



The Knowledge Map and Research Hotspots of Medical-Nursing Combined Research in China

Jing Yan¹(✉) and Wenjing Zhang²

¹ School of Political Science and Law, University of Jinan, Jinan, Shandong, China
Jingyan@qq.com

² School Women Entrepreneurship Development Service Center, Jinan, Shandong, China

Abstract. In order to better understand the current situation of the combination of medical care and nursing in China, this paper takes 460 literatures on the combination of medical care and nursing included in the CNKI database from 2018 to 2022 as samples, and uses CiteSpace to carry out visual analysis of knowledge map, and presents a picture of the research on the combination of medical care and nursing in China, including sample literature authors, research institutions, keywords, etc.

Keywords: combination of medical care · citeSpace · knowledge graph · quantitative analysis · development trend

1 Introduction

In this paper, 460 literatures on the combination of medical and nursing care in the past five years from 2018 to 2022 were collected and sorted out on the platform of China National Knowledge Infrastructure (CNKI). CiteSpace software was used to draw spatio-temporal knowledge map, high-frequency keywords and their centrality statistics, keyword co-occurrence map, keyword clustering and time knowledge line map, the strongest emergent keywords, etc., and to analyze them, so as to provide reference for the further development of the combination of medical and nursing care in China.

2 Data Sources and Research Methods

2.1 Data Sources

In this paper, CNKI is used as the retrieval platform, the keywords are selected as 'combination of medical and nursing care', and the time is selected from 2018 to 2022. A total of 510 literatures were retrieved. After excluding the literatures unrelated to the study of combination of medical and nursing care in China, a total of 460 literatures were retrieved.

2.2 Research Methods

CiteSpace software system is developed by Dr. Chaomei Chen, a Chinese American scholar. It is a software that identifies and shows hot keywords, research progress and frontier directions in related research fields through intuitive knowledge maps. It is mainly used in the field of science and technology. This paper mainly uses CiteSpace software to study the related aspects of the combination of medical care, including sample literature authors, research institutions, keywords, etc. Firstly, the number of annual publications is simply displayed and analyzed by drawing excel charts. At the same time, CiteSpace is used to analyze various visual maps. Combined with the relevant charts and knowledge maps drawn in this field, the current situation and development prospects of the combination of medical care and nursing are analyzed.

3 Spatial-Temporal Map of Medical-Nursing Combined Research

3.1 Time Distribution Map of Medical-Nursing Combined Research

Annual distribution of literature. The number of annual publications is an important indicator to measure the research heat and development trend of the combination of medical care and nursing. In the past five years from 2018 to 2022, the number of papers published each year has not changed much, of which the number of 709 papers in 2019 was a peak and turning point, and the number of papers has fluctuated since then.

3.2 Spatial Distribution Map of Medical-Nursing Combined Research

Author Distribution

The Node types are set as the author Author, the time span is 2018–2022, the time slice is 1 year, and CiteSpace is run. The number of nodes is 203, the number of connections is 214, and the density is 0.0104.

The network of the whole map is relatively concentrated, and there are many connections between the author nodes, which shows that the authors in this research field cooperate more, and most of them are large-scale cooperation among many people.

Institutional Distribution

From the perspective of research institutions, the number of nodes is 173, the number of connections is 103, and the density is 0.0069. The research institutions on the combination of medical care and nursing are more concentrated, Modularity $Q = 0.9475$. There is more cooperation between the institutions, forming a more obvious clustering, and the clustering is mainly within the regions.

Hot Topics of Research on the Combination of Medical Care and Nursing

The research hotspot refers to the research questions or topics discussed by a group of papers with internal relations and a relatively large number in a certain period of time. Keywords are the author's high refinement and generalization of the core content of the article, reflecting the research value and direction of the article. Keywords with high frequency are often used to determine hot issues in a research field. The noun phrases extracted from the article can also represent the research hotspots in a certain field to a certain extent.

3.3 High Frequency Keywords

The high-frequency keywords of the combination of medical care and maintenance and their centrality statistics can be used for preliminary judgment. In the past five years from 2018 to 2022, 'combination of medical care and maintenance' has been the most frequently used keyword in this research field, while the top three high-frequency keywords are 'combination of medical care and maintenance', 'elderly people' and 'pension services'.

