Visual analysis of children's willingness knowledge map based on CiteSpace

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Abstract. Objective To analyze the research intention of children in the past 10 years. Methods The literature search of CNKI, Wanfang and Weipu database with "children's pension" was set from December 201 to January 2021. CiteSpace software was used to visually analyze the research status, hotspots and trends of children's pension. Results include 427 documents, annual documents increasing trend; research institutions are mainly universities; high frequency keywords are only child", "elderly", "family pension", "pension problem", "pension willingness", "Hot and frontier include rural, community pension, left-behind elderly", etc. Conclusion Knowledge graph shows the research process of children's pension willingness, and how to care for the elderly may be a hot research direction in the future.

Keywords: Knowledge Map, Citespace, Children's Pension Willingness, Influencing Factors

1 Introduction

Under the background of serious aging, the family pension preference of the elderly makes family care become the key to deal with aging. Under the background of limited social supply and obvious family preference, the strong demand for family care and the declining supply of family care for children have become an obvious contradiction facing the current rural elderly care. This paper mainly uses CiteSpace software to conduct visual analysis of keywords. By analyzing a large number of literature, it finally presents the knowledge structure, research development dynamics, and research hotspots in the form of network map, including [1]. This paper mainly analyzes the literature situation of children's pension, and sorts out the knowledge map of children's pension.

2   Information and methods
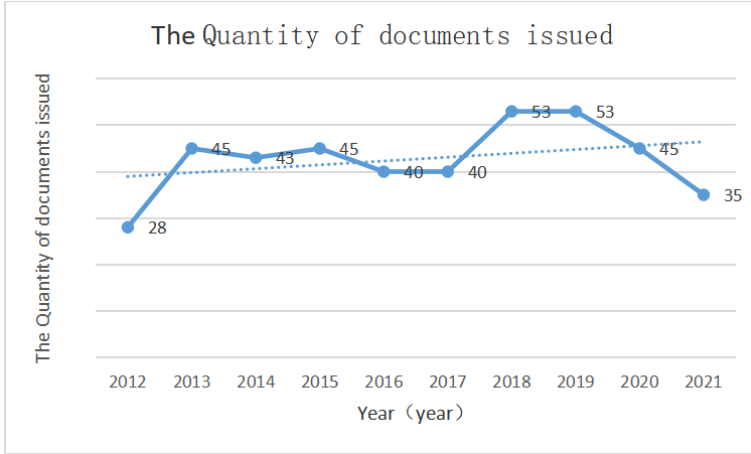
2.1   Data Source

This article selects the CNKI database as the data source, using the "advanced search" function, the search conditions are: topic: "child pension", published from January 1,2012 to December 31,2021. In order to eliminate the interference of irrelevant documents, some non-research articles such as conferences, newspapers and books were manually eliminated, and a total of 427 articles were obtained.

2.2   Research method

This paper mainly uses CiteSpace software to carry out visual analysis on keywords. It is a tool proposed by Professor Chen Chaomei to help us understand a field, a direction and a problem. It analyzes a large number of documents and finally presents knowledge structure, research development trends, research hotspots and other contents in the form of network diagram[3]. This paper mainly analyzes the literature situation of children's pension in China, and the word frequency analysis based on keywords and the theoretical domain analysis of the research content, to comb out the knowledge map of children's pension in China

3   Result

The results of literature research were finally included in 427 literature studies. According to Figure 1, it can be seen that the overall number of articles issued in these years are relatively small and shows an upward trend, with a minimum of 28 articles issued in 2012, 45 articles issued in 2013 and 35 articles issued in 2021. From the analysis of the number of articles, the overall change of the number of articles is not large and the number is small, which precisely reflects the lack of research on the willingness to provide for the aged and its influencing factors from the perspective of children, and it is necessary to strengthen research in this field.

Fig. 1. Annual number of articles on the study of children's willingness to provide for the aged in 2012-2021

