Based on Cite Space's Visual Analysis of the Research Hotspots of Community Home Care in China

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Abstract. In order to objectively grasp the research hot spots and development trends in the field of community home care, and to provide a basis for subsequent research, related literatures from 2000 to 2021 in CNKI database were retrieved. And keywords of authors' institutions of 280 included literatures were analyzed by using Cite Space software According to the included 280 articles, the analysis shows that the number of articles published was increasing continuously. There was less cooperation between authors and research institutions, most of which were universities. The research hotspots focused on three aspects, namely, the analysis of the concept of community home-based care, information technology to help high-quality community home care development and the research on the demand willingness of community home-based care services. The research trend focuses on promoting the equalization of community home care services. The research indicates that academic circles are paying more and more attention to the researches related to community home care, and providing a scientific research basis for the formulation of relevant policies. In the future, breakthroughs should be made in promoting the equalization of community care resources and exploring the model of traditional Chinese medicine health care services.

Keywords: Community home care · Cite Space · research hotspots · visual analysis

1 Introduction

The "14th Five-Year Plan" National Aging Undertaking Development and Pension Service System Planning points out that China's aging is in a period of rapid development. According to the data of seventh population census, as of November 1, 2020, China's population aged 65 and above is 191 million, accounting for 13.50%, and the dependency ratio of the elderly population has further increased, reaching 19.74%, and this data is still increasing year by year. It is estimated that by 2050, China's population over the age of 65 will reach 380 million, nearly 30% of the total population. The rapid development of aging has brought great challenges to China's society and economy.

At present, there are three main types of pension models in China: family pension, institutional pension and community home care, affected by the concept of "hard to leave

homeland", most elderly people still tend to provide for the elderly at home. At the same time, the "421 family" model has become the main family structure in China, under this family model, the financial pressure required for old-age care is increasing, young people have to spend more energy and time on work, the lack of family pension resources makes the family pension function weaken sharply [15]. For institutional pension, on the one hand, there is a serious misalignment between supply and demand of pension beds in the country, and the phenomenon of "hard to find a bed" and "idle bed" coexists, on the other hand, the price of institutional pension is high and lacks home recognition and family affection [19], which cannot effectively meet the needs of the elderly. Community home care integrates the advantages of family pension and institutional pension, and is a pension model that can optimize social resources while meeting the preferences of the elderly.

As the academia continues to deepen the issue of old-age care, the research on community home-based care is also increasing. Based on this background, this paper visually presents and analyzes the research on community home care in China since entering the aging society, explores the research hotspots and trends, and aims to provide suggestions for intensive study of community home care.

2 Information and Methods

2.1 Sources

The CNKI database is used as the data source in this paper, and in order to ensure the quality of the research, the core journals in the database are selected as the retrieval objects. Specific steps: In the advanced search of CNKI, the topic = "community home care" OR theme = "day care center", the journal source = SCI + EI + Peking University core + CSSCI + CSCD as the search condition, the search period is 2000-01-01 to 2021-12-31, and 588 articles were preliminarily obtained. By reading the literature, non-research and non-topic papers such as newspapers, conference reports, and interviews with people were manually excluded, and finally 280 articles were included.
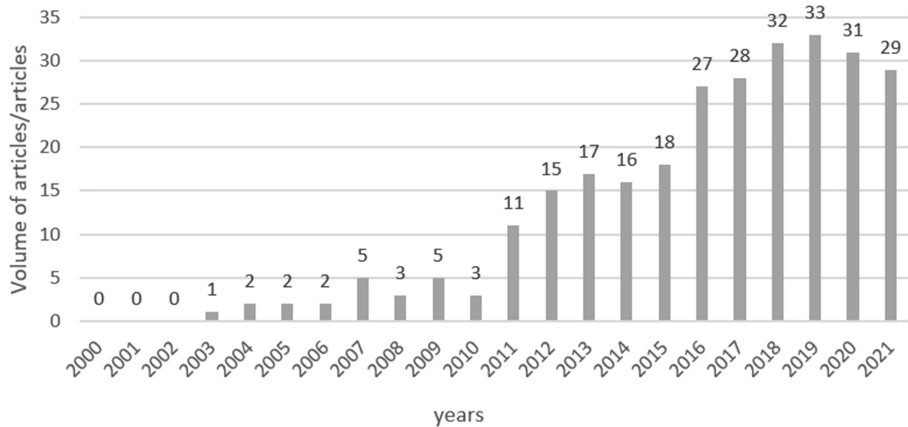
2.2 Research Methodology

