Available online www.jocpr.com

Journal of Chemical and Pharmaceutical Research, 2014, 6(5):1994-1997

Research Article

ISSN : 0975-7384
CODEN(USA) : JCPRC5

Research hotspots analysis of nursing home by PubMed

Chen Lianqun, Du Chengxu, Han Jinsu, Wei Shuangping, Li Hui, Li Ruiyu and Hou Jinjie*

Xingtai Medical College, Xingtai, Hebei, China

ABSTRACT

Objective: To understand the research hotspots of nursing home by PubMed. Methods: With MS Excel, SPSS, Cytoscape software, we took MeSH (Medical Subject Headings) word frequency analysis, clustering analysis, co-word network graph of PubMed papers. Results: By MeSH of 1415 papers analyzed, it shows that the current nursing home research hotspots had focus on "Nursing Homes; Homes for the Aged; Facility Design and Construction; Health Services for the Aged; Activities of Daily Living; Long-Term Care", etc, it also suggests that the most importance of which was "Nursing Homes".. Conclusion: With multi-angle analysis of bibliometrics, we understand the outline of research hotspot about nursing home. It is helpful and timesaving for researcher or doctor to understand the research hotspots in nursing home.

Key words: nursing home; word frequency analysis; clustering analysis; Co-word network graph

---

INTRODUCTION

Nursing home provide food for the old people, clean sanitation, take care of life for the old people, do health management and do entertainment activities as integrated services. It is a social groups or organizations, a comprehensive social welfare department or branch, it can improve the quality of the elderly life [1]. As many countries in the world (for example United States, Japan, China, etc.) are going into the aging, the importance of nursing home is more and more significant. So nursing home policies, operating rules are hot spot in the present study. We hope that through this study the analysis of the subject headings can be drawn the outline of research hotspot about nursing home. Therefore this research retrieved the nursing home papers of PubMed (http://www.ncbi.nlm.nih.gov/pubmed), got 1415 papers, and analyzed MeSH of above papers using Co-word Analysis [2].

EXPERIMENTAL SECTION

First, we retrieved PubMed papers with the default publication dates On April 10, 2014. Second, search terms was "Housing for the Elderly"[Mesh]； Third, using Microsoft Excel we recorded All Major Topic MeSH (Majr terms) of above papers, and sort and filter the terms, and looked for the high frequency terms (occurrences), and we also counted occurrences of two high frequency terms together in the same paper, setting up the original co-word matrix. Fourth, the statistical analysis: we made Majr term's clustering analysis using SPSS13.0 statistical software, draw the co-word network graph of the high frequency terms using Cytoscape software[3].

MAJOR TERMS ANALYSIS OF PAPERS ABOUT NURSING HOME

Major terms word frequency analysis

We retrieved 1415 papers, all with MeSH terms, we extracted Majr terms and established the Majr terms database. We got 36 Majr terms of nursing home which occurrences frequency was over 20. From Table 1, we can infered some ideas: the relevant research hotspots of nursing home mainly concentrated in the "Nursing Homes; Health Services for the Aged; Homes for the Aged; Activities of Daily Living; Long-Term Care", etc, it also suggests that "Nursing Homes" alpha has become most major research hotspots.

Table 1. The top 36 Majr terms about nursing home

Ranking	MeSH terms	Occurrences frequency (times)	Percentage (%)	Cumulative Percent (%)
1	Housing for the Elderly	1026	21.75	21.75
2	Nursing Homes	124	2.63	24.38
3	Health Services for the Aged	105	2.23	26.61
4	Homes for the Aged	71	1.51	28.11
5	Activities of Daily Living	71	1.51	29.62
6	Long-Term Care	66	1.40	31.02
7	Aging	65	1.38	32.39
8	Facility Design and Construction	61	1.29	33.69
9	Geriatric Assessment	61	1.29	34.98
10	Geriatric Nursing	54	1.14	36.12
11	Aged	53	1.12	37.25
12	Capital Financing	47	1.00	38.24
13	Frail Elderly	47	1.00	39.24
14	Marketing of Health Services	47	1.00	40.24
15	Home Care Services	45	0.95	41.19
16	Quality of Life	42	0.89	42.08
17	Retirement	37	0.78	42.87
18	Continuity of Patient Care	33	0.70	43.57
19	Assisted Living Facilities	30	0.64	44.20
20	Dementia	30	0.64	44.84
21	Skilled Nursing Facilities	30	0.64	45.47
22	Attitude to Health	30	0.64	46.11
23	Accidental Falls	27	0.57	46.68
24	Social Support	26	0.55	47.23
25	Food Services	26	0.55	47.78
26	Investments	25	0.53	48.31
27	Health Promotion	24	0.51	48.82
28	Community Health Nursing	24	0.51	49.33
29	Alzheimer Disease	24	0.51	49.84
30	Multi-Institutional Systems	23	0.49	50.33
31	Interior Design and Furnishings	22	0.47	50.80
32	Health Status	22	0.47	51.26
33	Social Work	21	0.45	51.71
34	Adaptation, Psychological	21	0.45	52.15
35	Health Services Needs and Demand	20	0.42	52.58
36	Caregivers	20	0.42	53.00