In this paper, the high-frequency keywords (frequency 10 times) were drawn by CiteSpace software. The results show that the resulting visual map contains 241 nodes and 167 connections (see Figure 2).Module value (Q value) and average contour value (S value) two indicators, it judges the basis of the map drawing effect. Generally speaking, the Q value is generally in the (0,1) interval, Q> 0.3 means that the divided community structure is significant, when the S value is 0.7, the clustering is highly convincing, if above 0.5, the clustering is generally considered a reasonable [2].Q value =0.8512 indicates that the network clustering structure of the graph is significant, and S value =0.973, indicating that the clustering results of the graph are convincing and can represent the hot topic of children's pension willingness in China. In order to more clearly show the research topics in the field of combining medical care in China, this paper statistics the high-frequency keywords ranked in the top 28 and their centrality based on the keyword knowledge map (see Table 1). In CiteSpace, it is generally believed that the higher the mediation centrality represents the greater the influence of the keyword [3]. As can be seen from the table, the top 10 keywords of central (0.10) include "only child", "elderly", "family pension", "pension problem", "pension willingness", "rural", "pension model", "influencing factors" etc. (See Fig 2).
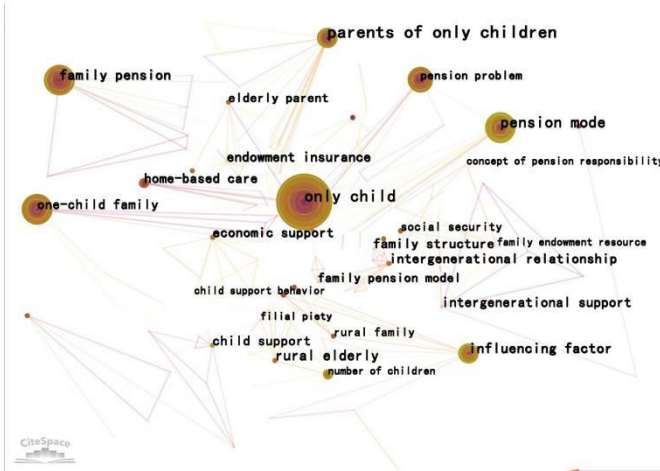
Fig. 2. knowledge map of high frequency keywords in the field of children's pension

Key words sudden occurrence analysis Mutant words refers to the sudden increase of professional terms in the literature published in certain time periods. The mutation value of the mutant words reflects the strength and duration of the mutant words changing in the short term [4]. The mutation value change trend can reflect the development and evolution trend of the research hotspots. Mutation word analysis mainly depends on two indicators, one is the mutation strength, the other is the duration. Generally speaking, sudden hotspots with large mutation intensity and short duration; mature hotspots with large mutation intensity and long duration; and stable subdivision [5] with general mutation intensity and long duration. On the basis of the keyword co-occurrence network, this paper further detected the keyword sudden words,。
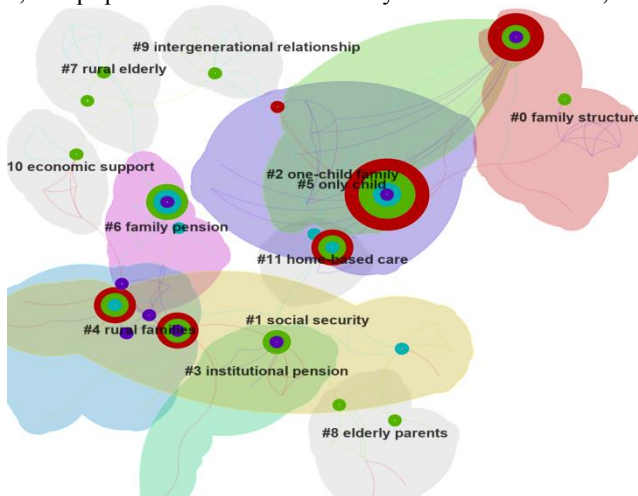

Fig. 3. Knowledge map of high-frequency keywords clustering in the field of children's pension

Table 1. High Frequency Key Words *and* Their Centrality Statistics

Serial number	Frequency (Times)	Centrality	Keywords
1	71	0.52	Only child
2	61	0.51	Older
3	47	0.35	Family pension
4	33	0.32	Pension problem
5	29	0.3	Willingness to provide for the aged
6	24	0.28	Rural
7	24	0.25	Pension model
8	18	0.21	Influencing factors
9	17	0.21	Pension mode
10	15	0.2	Aging
11	15	0.19	Old-age security
12	13	0.19	Home care
13	12	0.19	Elderly care services
14	10	0.16	Pension demand
15	10	0.15	City
16	9	0.15	Number of children
17	9	0.15	Intergenerational support
18	8	0.14	Intergenerational relations
19	8	0.14	The concept of providing for the aged
20	8	0.13	Family
21	7	0.11	Rural family
22	7	0.11	Pension risk
23	7	0.11	Daughter pension
24	6	0.1	Government responsibility
25	6	0.1	Social Security
26	6	0.1	Family structure