Cite Space software can analyze the selected samples by keyword co-occurrence, emergence and cluster atlas, interpret the atlas according to the relationships of nodes, connections, intersections and other relationships, and use this to reveal the current status and frontier hotspots of a certain research field [1]. This paper uses Cite Space to visually analyze the annual volume of posts, authors and institutions, keywords and prominent words, and deeply analyze the research hotspots and development trends of home care in China's communities.

3 Results and Analysis

3.1 Statistics on the Number of Articles Issued Annually

By observing the change in the amount of literature issued, you can intuitively understand the changes in the research hotspots of a certain research field in a certain period of time

Fig. 1. The annual number of articles published in China's community home care research from 2002 to 2021

[8]. Overall (see Fig. 1), China's community home care literature showed an overall growth trend from 2000 to 2021. Among them, the development from 2000 to 2010 was relatively slow, and the number of articles published in 2010 was only 3. Since 2011, the number of related publications has begun to increase rapidly, and the number of publications issued in 2011 has increased by 267.7% year-on-year, and the number of publications has reached its peak in 2019.

3.2   Study Authors and Institutional Collaborations

The core authors have a leading role in guiding the development of their research fields. According to Price's Law, the minimum number of articles published by core authors is 0.749* (Npmax refers to the highest number of articles published by authors) [5]. From 2000 to 2021, the first author (including independent authors) in the field of community home care in China published the most articles for 4 articles. After calculating mp ≈ 1.5, according to the rounding selection, that is, the number of articles published is not less than two core authors. According to statistics, there are 26 core authors in the field of community home care, accounting for 10.5% of all authors. The number of articles published by core authors should account for half of the total literature, while the 26 core authors of this study published a total of 56 articles, accounting for less than 50% of the total literature of community home care, indicating that the research field has not yet formed a core author group. The author counted the top five research authors and research institutions, as shown in Table 1, the first author of the number of articles published is Li Changyuan from the School of Public Administration of Gansu University of Political Science and Law, and the institution with the number of articles ranked first is Renmin University of China, with a total of 7 articles.

In order to reflect the cooperative relationship between authors and institutions, the Cite Space software was used to draw the collaborative knowledge map of authors and institutions in the field of community home care (see Fig. 2). The density and thickness of the inter-agency contact can indicate the degree of cooperation between different

Table 1. Top 5 Community Home Care Research Institutions and Authors

Serial number	Organization		Author	
	Organization Name	Volume of Articles (Articles)	Name	Volume of Articles (Articles)
1	School of Public Administration and Policy Renmin University of China	7	Changyuan Li	4
2	Xi an jiaotong university school of public policy and management	6	Qilin Zhang	3
3	Shanghai Jiao Tong University School of International and Public Affairs	4	Xiaoyi Zhang	3
4	College of Nursing and Rehabilitation, North China University of Science and Technology	4	Zhihong Ding	2
5	School of Public Administration, Gansu University of Political Science and Law	4	Dangchen Zhui	2

agencies, and it can be found from the figure that there is less contact between different institutions, and most of them are mainly cooperation within the same institution. At the same time, the research position in the field of community home care is mainly dominated by universities.