3. Clustering analysis of the high frequency Major terms

This research used hierarchical clustering analysis which is one of the most commonly used Classify analysis to analyze the top 30 Majr terms which occurrences frequency was over 23 times), drew a dendrogram, and the results were shown in Figure 1.

From the Figure 1, except individual Majr term as " Multi-Institutional Systems ", we could seen the other high frequency Majr terms could be divided into the following nine groups. Group 1 contains Majr terms (“Geriatric Nursing; Community Health Nursing; Aging; Social Support”), it suggests that daily care needs of the elderly need social support (such as community care) [4]. Group 2 contains Majr terms (“Frail Elderly; Quality of Life; Activities of Daily Living; Geriatric Assessment; Dementia”), it suggests that daily life activities and life quality of the frail old people requires careful evaluation, in particular to prevent alzheimer's disease [5]. Group 3 contains Majr terms (“Aged; Attitude to Health; Health Services for the Aged; Home Care Services; Long-Term Care”), it suggests that it should pay attention to the health services of the elderly, especially to long-term care measures such as a home care service [6]. Group 4 contains Majr terms (“Accidental Falls; Health Promotion”), it suggests that health promotion of the elderly is the key to prevention of the elderly falling accident [7]. Group 5 contains Majr terms (“Retirement; Food Services”), it suggests that the elderly should pay attention to food nutrition after retirement [8]. Group 6 contains Majr terms (“Homes for the Aged; Facility Design and Construction”), it suggests that in the home life of the old man we must pay attention to the design and construction of daily living facilities [9]. Group 7 contains Majr terms (“Continuity of Patient Care; Skilled Nursing Facilities; Housing for the Elderly; Assisted Living Facilities”), it suggests that nursing homes need to be equipped with auxiliary living facilities, especially the patient care facilities [10]. Group 8 contains Majr terms (“Capital Financing; Investments; Nursing Homes”), it suggests thatinvestment in the nursing home can be from capital financing channels [11]. Group 9 contains Majr terms (“Marketing of Health Services; Alzheimer Disease”), it suggests that drug development and clinical trials of Alzheimer's disease need to recruit clinical reagent by market-based methods [12].

The above clustering results suggest that several Majr terms within one group have certain inherent logic connection between eachother; If there are no known correlation between the Majr terms, it indicates we find a new research hotspot.