3.4 Keyword Co-occurrence Map

The basic principle of co-word analysis of keyword co-occurrence map is to first count whether any two words in a group of keywords appear together in an article in this group of documents, then count the number of co-occurrence and construct a symmetric keyword co-occurrence matrix. Through co-word analysis, we can understand the research frontiers and research hotspots in this field. On the basis of statistics and analysis of high-frequency keywords, CiteSpace software was used again to obtain the keyword co-occurrence map in the field of medical-nursing combined research in China after manual adjustment. The number of nodes N of the map is 262, the number of connections E is 319, the network density D is 0.0093, and the module value Q is 0.8261, indicating that the structure of the combination of medical and nursing care is significant.

3.5 Keyword Clustering

Through CiteSpace software, keyword clustering analysis is carried out to generate keyword clustering knowledge graph. These clusters reflect the current status of hot issues in the field of medical-nursing combined research in China, including 'policy tools', 'disabled elderly', 'pension services', 'pension insurance', 'institutional pension', 'home care', 'aging', 'grounded theory', 'elderly', 'pension insurance' 10 clustering labels.

On the basis of keyword clustering knowledge graph, the keyword co-occurrence network clustering table can be obtained by further operation of CiteSpace.

Combined with the chart analysis of clustering keywords and the timeline knowledge map of the research on the combination of medical care and nursing, we can clearly see the main research fields in the combination of medical care and nursing in China.

3.6 Emergent Keywords

Highlighting the keywords reflects the research hotspots at a certain stage. It can be seen from the top 12 most prominent keywords in the study of the combination of medical care and nursing in China in the past five years that during the period from 2018 to 2019, 'long-term care', 'elderly care', 'hierarchical diagnosis and treatment', 'countermeasures', 'pension needs' and 'institutional dilemma' are the focus of its research, but as time goes by, its development gradually becomes cold. 'Institutional pension', 'medical care needs', 'pension community' and 'policy' appeared and replaced. However, with the promotion of China's top-level design and basic support, at present, China's main focus on the combination of medical care is the role of 'pension institutions' and 'medical institutions'.

3.7 Research Hotspots

Based on the above analysis of high-frequency keywords and their centrality statistics, keyword co-occurrence map, keyword clustering and time knowledge line map, and the strongest burst keywords, the research content of the combination of medical care and nursing in China is mainly concentrated in the following five aspects:

Research on the Top-Level Design of Medical Care Combination

Due to the short time of the birth of China's pension service industry, the top-level design is relatively lagging behind, mainly reflected in the lack of relevant policies and laws and regulations, the existing relevant laws and regulations are not perfect, the policy implementation is not complete, the supervision is not enough and a series of problems, the development of China's pension service industry is relatively slow. In terms of law, mainly reflected in the elderly protection legislation is lagging behind. In terms of policy, in addition to the imperfection of relevant policies, the implementation of policies also faces some obstacles.

Research on the Service Effect of the Combination of Medical Care and Nursing

The elderly is a special group in society. Some scholars have concluded through investigation and analysis that the service effect of the combination of medical care and nursing is affected by the heterogeneity of individual factors and intergenerational factors of the elderly. On the one hand, it is affected by the individual factors of the elderly, including the age, gender, income, marital status and so on. On the other hand, it is affected by intergenerational factors, including the number of children, whether they are cared for by children, and the level of education of children.

Research on Regional Differences in the Combination of Medical Care and Nursing

The long-term existence of the dual structure has led to the gap between urban and rural areas, and due to the impact of economic development and related policies in recent years, the gap between urban and rural areas has further expanded. According to the survey statistics, at present, the combination of medical care and nursing in rural areas of China has formed many successful models, but there are also many development problems, such as: low level, lack of medical resources, lack of funds and instability, lack of professional talents.

Study on the Heterogeneous Needs of Medical Care Integration

The elderly population in China is relatively large, and the elderly with different health and self-care conditions have great heterogeneity in the demand for medical and nursing services. There are mainly the following three aspects: First, for the elderly with good function, it mainly plays the role of disease prevention and health care, and adopts the mode of combining medical care with health care. Second, for the elderly whose function is in a period of obvious decline, it mainly plays the role of diagnosis and treatment of chronic diseases and rehabilitation training, and adopts the method of nourishing internal medicine. Third, for the disabled elderly, mainly to play professional medical care, care, hospice care, the use of medical care model (Sun Juan et al.). It embodies the concept of 'disease treatment, disease-free recuperation', and can provide medical and pension services for the elderly at the same time.

