Research on Hot Spots of Social Medicine and Health Management Based on Knowledge Map

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Abstract. Knowledge map is the product and tool of the era of knowledge revolution. It can help people learn the frontier knowledge of science and change the way people observe the world. A large number of studies show that knowledge map can be applied to all areas of our society. Social medicine and health management is an interdisciplinary subject, and its research field is very extensive. This paper summarizes the knowledge map and analyzes the role of knowledge map in social health management. Finally it draws the corresponding conclusions.

Keywords: Knowledge Map, Social medicine, Health service

1. Introduction
The scientific knowledge map is a new field which be developed by researchers under the promotion of information technology[1]. In recent years, it has gradually become a new focus of attention. People can use the knowledge map to understand the epistemic structure of various fields and predict the latest trend of the development of science and technology[2]. At present, knowledge map has been applied in many research fields. It has become an effective measurement method of scientific metrology.

Social medicine and health includes social science, medicine and management. With the continuous development of academic research and applied practice, people have begun to pay attention to the development of social medicine[3]. Many researches of scholars at home and abroad have determined the research hotspot and direction in this field. These studies play an important role in guiding the future development of social medicine and health.

2. General summary of knowledge map

2.1. Concept
Knowledge map is a kind of graph which can show the relationship between knowledge development structure and process. It can use visual technology to describe the resources and
carriers of knowledge in the industrial field, and analyze their relationship. Knowledge map combines applied mathematics, graphics and information visualization technology to quickly analyze and explore the knowledge that needs to be understood[4]. So far, its practical application has made a lot of achievements in many countries.

2.2. Areas of building knowledge map

① Theory of citation analysis and coupling network

Citation analysis can use statistics and logic methods to analyze the citation of scientific journals and papers[5]. It is also known as “bibliometrics”. The coupling network uses the coupling relationship in documents to analyze the objectivity, scientificity and validity of data. Citation analysis and coupling network are conducive to the future development of interdisciplinary.

② Theory of lexical frequency analysis and coinage network

Lexical frequency analysis uses the frequency of keywords and subject words in the literature of a certain field to measure the literature[6]. It can be used to condense and extract the main contents of documents. Confession analysis is the product of content analysis. It can analyze the research focus of the subject field by querying the times of the same words appearing in the same literature.

③ The theory of social network and scientific research cooperation

Social network is a collection of information of people, organizations and groups. It sets social structure as an important network structure. It mainly focuses on the connection in groups rather than individuals. The theory of scientific research cooperation can analyze the feasibility of the achievements of literature by combining the achievements of domestic and foreign scholars.

2.3. The main application fields of knowledge map

The main application fields of knowledge map include: the academic community of science and technology activities and the network of its knowledge carrier, the internal connection in the main research fields of a subject, the future development trend of the research topic, the relationship in the coding knowledge of the subject field, the blending analysis of scientific social network, etc.

3. Analysis of the common view map of the key words of social medicine and health management

Based on the analysis and research of a large number of literatures, researchers found that people can know about the progress of social medicine and health management research from the common view map of key words. However, we need to sort out the frequency of hot keywords in the discipline before that.

Medical research has always been the core field of social medicine and health management. Its application involves management, development and cost accounting of the hospital. Generally speaking, with the progress of social economy, hospitals need to innovate in management mode, operation mode and technology. We should deepen the theoretical research and practice of the hospital. We can realize the optimization and reorganization of medical resources and satiate the needs of our society. The key words questionnaire of subject hot spots is shown in Fig 1.
3.1. Research on the medical service at the grass-roots level
The purpose of community health service is to solve the main health problems of grass-roots communities in a low-cost and efficient way. However, the development of basic medical services in China is very slow. There is no scientific definition and relevant norms in the formulation of internal management system, the control of service quality and the funding of service institutions. This is not conducive to the standardized development of grass-roots medical care. Therefore, how to continuously improve the ability of primary medical service has become a hot topic for current scholars.