3.3 Keyword Analysis

3.3.1 Keyword Co-occurrence Analysis

Keywords are the core generalizations of the paper, and their frequency and centrality can represent the topics and hotspots in the field [11]. Using Cite Space software to obtain the high intermediary central keywords with centrality more than 0.1, as shown in Table 2, according to its frequency, from high to low, they are home care, pension services, influencing factors, medical and nursing care combination, etc., these highly
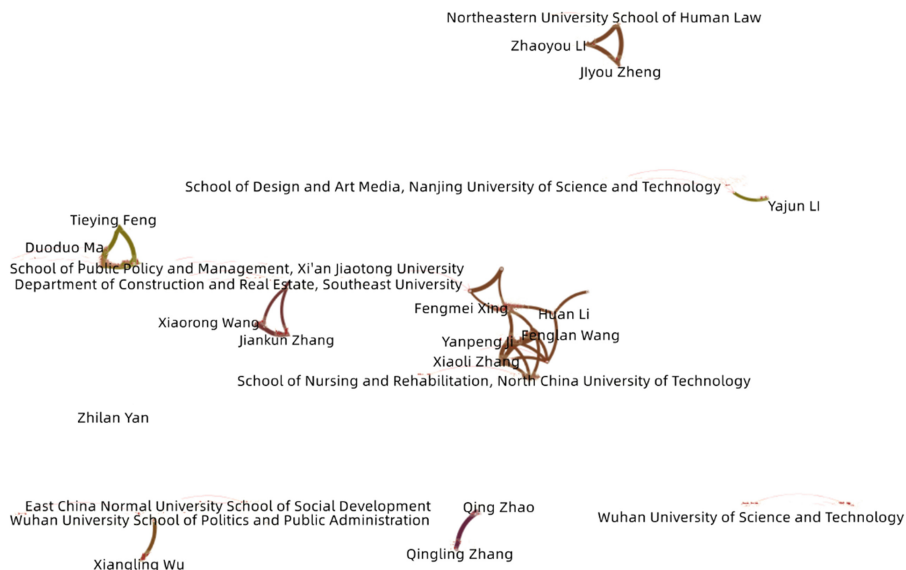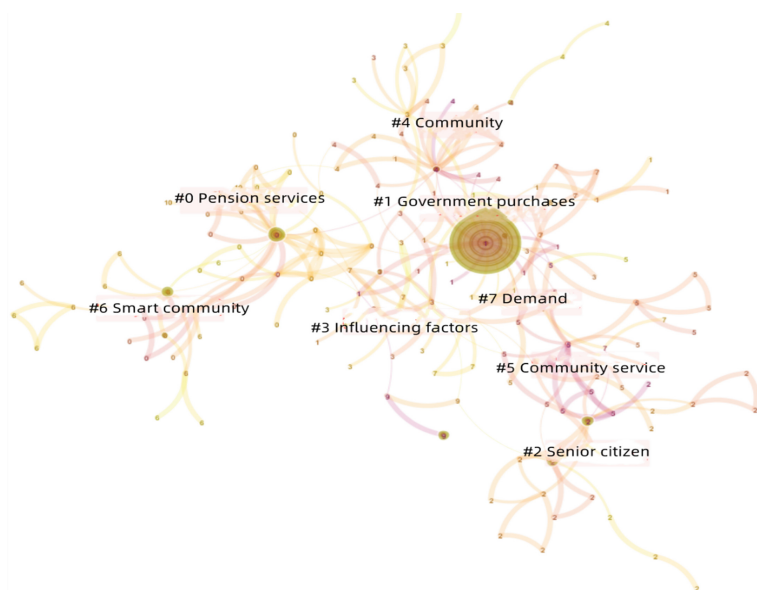
Fig. 2. Author-institutional knowledge graph

Table 2. High intermediary central keywords for community home care research

Serial Number	Keywords	Frequency	Centrality	Serial Number	Keywords	Frequency	Centrality
1	Home care	78	0.28	6	Combination of medical and nursing care	13	0.12
2	Elderly care services	22	0.32	7	Internet+	5	0.13
3	community	20	0.34	8	Home care	2	0.12
4	community service	10	0.14	9	Health management	2	0.12
5	Influencing factors	13	0.13	10	Basic care	1	0.13

centralized keywords represent the current thematic hotspots in the development process of community home care. At the same time, some highly centralized keywords appear relatively rarely, such as home nursing, health management and basic nursing, and scholars can focus on this aspect in the future.

Fig. 3. Keyword clustering atlas

3.3.2 Keyword Clustering Analysis

Research hotspots are research topics that researchers pay wide attention to in specific areas at a specific time. Cluster analysis of keywords can effectively grasp the research hotspots in this field and show their research value. Through Cite Space to obtain keyword clustering map (Fig. 3), From the keyword clustering map, 8 clusters are mainly formed, namely #0 pension services, #1 Government purchases, #2 senior citizen, #3 Influencing factors, #4 community, #5 community service, #6 Smart community, #7 demand.