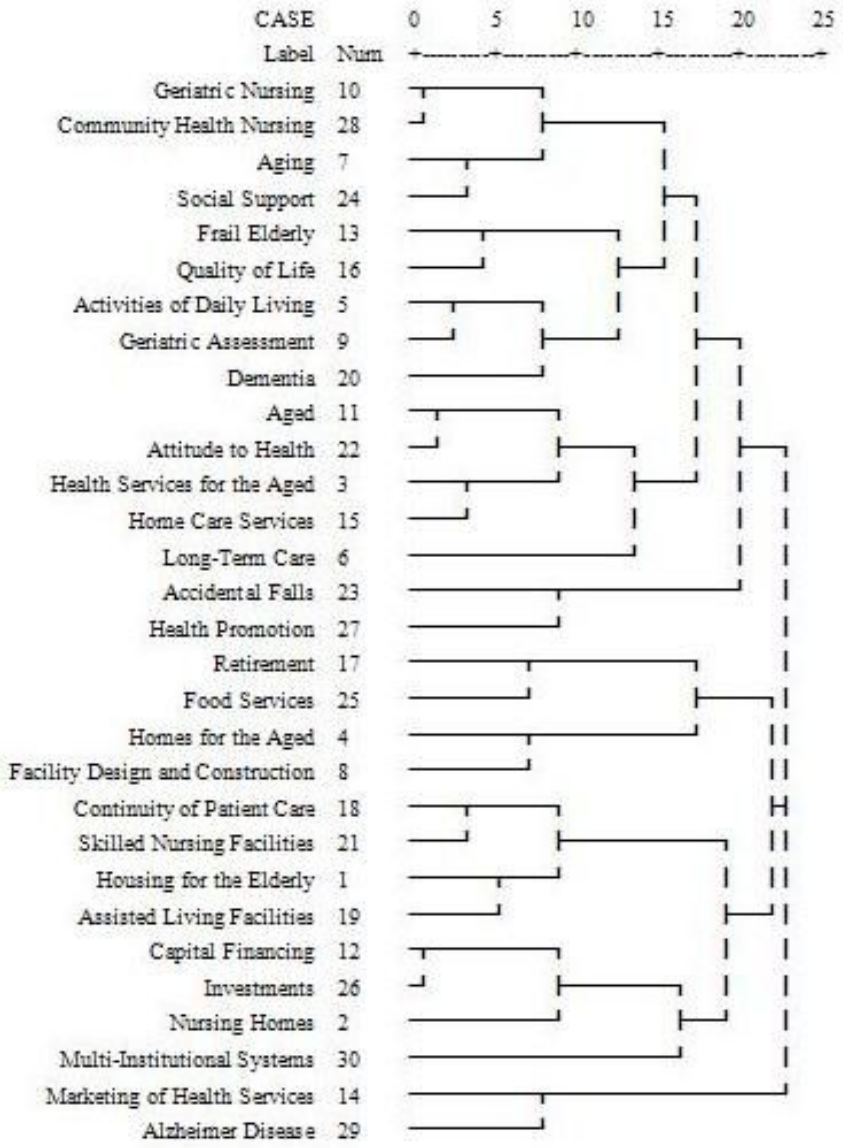

Figure 1. Hierarchical clustering analysis dendrogram of Majr terms

Table 2. The top 16 Major terms pair

Ranking	MeSH terms A	MeSH terms B	Co-word occurrences frequency (times)
1	Housing for the Elderly	Nursing Homes	89
2	Housing for the Elderly	Homes for the Aged	62
3	Housing for the Elderly	Facility Design and Construction	55
4	Housing for the Elderly	Health Services for the Aged	49
5	Housing for the Elderly	Capital Financing	43
6	Housing for the Elderly	Marketing of Health Services	43
7	Housing for the Elderly	Activities of Daily Living	42
8	Housing for the Elderly	Geriatric Nursing	33
9	Housing for the Elderly	Long-Term Care	31
10	Housing for the Elderly	Frail Elderly	28
11	Housing for the Elderly	Aged	27
12	Housing for the Elderly	Aging	26
13	Housing for the Elderly	Geriatric Assessment	25
14	Activities of Daily Living	Geriatric Assessment	17
15	Nursing Homes	Homes for the Aged	14
16	Activities of Daily Living	Aging	11

4. Co-word network graph of the high frequency Majr terms pair

By analyzing the top 14 Majr terms which word frequency were over 47 times, we got the top 16 Majr terms pair (A and B, see Table 2) and co-word network graph of the Majr terms pair (see Figure 2). Especially the second Majr terms pair of “Housing for the Elderly” and “Nursing Homes” appeared 89 times in the same paper, it was far higher

than that of the third MeSH terms pair (62 times, “Housing for the Elderly” and “Homes for the Aged”).

In Figure 2 the edge represents the concurrence relationship between Majr terms pair and if the edge between one Majr term to other Majr term, it suggests that the one Majr term is more important, it is in the center of the research hotspots. So we could infer that the current nursing home research hotspots had focus on “Nursing Homes; Homes for the Aged; Facility Design and Construction; Health Services for the Aged”, etc, it also suggests that “Nursing Homes” is the research hotspots of nursing home now.