4 Conclusions

Combined with the previous analysis of the spatio-temporal knowledge map and research hotspots of the current medical care in China, this paper puts forward the following four suggestions:

4.1 Strengthen Top-Level Design and Actively Play the Macro Role of Government Guidance and Support

On the one hand, it is necessary to supplement, improve and refine relevant laws, regulations and policies, improve the scientificity, rationality and adaptability of relevant laws, regulations and policies, and strengthen the supervision and management of the formulation and implementation process and effect. On the other hand, it is necessary to play an important role of the government to ensure that relevant laws and regulations can be known and understood by people, and it is a very important concept to adjust measures to local conditions.

4.2 Strengthen Basic Support, Give Full Play to the Main Role of the Market, and Encourage Active Participation

On the one hand, we should fully mobilize the financial support of relevant enterprises and the enthusiasm of personnel training to ensure sufficient, stable and sustainable funds. On the other hand, it is necessary to improve the public welfare of each subject in the market, encourage and support them to actively invest in public welfare donations or funding undertakings, so as to promote the further development and progress of the combination of medical care and nursing.

4.3 Explore the Path of Complementary Resources to Fundamentally Improve the Quality

At present, the quality of medical care in China has not been fundamentally improved in the adjustment, especially in the aspect of resource complementarity. First, medical resources and pension resources to achieve seamless convergence. Secondly, it is necessary to promote the cooperation among multiple subjects. The government, society, individuals and families form an organic whole and do their best to promote the integration of pension resources and medical resources. Third, in addition to multi-party collaboration, but also pay attention to a variety of ways to integrate.

4.4 Enhancing the Application of Intelligent Technology and Diversifying Innovation Models

On the one hand, we should improve the application level of the combination of medical care and nursing in intelligent technology, on the other hand, we should also strengthen the adaptability of the elderly to the medical care mode under intelligent technology. Due to the different times, families, communities and society should supplement the Internet knowledge of the elderly to help the elderly adapt to the era of big data, so that the elderly can cross the 'digital divide' and achieve human-machine harmony, so as to obtain healthier, more comfortable and convenient pension services.

Bibliography

1. Gao Peng, Yang Cuiying, Zhou Cai. Combination of medical care and health care for the elderly [J]. *Financial research*, 2022, 48 (04): 124–138. <https://doi.org/10.16538/j.cnki.jfe.20211216.40>.
2. Feng Yuying. Research on the necessity, dilemma and countermeasures of the ‘medical-nursing combined embedded’ pension model [J]. *Journal of Yunnan Minzu University (Philosophy and Social Sciences Edition)*, 2022, 39 (02): 66–75. <https://doi.org/10.13727/j.cnki.53-1191/c.2020307.007>.
3. Wang Lili. New progress of medical-nursing combined policy in China under the back-ground of health strategy [J]. *Lanzhou Journal*, 2021 (12): 118–130.
4. Zheng Jiyou. Research on the rural medical-nursing combined pension service system under the rural revitalization strategy [J]. *Guangxi Social Sciences*, 2021 (11): 17–26.
5. Li Ling, Li Jiahui. Exploring Chinese-style rural medical-nursing combination [J]. *Journal of China Agricultural University (Social Science Edition)*, 2021, 38 (04): 91–102. <https://doi.org/10.13240/j.cnki.caujsse.2021.04.007>.
6. Zhang Zeyu, Tian Chong, Fang Pengqian. Analysis of the development trend of the medical-nursing combined system during the 14th Five-Year Plan period in China based on healthy aging [J]. *China Health Management*, 2021, 38 (07): 493–495.
7. Nie Jianliang, Cao Mengdi, Wu Yufeng. Obstacles and development strategies to further promote the combination of medical and nursing care [J]. *Health economic research*, 2021, 38 (07): 24–27. <https://doi.org/10.14055/j.cnki.33-1056/f.2021.07.006>.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