To make the theme content more clearly, this paper further summarizes and integrates the clustering results, and the domestic research on the field of community home care mainly focuses on the three theme areas of clear concept of community home care, digital development of community home care service, and the willingness of supply and demand for community home care service.

The first aspect is the analysis of the concept of community home care. Academics generally believe that the concept of community home care services originated from community care in the United Kingdom, but different scholars have different understandings of the connotation of community home care services. From the perspective of the place of residence, this view believes that the community home care is a way of providing for the elderly as opposed to the institutional pension. Gao Hong believes that community home care refers to allowing the elderly to live in a familiar community and provide services in their own communities [3]. Yu Henan believes that community home care refers to the socialized pension model in which the elderly live in their own homes and the community and social forces provide elderly care services for the elderly [20]. From the perspective of the main body of providing old-age resources, in addition to family care, community home-based care also needs support from society, but it is

mainly from the community. Some scholars also believe that as the quasi-public good, the government should bear the main responsibility for the elderly care service [4]. From the perspective of service content, scholars have reached a consensus that community home care services should include life care, domestic services, medical care support, spiritual comfort [7, 9, 12].

The second aspect is the analysis of the concept of community home care. With the further acceleration of the aging process, the academia has carried out a more in-depth discussion on the issue of community home care, and they have integrated the community home care with cutting-edge technologies, ideas and concepts to try to provide the elderly with higher quality care services. At this stage, there are still problems in the development process of the community home care service model, such as poor multiple information interaction channels, vague expression of the needs of the elderly and low degree of specialization of service personnel, and the community home care under the empowerment of artificial intelligence can effectively meet the personalized, professional and intelligent needs of the elderly [18]. If information technology such as the Internet, big data and cloud computing are embedded in the field of community home care, it can significantly improve the timeliness and flexibility of community home care services, optimize the allocation of social pension resources, and improve the utilization efficiency of social pension resources [13]. If modern science and technology such as information are used to combine with the wisdom and experience of the elderly, the friendly, autonomous, and personalized intelligent interaction between technology and the elderly can also be improved, and the quality of elderly care services and the happiness index of the elderly can be improved [17]. With the continuous integration of information technology into the community home care model, it will improve the quality of community home care services, improve the service level of the elderly care service industry, and alleviate the pressure of China's elderly care burden [16].

The third aspect of informatization helps the high-quality development of community home care. Most scholars have conducted research on the willingness of community home care services in China through empirical analysis. The needs of community home care service mainly focus on economic security, life care, life care, medical and health care and spiritual comfort. The self-care status, economic level, living status and number of children of the elderly have a significant impact on the demand for home care services in the community [6]. Some scholars have also included traditional culture in the study, and the results show that traditional cultural factors such as advocating frugality and thinking about children will affect the elderly's demand for community home care services [14]. With the development of society and the transformation of family structure, the demand structure of the elderly is changing from survival type to development type, mainly based on basic material needs, and spiritual and cultural needs will continue to increase [2].

3.4 Keyword Emergence Analysis

Burst terms refer to the terms that appear most frequently over a period of time, and the higher the degree of sudden appearance of the burst term, the higher the academic attention of the keyword, which in turn can reflect an emerging trend in a subject area [21]. Generate keyword highlight maps by running Site Space software (Fig. 4). As can

Keywords	Year	Strength	Begin	End	2003 - 2021
community service	2003	2.86	2003	2014	
community	2003	3.9	2004	2012	
urban community	2003	1.85	2007	2015	
social work	2003	1.36	2011	2014	
social service support	2003	1.27	2012	2012	
income security	2003	1.27	2012	2012	
universal social security	2003	1.27	2012	2012	
rural community	2003	2.44	2015	2016	
day care	2003	1.56	2015	2016	
institutional pension	2003	1.5	2015	2015	
service requirements	2003	1.86	2016	2021	
community care	2003	1.3	2016	2016	
Internet+	2003	1.82	2017	2018	
rural	2003	1.25	2017	2021	
minority	2003	1.23	2017	2017	
smart community	2003	1.21	2017	2019	
community home	2003	1.82	2018	2019	
state of health	2003	1.46	2018	2019	
equalization	2003	1.85	2019	2021	
service quality	2003	1.61	2019	2019	
combination of medical care	2003	1.78	2020	2021	
accessibility	2003	1.21	2020	2021	

