services. The first stage, based on the seniors' activity levels and lifestyles, can be further subdivided into early and mid-stages, while the second stage is referred to as the later stage (Figure 3).

4.1 Early Stage of Elderly Care

In the early stages, older adults are often energetic and frequently enjoy traveling, participating in leisure activities, and trying new things. Due to their relatively good health, their demand for medical services is relatively low, making travel-based retirement a common choice. Forests, being easily accessible destinations, have become popular for hiking and ecotourism. From the perspective of the forest health industry, forest therapy differs from traditional forest tourism because it must be based on scientific health knowledge. Here is an example: a study on forest therapy conducted with Japanese women averaging 62 years old found that forest therapy can significantly impact physiological aspects, such as reducing salivary cortisol levels, as well as positively affecting mental health by increasing positive emotions and decreasing negative emotions (Ochiai et al., 2015). This exemplifies the comprehensive and successful effects that effective forest wellness programs should achieve.

To build effective forest wellness programs, it is essential to be guided by scientific health theories and knowledge, with the aim of promoting physical and mental well-being. To better serve older adults, it is necessary to have specialized personnel to convey these health theories and knowledge, providing guidance for their wellness activities, thereby making forest therapy more effectively meet the needs of older adults. A comprehensive forest wellness approach should encompass five aspects: physical health, mental health, character development, intellectual stimulation, and moral cultivation, ensuring that older adults can maintain and restore their physical and mental health while enjoying the benefits of forest bathing, ultimately gaining happiness and fulfillment.

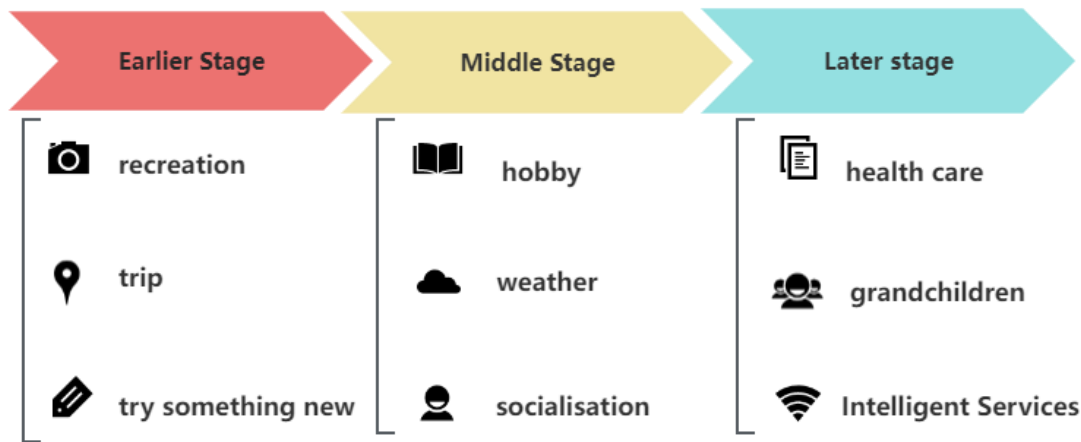


Figure 3: Different Stages of Elderly Care Needs

4.2 Middle Stage of Elderly Care

In the mid-stage, seniors begin to choose to settle down or limit their activities to only a few cities. During this period, forests can serve as venues for their daily activities. By engaging in activities such as plant essence baths, anion breathing experiences, forest meditation, and leisurely walks in the woods, seniors can relax while cultivating hobbies (especially in sports) and enjoying a

comfortable social environment that meets their daily activity needs. Seniors place great importance on the establishment of these long-term daily habits, as they may significantly influence their living conditions over the next 10 to 20 years.

A study on elderly individuals living alone participating in urban forest therapy programs found that natural interventions can help prevent Alzheimer's disease to some extent (Lee & Son, 2018). The forest wellness industry can effectively provide the natural environmental facilities that are currently lacking in community-based home care. By regularly organizing systematic activities, the psychological needs of seniors for a stable and healthy lifestyle can be well satisfied, and the costs remain relatively low. This integration of forest therapy and community care is both economical and comfortable, aligning with the needs of elderly individuals in China.

4.3 Later Stage of Elderly Care

In the later stage of elderly care, aging and illness increasingly impact seniors' lives, leading to a growing demand for medical and nursing care. Physical limitations often cause pain, making it difficult for seniors to go outside. They seek comfort, companionship, and medical support, all of which align well with the benefits of forest therapy. Forest therapy is particularly appealing to the elderly due to its therapeutic functions. A South Korean study found that it can significantly improve immune function, reduce pain and depression, and enhance health-related quality of life (Han et al., 2016). It provides a comfortable environment for recuperation and can accommodate diverse needs, allowing family members to accompany seniors. The integration of medical care and wellness will be a key aspect of forest therapy during this period.

The "14th Five-Year Plan" highlights the importance of health education and preventive care for the elderly, with traditional Chinese medicine playing a crucial role in managing geriatric and chronic diseases. China values ecological protection and restoration, emphasizing the sustainable use of forest resources. Forest therapy exemplifies this approach and explores new models in elderly care that align with national priorities. As we enter an era of intelligence, the forest therapy and elderly care sectors must evolve. Innovations like customized smart care solutions, telemedicine integration with traditional practices, and the application of forest therapy alongside nursing will enhance seniors' quality of life and extend their lifespan.

5. Conclusion

As social and economic development accelerates and we enter an aging era, elderly care is gaining significant attention. This issue affects individuals personally and is a critical aspect of social welfare systems, influencing various industries. By 2035, China's elderly population is expected to exceed 400 million, driving a substantial demand for diverse elderly care solutions. Forest therapy emerges as a promising model within this context, reflecting both economic development and improved living standards. It offers seniors a healing natural environment that promotes physical and mental health while ensuring the sustainable use of forest resources. Through forest therapy, seniors can enhance their well-being and immune function.

Integrating forest therapy with other elderly care models underscores ecological value and contributes to a healthier society. As awareness grows, the range of elderly care services will expand, enriching seniors' lives and facilitating a fulfilling retirement. Current models, such as travel-based, community home-based, and smart elderly care, can effectively incorporate forest therapy, enhancing health recuperation activities and personalized services. By advancing China's elderly care planning, comprehensive and humane services can better meet seniors' needs while promoting the sustainable development of the elderly care industry. Future efforts should focus on advocating for forest therapy, encouraging family and institutional participation, and collaborating with research institutions to deepen our understanding of its health benefits. This approach will improve older adults' quality of life and foster a harmonious relationship between humans and nature.

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