

Research Hotspots and Trends of Gerontological Social Work in China

-- A Visual Analysis Based on CiteSpace

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Abstract: With the deepening of aging in China, gerontological social work has gradually attracted the attention of the academic community. This study used CiteSpace knowledge mapping software to conduct a visual analysis of 550 papers on gerontological social work research in China from 2004 to 2024. The results show that as the field of gerontological social work research continues to be refined, a core group of researchers centered around Lin Shizhu has gradually emerged, as well as a research institution centered around Changchun University of Technology. However, a stable core group of authors has not yet been formed, and universities remain the core force in gerontological social work research. Based on the changes in the number of publications and hot topics in different periods, the research on gerontological social work in China can be divided into three stages: the initial development period of gerontological social work triggered by the increasing demand for community services(2004–2008), the rapid growth period of gerontological social work(2008–2018),and the decline period after the peak(2018–present). As more and more scholars pay attention to gerontological social work, there are still some problems in the current research, such as insufficiently detailed practice research, a single service recipient group, and a single research method. The research on gerontological social work in China shows a trend of gradually deepening and refining research topics, a trend of developing both in breadth and depth in research content, and a research characteristic of mainly qualitative research with relatively single research methods. In the future, gerontological social work in China will pay more attention to the development of gerontological social work and artificial intelligence, end-of-life care for lonely elderly people, hospice care, and ethical dilemmas in gerontological social work.

Keywords: Gerontological social work; Research hotspots and trends; CiteSpace.

1. Research Background

With the continuous expansion of the elderly population in China, the process of population aging is deepening. The United Nations defines an aging society by two standards: the old standard is that the proportion of people aged 60 and above reaches 10% of the total population in a region, and the new standard is that the proportion of people aged 65 and above reaches 7% of the total population. The results of the seventh national population census show that in China, the population aged 60 and above accounts for 18.7%, and the population aged 65 and above accounts for 13.35%. Looking at the development trend of aging in China, the proportion of the elderly population will continue to increase. It is estimated that by around 2035, the population of people aged 60 and above in China will exceed 400 million, accounting for more than 30% of the total population, entering a stage of severe aging.

As the degree of aging in China deepens further, new challenges are posed to the corresponding elderly care service system and elderly social participation. In the process of promoting the high-quality development of China's economy and society as a whole, how to actively promote elderly work has become an important contemporary issue faced by the Party and the government. President Xi Jinping pointed out that actively responding to population aging is a matter of national development and people's well-being, and it is an important measure to achieve high-quality economic development, maintain national security and social stability. With the increasing proportion of the elderly population in China, issues related to the elderly, such as institutional care,

community support, spiritual comfort, policy attention, and the digital divide, have gradually entered the field of vision of gerontological social work and have become important content of gerontological social work. The state attaches great importance to the issue of aging, and the academic community has also produced a wealth of empirical research results on gerontological social work interventions, but literature review studies are relatively insufficient.

Therefore, this paper adopts the bibliometric research method and uses the CiteSpace 6.2.R2 visualization knowledge mapping software to search for "gerontological social work" as the keyword in the China National Knowledge Infrastructure (CNKI)database. A total of 550 valid papers on "gerontological social work" from 2004 to 2024 were retrieved for visual research. The scientific knowledge map was drawn to sort out the development, research status, research hotspots, research characteristics, and future development trends of gerontological social work in China, providing new references for future empirical research on gerontological social work in China.

2. Data Sources and Research Methods

2.1. Data Sources

This paper takes the China National Knowledge Infrastructure (CNKI)database as the source of literature data, selecting Chinese academic journals as the search objects. In the advanced search, the subject term was set to "gerontological social work,"the time range was from 2004 to 2024, and the journal sources included all journals. After the search, a total of 615 related academic papers were

obtained. The screened literature data was exported in the "Refworks" format, generating two txt text files named "download_01" and "download_02." The downloaded data was then imported into CiteSpace. The time slice was set to two years, and the author, institution, and keyword buttons were selected sequentially in the Node Types column for analysis, generating author co-citation maps, institutional cooperation maps, and keyword co-occurrence maps.