Fig. 4. Keyword prominence map

be seen from the figure, the study on community home care can be roughly divided into three research stages. The first stage is 2003–2015, and the burst terms that appear in this stage include community pension, institutional pension, day care, urban community and rural community, indicating that the comparison of advantages between different pension models is the research hotspot in 2003–2015. The second stage is 2016–2018, and the burst terms in this stage include Internet+ and smart community, indicating that the new type of community home care is the research hotspot in this period. The third stage is 2019–2021, and the burst terms that appear in this stage include rural, ethnic minorities, equalization and accessibility, indicating that how to provide community home care services to the elderly in a fair and just manner is the frontier dynamic and development trend in the field of community home care research.

4 Research Conclusions and Prospects

4.1 Conclusions of the Study

Based on the visual analysis function of Cite Space software, 280 literatures in the field of community home care from 2000 to 2021 were analyzed, and the following conclusions were drawn:

From the perspective of core authors and institutions, since China entered the aging society, a number of core authors have emerged in the field of community home care, and the overall number of articles published has shown an upward trend, but the core authors have less cross-field and cross-unit cooperation. At the same time, research institutions are mainly concentrated in universities, and the links are not close enough, and the exchanges and cooperation between researchers and research institutions need to be strengthened.

From the perspective of research hotspots, on the one hand, keywords such as "home care", "pension service", "community service" and "Internet+" have a strong connection with community home care, on the other hand, the research content mainly focuses on three aspects: relevant concept analysis, informatization to help the high-quality development of community home care, and the willingness of demand for community home care services.

From the perspective of research trends, community home care can be generally divided into three research stages. The period from 2003 to 2015 is the beginning stage. At the beginning of this stage, China has just begun to enter the aging process, researchers mainly learn from foreign experience to explore the pension model suitable for Chinese national conditions, mainly to compare the advantages of different pension models. The second stage is from 2016 to 2018, this stage of the three ministries and commissions (the Ministry of Industry and Information Technology, the Ministry of Civil Affairs, the National Health and Family Planning Commission) jointly issued the "Smart Health Pension Industry Development Action Plan (2017–2020)" document, the research mainly around the informatization to help the high-quality development of community home care, the research field expanded. The third stage is from 2019 to2021, in which researchers focus on the accessibility and equalization of community home care services, and the research theme is further deepened.

4.2 Research Perspectives

At present, China has entered a deeply aging society, and actively responding to population aging has risen to a national strategy and has gradually become the consensus of the whole society [10]. The development of community home care is in line with the current situation of China's social and economic development and the development trend of the times, which is conducive to promoting the healthy development of the aging cause and creating a good social atmosphere of "actively responding to aging". In the future, based on the existing research results, combined with the new situation and new background facing Chinese social governance and development at the current stage, we should continue to improve the research on community home care from different aspects, and seek breakthroughs in the following two aspects.

4.2.1 Promote the Equalization of Community Home Care Service Resources

Since the 18th National Congress of the Communist Party of China, General Secretary Xi Jinping has attached great importance to safeguarding and promoting social fairness and justice. The "14th Five-Year Plan" National Aging Undertaking Development and Pension Service System Plan proposes to further expand the supply of pension service covering urban and rural areas, benefiting the whole people, balanced and reasonable, high-quality and efficient, and continue to expand inclusive pension service resources. China's current pension service resources are still in the contradiction of unbalanced development between demand and supply, and how to achieve the universalization and equalization of pension service resources is the key direction of future research.

4.2.2 Explore the Model of Traditional Chinese Medicine Health Care Services

Chinese medicine carries the experience and theoretical knowledge of our ancestors in the fight against diseases, and is a precious legacy left by the Chinese nation in the long river of history. Since the 18th National Congress of the Communist Party of China, the Party Central Committee with General Secretary Xi Jinping as the core has elevated Chinese medicine to the level of national strategy, emphasizing the important role of Chinese medicine in promoting the health of the whole people. In the future, we will explore new models and mechanisms for traditional Chinese medicine health care services.

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