3.2. Research on medical insurance system
At present, China has basically established a new rural and cooperative medical insurance system. However, this system is not mature. How to improve the fairness of medical insurance policy and deal with the rapid expansion of medical expenses has become the focus of social medicine research. In addition, we should establish a standardized system of basic drugs and a paying system for medical services.

3.3. A study on the treatment of doctor-patient relationship
How to maintain a good doctor-patient relationship has become a hot issue in academic research. This problem is closely related to the tense atmosphere of doctor-patient relationship in China. However, the causes of the current tense doctor-patient relationship are complex. How to solve this contradiction is a long-term and arduous task, which is worth exploring.

4. An analysis of the common view map of the authors of papers on social medicine and health
As we all know, the quantity of papers and the quality of papers can reflect the author's
academic influence and scientific research ability. The author's group situation can reflect the trend of scientific research practice of the subject. We can understand the depth of the development of the discipline by studying the group of authors. We analyzed the data of the author's papers and made a common view map of social medicine and health. This way can reflect the research trends of the subject. In recent years, scholars with more publications in social medicine are shown in Fig 2.

| Author          | Dispatch volume | Author       | Dispatch volume | Author       | Dispatch volume |
|-----------------|-----------------|--------------|-----------------|--------------|----------------|
| Qingyue Weng   | 177             | Lingzhong Xu | 80              | Anning Ma    | 52             |
| Mo Hao         | 140             | Li Luo       | 79              | Lulin Zhou   | 52             |
| Aiitian Yi     | 126             | Jiamin Gao   | 79              | Qiang Sun    | 50             |
| Liang Zhang    | 120             | Jun Lu       | 75              | Zhanchun Feng| 49             |
| Peng Fang      | 119             | Shanlian Hu  | 74              | Lingui Li    | 48             |
| Yingyao Chen   | 109             | Jian Wang    | 72              | Wei Wang     | 47             |
| Lan Yao        | 101             | Chunlin Jin  | 68              | Xiping Zhang | 47             |
| Di Xue         | 100             | Quanfeng Wu  | 60              | Li Xiang     | 46             |
| Shixue Li      | 95              | Runji Yu     | 57              | Yuxin Zhao   | 44             |
| Wen Chen       | 94              | Chengyue Li  | 56              | Kan Zhang    | 44             |

Figure 2. Scholars who have published more papers in social medicine in recent years

By combining the common view map of subject authors and the analysis of high-yield authors, we can find that the research contents published by high-yield authors are different in different periods. There is a cooperative relationship between the high-yield authors and the other. The research results of the authors who have no cooperative relationship with other scholars are not ideal. On the other hand, the authors with cooperative relationship are generally from the same scientific research institution. Many of them are teacher-student relationships.

5. The deficiency and applied strategy of knowledge map in China

5.1. The deficiencies in the development of knowledge map

A large number of documents show that although many advanced algorithms and excellent software are emerging, they are not widely promoted and applied in academia and society. There are many deficiencies in its development process:

① Serious lag of research means and methods

The research methods in our country are the most traditional multivariate statistical analysis technology, which is very backward compared with foreign statistical methods.

② Low level of research

Because of the backward research methods, the research level of knowledge map is very low. This will lead to a vicious circle of backward research technology and research methods.

③ The scope of research object is narrow

The application of foreign technology has been extended to all areas of society. However, the research field of knowledge map in China is only limited in scientific research technology, but not in practice. In addition, there is no standard to judge the quality of knowledge
mapping tools and software functions. This way will seriously affect the further research and future development of scientific research technology in China.

5.2. Suggestions and countermeasures for application
The research of knowledge map needs the support of human and financial resources. Our country should organize researchers to promote the further development of knowledge map in our country. We should also strengthen cooperation between the technology and domestic database providers. In addition, we should combine the application of knowledge map with practice as soon as possible.

6. Conclusion
Social medicine and health management is a very important subject. The application of knowledge map obviously improves the development speed of this subject. This kind of research on the frontier of science and technology is of great significance to reveal the development track, characteristics and laws of the discipline. It is helpful for the scholars of this subject to better grasp the research trends and development trends in this field. It will make important contributions to the metrology research in China.

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