2.2. Research Methods

Bibliometric and visualization methods were employed. This paper utilized the various quantitative features of the literature, applying mathematical and statistical methods to conduct a bibliometric analysis of the literature. Using the CiteSpace software, a scientific knowledge map was drawn and analyzed for the 550 sample papers. A scientific knowledge map is an image that takes a knowledge domain as its object, displaying the development process and structural relationships of scientific knowledge. It is both a visual knowledge graph and a serialized knowledge lineage, possessing the dual characteristics of a "map" and a "spectrum." It can be used to conduct a bibliometric analysis of literature within any selected field to identify and explore research hotspots, evolutionary paths, and development trends in specific areas. CiteSpace offers a variety of functional maps, including collaboration maps, co-occurrence maps, co-citation maps, and burst term detection. These functions are conducive to describing, evaluating, and predicting the current research status and publication trends in the field of gerontological social work.

3. Data Results Analysis

3.1. Annual Publication Volume Statistics and Analysis

The number of annual publications and their changes can reflect the development speed and trends of a particular research field. Figure 1 provides an intuitive overview of the development process and the level of attention given to the study of gerontological social work in China. According to the line chart shown in Figure 1, the number of research papers on gerontological social work in China from 2004 to 2024 can be divided into three stages.

3.1.1. Stage One:2004–2008

During this period, gerontological social work in China was in its initial development stage in terms of theoretical research, practical development, and system establishment. The publication volume experienced two minor troughs. This indicates that gerontological social work was still in its infancy and had not yet attracted much attention from the academic community.

3.1.2. Stage Two:2008–2018

As China's aging population continued to deepen during this period, an increasing number of scholars began to pay attention to the field. The number of publications grew rapidly, with the peak occurring in 2013, when 31 papers were published. This surge is likely related to policy support in that year. During this period, social work gained increased attention from the state and society. The advantages and necessity of gerontological social work gradually became evident. Optimizing professional services and standardizing professional development became inevitable trends. As a result, numerous principles and techniques related to

gerontological social work emerged. For example, scholar Wu Meiling provided a detailed analysis of principles such as "client self-determination," "gradual introduction," and "mutual trust," and also summarized some practical techniques for gerontological social work in practice.

3.1.3. Stage Three:2018–Present

After reaching its peak in the previous stage, the publication volume in the field of gerontological social work has shown a declining trend. During this period, society has developed rapidly, and people have put forward new demands for both material and spiritual aspects. The advocacy and need for positive aging have become more urgent. Therefore, after the initial exploration of theory and practice, scholars have shifted their focus to ethical dilemmas, end-of-life care, teaching practices, and ethical decision-making in gerontological social work.

3.2. Analysis of Research Institutions and Authors

By analyzing the co-occurrence relationships between institutions and authors, we can more intuitively reflect the contributions and influence of each author and institution in the research field, as well as the research cooperation between institutions or authors. Using CiteSpace to analyze the sample literature, the Node Types parameter was set to institution and author respectively, generating the co-operation network of research institutions and authors in the field of gerontological social work in China from 2004 to 2024.

By interpreting the institutions to which different authors belong, we can clearly identify the core institutions in the field of gerontological social work research. According to Figure 2, in terms of research institutions, the top five institutions in terms of publication volume are Changchun University of Technology (10 publications), Ningbo Health Vocational and Technical College (7 publications), Nanjing University of Science and Technology (6 publications), Shenyang University of Chemical Technology (6 publications), and East China Normal University (5 publications). Changchun University of Technology has the highest number of publications, with a total of 10 publications concentrated in 2014–2015. Among them, three are universities in the eastern region, and two are in the three northeastern provinces. In addition, the institutional network centered on Ningbo Health Vocational and Technical College, with important subgroups such as Northeast Forestry University and Huazhong Normal University, also ranks high in publication volume.

In terms of authors, Tang Xiaoqian from Huazhong Normal University has the highest number of publications, with 7 related papers in the field of gerontological social work. Scholars who have cooperated with her include Ding Pu Jin and Pang Wen, among others. Pang Wen ranks second in terms of publication volume, and scholars with close cooperation with him include Tang Xiaoqian and Wu Weiwei, among others. The research content of this team mainly focuses on the localization of gerontological social work and gerontological social work education.