Keywords of timeline distribution on the basis of keyword clustering, using CiteSpace Timeline View function get Keywords clustering timeline knowledge map, the map can not only show each cluster contains keywords, and can clearly see the beginning and end of each cluster theme of time node [6]. In order to more clearly show the research topics in the field of combining medical care in China, this paper statistics the high-frequency keywords ranked in the top 28 and their centrality based on the keyword knowledge map (see Table 1).In CiteSpace, it is generally believed that the

higher the intermediary centrality represents, the greater the influence of the keyword, .It can be seen from the table that the top 10 keywords of central (0.10) are "only child", "elderly", "family pension", "pension problem", "pension willingness", "rural", "pension model", "influencing factors", "pension mode" and "aging". The surge of professional term in the literature published at certain time periods. The mutation value of the mutant word reflects the strength and duration of the mutant word to change in the short term, .The change trend of the mutation value can reflect the development and evolution trend of the research hotspots. Mutation word analysis mainly depends on two indicators, one is the mutation strength, the other is the duration. Generally speaking, the hotspots with large mutation intensity and short duration are sudden; those with large mutation intensity and long duration; and those with general mutation strength and long duration are stable subdivision .On the basis of the keyword co-occurrence network, this paper further detected the keyword sudden words, and obtained the 10 strongest sudden words in the field of children's pension research in China in the past ten years, as well as the year when each sudden word appeared and disappeared (As shown in Fig 4).
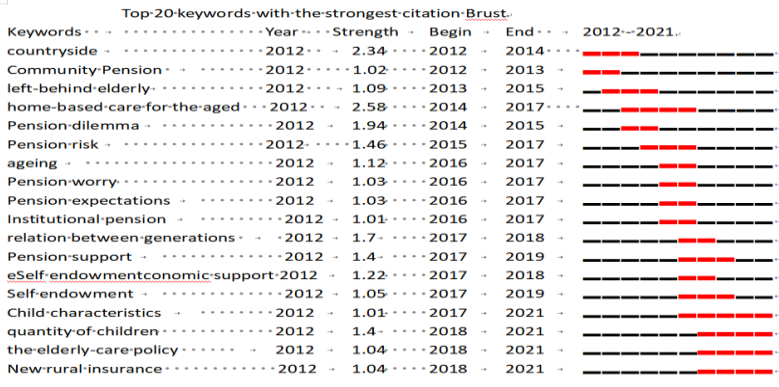

Top 20 keywords with the strongest citation Brust

Keywords	Year	Strength	Begin	End	2012 – 2021
countryside	2012	2.34	2012	2014	
Community Pension	2012	1.02	2012	2013	
left-behind elderly	2012	1.09	2013	2015	
home-based care for the aged	2012	2.58	2014	2017	
Pension dilemma	2012	1.94	2014	2015	
Pension risk	2012	1.46	2015	2017	
ageing	2012	1.12	2016	2017	
Pension worry	2012	1.03	2016	2017	
Pension expectations	2012	1.03	2016	2017	
Institutional pension	2012	1.01	2016	2017	
relation between generations	2012	1.7	2017	2018	
Pension support	2012	1.4	2017	2019	
eSelf endowmentconomic support	2012	1.22	2017	2018	
Self endowment	2012	1.05	2017	2019	
Child characteristics	2012	1.01	2017	2021	
quantity of children	2012	1.4	2018	2021	
the elderly care policy	2012	1.04	2018	2021	
New rural insurance	2012	1.04	2018	2021	

Fig. 4. Top 20 Strongest Key Words in China's Children's Willingness to Pension in Recent Ten Years

4   Conclusions and recommendations

4.1   Conclusion

By drawing knowledge maps, content analysis and bibliometric statistics, we comprehensively combed and analyzed the research results of children's willingness to provide for the aged and its influencing factors in the past 10 years. We found that the relevant research showed the following characteristics.

First, in the process of literature retrieval and screening, the number of children-oriented literature in the pension field is small; but still the willingness of the elderly, and few scholars study the willingness of the children. In the previous studies, the research is mainly based on the pension mode, the will of the elderly, the family pension,

etc., and the children are the influencing factors in the pension willingness and the mode, and very few studies study the children's pension willingness as the main body.

Second, in the willingness to support the children for the elderly, we mainly focus on the only child. Due to the implementation of the family planning policy in China in the 1970s, the group of the only child has been very large. The blindness of population growth has been effectively curbed, and social and economic development has been more rapid, and people's living standards have significantly improved [7].As the first generation of only child parents gradually enter the elderly and the birth of the second generation of only child, the "421" family thus, the only child pension problem is prominent, causing wide attention from the society and scholars.