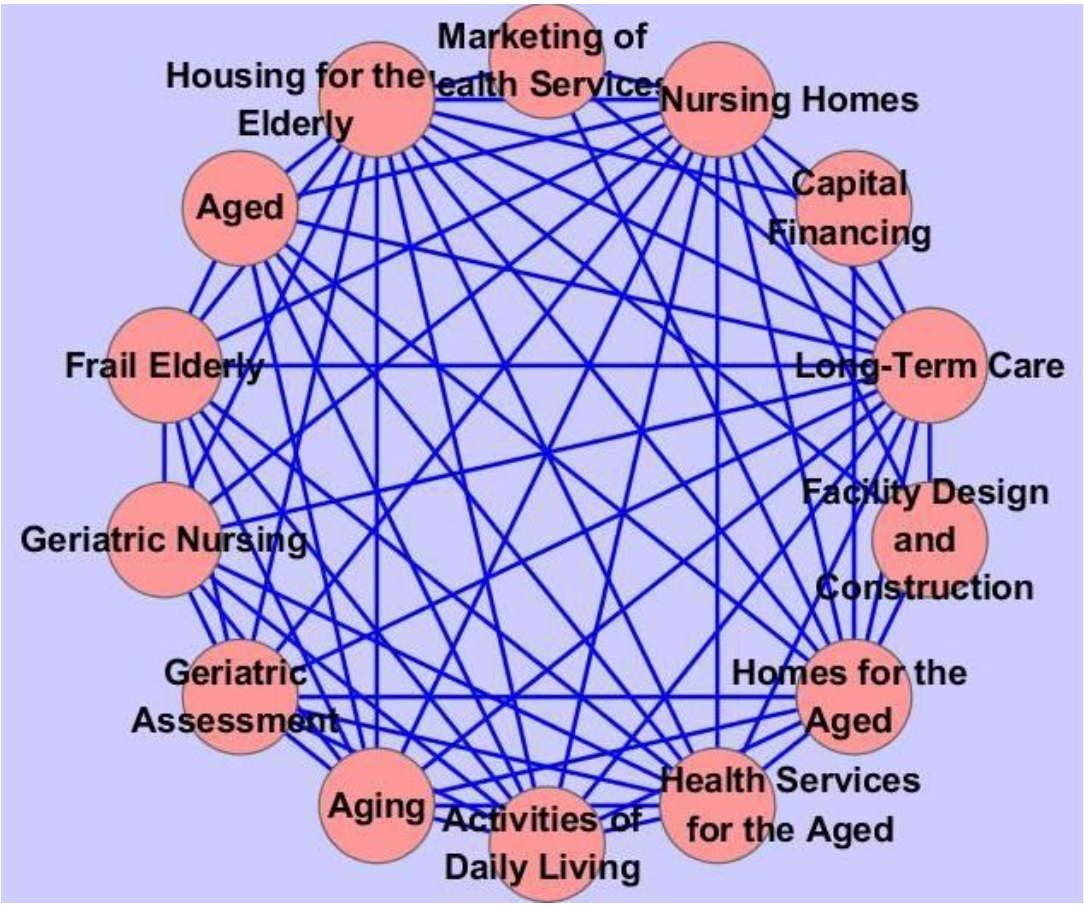

Figure 2. Co-word network graph of the high frequency Majr terms pair

CONCLUSION

By analyzing MeSH terms (word frequency analysis, clustering analysis, co-word network graph) of PubMed papers about nursing home, we could infer that the current nursing home research hotspots had focus on “Nursing Homes; Homes for the Aged; Facility Design and Construction; Health Services for the Aged; Activities of Daily Living; Long-Term Care”, etc, it also suggests that the most importance of which was “Nursing Homes”.

REFERENCES

[1] Crisp DA, Windsor TD, Butterworth P, et al. *Australas J Ageing*. **2013**, 32(3):163-170.
[2] Viedma-Del-Jesus MI, Perakakis P, Muñoz MÁ, et al. *Psychophysiology*. **2011**, 48(8): 1029-1036.
[3] Smoot ME, Ono K, Ruscheinski J, et al. *Bioinformatics*. **2011**, 27(3):431-432.
[4] Asahara K, Ono W, Kobayashi M, et al. *J Nurs Meas*. **2013**, 21(1):43-54.
[5] Hislop JO. *Nursing*. **2014**, 44(2):64-66.
[6] Bolot T, Phillips S. *Health Serv J*. **2013**, 123(6357):32.
[7] Hanlin ER, Delgado-Rendón A, Lerner EB, et al. *Prog Community Health Partnersh*. **2013**, 7(2):191-199.
[8] Chung S, Popkin BM, Domino ME, et al. *Obesity* (Silver Spring). **2007**, 15(4):1053-1060.
[9] Chang YP, Li J, Porock D. *J Am Med Dir Assoc*. **2013**, 14(4):293-299.
[10] Demiris G, Thompson H. Yearb *Med Inform*. **2011**, 6(1):51-57.
[11] Harrington C, Hauser C, Olney B, et al. *Int J Health Serv*. **2011**, 41(4):725-746.
[12] Schneider LS. *Alzheimer Dis Assoc Disord*. **2005**, 19(4):279-283.