Combining the knowledge maps in Figures 1 and 2, it can be seen that the main body of gerontological social work research in China is mainly concentrated in universities, with a disciplinary background primarily in medicine and sociology. The research subgroup centered on Lin Shizhu is the largest in terms of author cooperation, with a disciplinary background in preventive medicine and public health, as well

as psychiatry. It is worth noting that the density of the gerontological social work research institution cooperation network is only 0.0012, indicating that current domestic research on gerontological social work is mostly conducted independently by individual units, and there is great potential for cooperation between units. Therefore, it is very necessary to strengthen academic exchanges between different cooperative groups from the perspectives of interdisciplinary and regional cooperation.

3.3. Analysis of High-Frequency Keywords

Keywords are a highly condensed summary of the core research themes of a piece of literature, and the higher the centrality index of a keyword, the greater its influence. This paper uses the CiteSpace software to analyze the 550 sample papers, generating a chart (see Figure 4) and map (see Figure 5) of high-frequency keywords in the field of gerontological social work in China. There are 18 keywords with a frequency of ≥ 6 , and the centrality of each high-frequency keyword is calculated and displayed in Figure 4. The statistical results of high-frequency keywords show that, with the deepening of aging in China and the annual increase in the elderly population, gerontological social work, community services, home-based care, community-based care, and institutional care have become topics of close attention among scholars. Due to the significant differences between Chinese traditional culture and Western culture, the localization and ethical dilemmas faced by social workers have also become research priorities.

According to Figures 4 and 5, the high-frequency research themes in the field of gerontological social work in China from 2004 to 2024 can be further categorized into three types: service systems, elderly services, and care models.

The first category is the study of ethical dilemmas in gerontological social work, which includes keywords such as "ethical dilemmas" and "end-of-life care." Scholar Kong Na was the first to propose the ethical dilemmas existing in gerontological social work and put forward principles for dealing with them, emphasizing that the prioritization of ethics has distinct Western characteristics. Chinese social workers should extract the essence and adapt it to the local context. Ethical dilemmas have always existed in gerontological social work since its inception and are both hot topics in academia and difficult points that need to be continuously overcome in practice.

The second category is research on elderly services, which mainly includes keywords such as "community services," "elderly care services," and "group work," involving keywords like rural elderly, mutual aid care, and informal care. Scholar Yang Hezhi summarized different service types through three years of service practice for left-behind elderly in rural areas: protective services, supportive services, supplementary services, substitute services, and developmental services. Chen Jing explored the mutual aid care model from the perspective of gerontological social work. These studies indicate that the scope of research in the field of gerontological social work is continuously expanding and refining, and gradually integrating with the actual situation in China.

The third category is research on care models, which mainly includes three types: community-based care, home-based care, and institutional care. The involved keywords include "institutional care," "home-based care," and "community-based care." Sun Tangshui conducted group work practice for

elderly people in care institutions and found significant results. The emergence of a large number of such studies indicates that care models are gradually breaking through traditional patterns and developing more elderly-friendly community-based and home-based care options.

3.4. Analysis of Research Hotspots and Frontiers

Based on Figure 5, further cluster analysis of the keywords can generate the keyword clustering map for gerontological social work research in China (see Figure 5). In this paper, the K value in the Largest Clusters of keyword clustering is set to 8, resulting in a total of 8 clusters: social work, community services, elderly people, home-based care, aging, ethical dilemmas, and localization. Building on Figure 6, the "Timeline View" function in CiteSpace software can be used to display the evolutionary trajectory, yielding the keyword evolution timeline map for gerontological social work research in China (see Figure 7). According to Figure 7, the following analysis of each hotspot keyword and its specific evolution process can be made:

As shown in Figure 6, the keywords can be summarized into 10 clusters. The first cluster is "Challenges faced by gerontological social work—Ethical dilemmas," while the remaining seven clusters represent important subfields of gerontological social work research. Clusters 2 (community services) and 4 (community-based care) have the longest time span, indicating that these two areas have consistently been the focus and hotspots of research in gerontological social work. In contrast, the research on "artificial intelligence," "active aging," and "life education" has a relatively shorter time span and emerged later. This also demonstrates that research in the field of gerontological social work is becoming more refined, and the academic community's attention to aging issues is further deepened.

3.5. Analysis of Keyword Burstiness

The "Burstness" function in CiteSpace software can analyze the sudden emergence of keywords in relevant literature and display the origin and end time of these keywords, thereby clarifying the mutation of a particular keyword in different periods. Based on the keyword clustering analysis knowledge map already obtained, the keywords with the strongest burstiness in the field of gerontological social work in China can be identified as "ethical dilemmas," "community services," "elderly," and "elderly population."