Third, the children's pension willingness to influence the factors. Since ancient times in China, there has been a traditional concept of "raising children for old age". Children are the main dependence of the elderly, but also the main participants in the decision of the elderly. Exploring the elderly should not ignore the important role of children [8]. Relevant scholars mainly study from the children's social support, economic status, personal and family characteristics, children's parental relationship, children's pension ability and other aspects.

4.2   Conclusions and Deficiencies

As the aging rate of the population continues to accelerate, the pension problem has become a serious problem faced by families and the society, and children's pension is still the first choice of the elderly. From the perspective of children, with the help of citespace bibliometric analysis of the Internet database of children in the past ten years, through the co-occurrence of keywords, keyword emergence, keyword time zone analysis, laid a foundation for future research. This study lacks of convincing; this paper lacks domestic and foreign research comparison, lack of comprehensiveness and authority. In future research, we will be prepared to include more in-depth research into the database and make more contributions to pension and unemployment.

From the annual volume analysis, post, rising, as the aging population situation and pension burden, combined with the "not rich old" reality, especially into the "difference" period, the population of 60 and above will increase from 264 million in 2020 to in 2025,309 million, 80 and above will increase from 35.8 million people in 2020 to 2025 [9], children how pension become more and more concern, national policy and social support is an important driving factor. From the analysis of high frequency keywords, the research hotspot into family pension problems, children's pension dilemma, ability, children's pension willingness, pension model choice; from the perspective of the evolution path of children's pension willingness in China can be summarized from the beginning to the middle prosperity, to the current innovation development [10]; from the development trend, the children's pension willingness will be more scholars attention, the mechanism will be more perfect. This study also has shortcomings: only the CNKI database was retrieved, the literature of other domestic databases was not included in the study, the number of literature is small, to some extent, lack of convincing; this paper lacks domestic and foreign research comparison, lack of comprehensiveness and authority. In the future research, we are ready to include a more accurate database,

and make more in-depth research to make more contributions to the pension and unemployment. reference documentation.

During 2012-2013: children endowment the will of research "bud" this stage formed 22 different size cluster, among them, "urban endowment security", "family endowment", endowment "," the will are high frequency clustering center, that the will of children endowment problem has been social attention, and entered the research field of vision. During 2014-2016: children endowment will research "growth" compared to the last stage, the stage about rural home endowment literature number is increasing, including "home endowment" began as the main clustering center, and, "pension service", "intergenerational relationship" keywords also began to appear in the new cluster, more thematic research hotspot gradually present. After 2016: the "development period" of children's pension willingness research. At this stage, the number of papers published on rural home care research has increased sharply, and the quality of literature has been improved, forming a large number of research accumulated. As the whole society's attention and research on rural home care issues continues to rise, fresh clustering themes such as "influencing factors", "pension expectations" and "urban-rural differences" are also constantly emerging. (As shown in Fig 5).
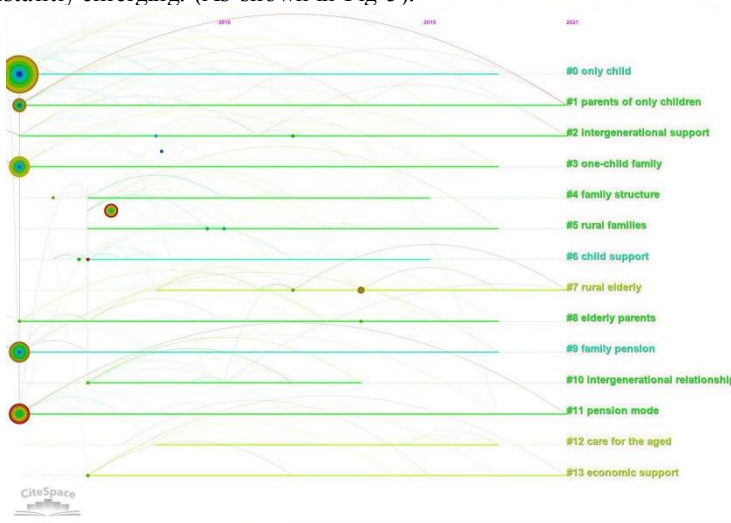

Fig. 5. Time-zone map of Chinese children's pension keywords in the past ten years

Acknowledgment

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