Figure 8 shows the keyword burst map for relevant studies from 2004 to 2023. In terms of burst strength, "ethical dilemmas" has the highest burst value (5.82), indicating that it has become a widely studied hotspot in the field of gerontological social work in recent years. This suggests that as gerontological social work in China develops, both theoretical and practical aspects are becoming more professional, and ethical dilemmas in specific practice are increasingly prominent.

In terms of burst timing, keywords such as "ethical dilemmas (2018)," "end-of-life care (2018)," "practice teaching (2018)," and "ethical decision-making (2018)" all emerged relatively late, indicating that they are emerging hot topics. With the continuous deepening of theoretical research, in the practical field, areas such as end-of-life care and social work practice teaching are facing numerous ethical dilemmas, and practitioners are confronted with ethical choices.

4. Summary and Discussion

4.1. Main Characteristics of Gerontological Social Work Research in China

A review of the research achievements in gerontological social work in China reveals the following characteristics: China has absorbed the Western social work value system while striving to adapt to local contexts through specific analysis of individual issues, seeking a balance between the two. Theories in gerontological social work primarily include classic social work theories such as empowerment theory, strengths perspective, and activity theory, which mainly originate from Western countries. Chinese scholars have endeavored to develop theories that better fit China's national conditions based on existing theoretical achievements during the process of localization. Gerontological social work continuously reflects on and summarizes practical experience based on professional principles and ethics to effectively address issues faced by the elderly population in China. To further promote research and development in this field, the main characteristics of gerontological social work in China are summarized in three aspects:

4.1.1. Research Themes: Gradually Deepening and Refining

Combining the keyword clustering map and burst term map, research themes in gerontological social work in China are relatively narrow, mainly focusing on institutional care for the elderly. With the increasing elderly population and rising demand for care, exploring institutional care for the elderly has become a primary research theme. However, as society evolves and social work transitions from quantitative expansion to qualitative improvement, more and more care institutions and community-based home care require the involvement of gerontological social work. This includes improving volunteer management and long-term operation mechanisms for community-based elderly services, providing targeted assistance to impoverished elderly groups, and promoting active aging. These developments have led to a continuous deepening and refinement of research themes in gerontological social work.

4.1.2. Research Content: Developing in Both Breadth and Depth

Based on the high-frequency keyword map and centrality ranking, keywords such as "community services," "ethical dilemmas," "end-of-life care," and "artificial intelligence" frequently appear and have strong centrality in the research literature on gerontological social work in China. These keywords reflect the main research content, indicating that studies primarily focus on the professionalization and localization of gerontological social work practice. In terms of research fields, the focus has expanded from care institutions to communities. In terms of content, the scope has broadened from solely addressing elderly care to encompassing spiritual support and digital adaptation for the elderly. Thus, research content in gerontological social work in China is developing in both breadth and depth.

4.1.3. Research Methods: Predominantly Qualitative and Relatively Singular

Current research on gerontological social work in China mainly relies on qualitative methods such as case studies and practice research, lacking empirical, evidence-based scientific studies. Most proposed strategies remain at the theoretical level, lacking empirical support for interventions

in the field of gerontological social work, which significantly affects the effectiveness of interventions. In recent years, evidence-based practice research methods, originating from medicine, have gradually gained popularity in social work research. This trend prompts us to consider incorporating quantitative research methods in future gerontological social work studies to enhance scientific rigor and objectivity and to conduct evidence-based intervention research.

4.2. Future Trends of Gerontological Social Work Research in China

Based on the knowledge maps derived from data analysis of relevant research literature, the main hotspots in gerontological social work research in China include community-based care, ethical dilemmas, artificial intelligence, end-of-life care, and the strategy of active aging. From 2004 to 2024, the field of gerontological social work has evolved in the following directions:

4.2.1. Gerontological Social Work and the Development of Artificial Intelligence

Artificial intelligence (AI) is driving a comprehensive and profound transformation in contemporary society, including the field of elderly care. The continuous development of AI technology has significantly impacted the theoretical construction and practical domains of gerontological social work. Developing an "AI+gerontological social work" model is an essential research question for the professional community of gerontological social work. As AI technology integrates with social needs, various intelligent products and services, such as wearable devices, smart home appliances, and service robots, are being developed and applied. These advancements greatly expand the scope of gerontological social work services, enhance service efficiency, and help address China's labor shortage and heavy elderly care burden. Therefore, exploring the impact of AI on gerontological social work and how to integrate AI with gerontological social work are worthy of further discussion.

4.2.2. End-of-Life Care for Lonely Elderly People and Palliative Care

Since the 21st century, China's aging population has been deepening. The National Health Commission estimates that by 2035, the population aged 60 and above will exceed 400 million, accounting for over 30% of the total population. With the dual trends of aging and smaller family sizes, the number of lonely and solitary elderly people in China is rapidly increasing. Research indicates that lonely elderly people face multiple risks in life, with higher illness rates and lower income and consumption levels compared to non-lonely elderly. Therefore, end-of-life care for lonely elderly people should attract the attention of the entire society, especially scholars in the field of gerontological social work. Gerontological social workers can collaborate with communities to establish basic information databases for lonely elderly people to monitor their health status, living needs, and survival conditions. This helps link resources and build social support networks for the elderly. In addition to end-of-life care, providing palliative care for terminally ill elderly people is also a significant challenge for gerontological social workers. Palliative care is not about giving up treatment but about maximizing the quality of life for patients while respecting the value of life. Gerontological social workers can provide services to the elderly from three aspects: psychological care, spiritual care, and social support.

4.2.3. Ethical Dilemmas in Gerontological Social Work

In this era of rapid economic development and accelerated population aging, the role of gerontological social work in regulating social conflicts is increasingly important. One of the key constraints on gerontological social workers is ethical dilemmas. Gerontological social work has distinct moral characteristics, especially in practice, where ethical dilemmas often arise. These dilemmas are often associated with end-of-life care. End-of-life care refers to comprehensive health services that provide a comfortable environment, warm interpersonal care, and strong spiritual support for terminally ill patients and their families, helping patients complete their final journey in life and offering comfort to their relatives. Due to the unique physiological, psychological, social, and spiritual needs of elderly terminally ill patients, combined with traditional Chinese ethical concepts and medical regulations, social workers face ethical dilemmas and multiple ethical choices when intervening in end-of-life care for the elderly. Therefore, it is necessary to collaborate and coordinate from multiple aspects, based on specific practice contexts, to develop targeted solutions to address ethical dilemmas in gerontological social work in the context of China's national conditions.

5. Conclusion

This study utilized CiteSpace software to conduct a visual analysis of 550 papers on "gerontological social work" from 2004 to 2024, exploring the development trajectory and research hotspots in the field of gerontological social work. The results indicate that as the field of gerontological social work research becomes more refined, a core group of researchers centered around (specific scholar) has gradually emerged, as well as research institutions centered around (specific institution). However, a stable core group of authors has not yet been established, and universities remain the primary force in gerontological social work research.

The keyword burst analysis clearly displayed the mutation of various keywords in different periods. Through keyword clustering analysis, hot keywords were divided into eight clusters. Based on changes in publication volume and hot topics in different eras, the research on gerontological social work in China can be roughly divided into three stages: the initial development period triggered by the increasing demand for community services (2004–2008), the rapid growth period of gerontological social work (2008–2018), and the decline period after the peak (2018–present). Research on gerontological social work in China shows a trend of gradually deepening and refining research topics, a trend of developing both in breadth and depth in research content, and a research characteristic of mainly qualitative research with relatively single research methods. In the future, gerontological social work in China will pay more attention to the development of gerontological social work and artificial intelligence, end-of-life care for lonely elderly people, palliative care, and ethical dilemmas in gerontological social work.

As the degree of aging in China deepens, an increasing number of scholars are paying attention to gerontological social work. However, current research still has some issues, such as insufficiently detailed practice research and a single service recipient group. With the national strategy of actively responding to aging and the rapid development of China's

social work sector, research content on elderly social work is continuously expanding, and research achievements are becoming richer, showing distinct characteristics of timeliness, policy orientation, and social relevance. Compared to other disciplinary fields, there is still a need to further strengthen theoretical research and academic innovation in the field of gerontological social work, continue to extend the breadth and depth of practice, and contribute to the development of China's aging-related endeavors.

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