

Evidence-Based Bibliometric Analysis of Acupuncture in Functional Dyspepsia: Clinical Efficacy and Research Trends

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Objective: The method of bibliometric analysis was used to visualize the literature data of the current research on acupuncture treatment of functional dyspepsia.

Methods: By using the bibliometrix package in R4.4.1, all the research literatures related to acupuncture and moxibustion treatment of functional dyspepsia in the WOS core database were used, and the data visualization analysis of the retrieved research literatures was carried out.

Results: A total of 489 research literatures on acupuncture treatment of functional dyspepsia were screened out. The earliest related research was published in 2009. After 2013, the research heat in this field increased rapidly, reaching its peak in 2022. The number of publications and citations related to acupuncture treatment of functional dyspepsia in China ranked first. Analysis of cumulative publication volume shows that from 2012 to 2024, JOURNAL OF MULTIDISCIPLINARY HEALTHCARE AND ALTERNATIVE MEDICINE ranked first in cumulative publication volume. A total of 1841 authors contributed to this field. The top three authors were WU HG, LIU HR and LI Y. WU HG ranked first in author influence and citation frequency. The most frequently used keyword in the articles published by these authors was "irritable-bowel-syndrome". The high-frequency keywords in the literature on acupuncture treatment of functional dyspepsia were statistically analyzed. The top three high-frequency words were irritable-bowel-syndrome, followed by acupuncture and electroacupuncture.

Conclusion: Acupuncture treatment of functional dyspepsia related research was first published in 2009, the research heat increased year by year. The most authoritative author in the field of acupuncture treatment of functional dyspepsia is WU HG.

Keywords: acupuncture, functional dyspepsia, bibliometric

Introduction

Functional dyspepsia (FD) is a common functional gastrointestinal disease. According to the Rome IV standard,¹ functional dyspepsia is defined as: in the past 6 months, persistent or repeated dyspepsia for more than 3 months; endoscopic examination did not show any organic abnormalities; there is no indication that dyspepsia can be alleviated by defecation and has nothing to do with irregular stool. Dyspepsia refers to a series of symptoms confined to the upper abdomen (between the navel and the xiphoid) and its sides, including upper abdominal pain and burning, postprandial bloating, early satiety, upper abdominal swelling, nausea and vomiting.² FD is a common disease in the general population. It is reported that the global incidence of FD is 7% ~ 45%.³ Studies have shown that in addition to gastrointestinal symptoms and psychological symptoms, FD patients also have problems such as sleep disorders⁴ and low work efficiency.⁵ Although FD is not a fatal disease, it seriously affects the quality of life of patients, and repeated

visits have brought great economic burden to individuals and society. In 2009, FD led to an increase in the social and economic burden of the United States, resulting in a loss of nearly USD 18.4 billion.⁶

At present, the pathogenesis of functional dyspepsia in western medicine has not been fully explained, but it is generally believed that the pathogenesis of FD is closely related to many aspects such as gastroduodenal motility disorder, visceral hypersensitivity, abnormal brain-gut interaction, low-grade inflammation of intestinal mucosal barrier, and psychological factors. The treatment of FD is also mainly based on symptomatic treatment such as prokinetic drugs, antacids, probiotics, antidepressants, etc.,⁷ but conventional western medicine treatment has problems such as long-term efficacy and more adverse reactions.^{8,9} A large number of studies have confirmed that the intervention and treatment of FD with traditional Chinese medicine under the guidance of holistic concept and syndrome differentiation is more effective and safer than conventional western medicine. Acupuncture and moxibustion therapy is widely used in clinical treatment and scientific research experiments of FD as an alternative therapy of Western medicine because of its “simple and inexpensive” characteristics.^{10–12}

Bibliometrics is a subject that takes scientific literature as the research object, and obtains the structural characteristics and development rules of corresponding science and technology by studying the distribution structure, quantitative relationship, change law and other related information of literature.¹³ Bibliometrics, as an important branch of information science, is widely used in many fields involved in people’s daily life. The scientific knowledge map is a series of graphs used to show the relationship between the development process and the structure of scientific knowledge. It is the application of bibliometrics to carry out quantitative statistical analysis of different measurement units of literature. On this basis, combined with visualization technology, the relevant graphics that can display the core structure, development process, research frontier and overall knowledge structure of the discipline are drawn.¹⁴ As an important technology of evidence-based medicine research, bibliometrics and knowledge mapping have been applied in various fields of traditional Chinese medicine by many scholars, aiming to reproduce the research in related fields in a panoramic way and explore the development process, core and prospect of research in this field.^{15,16}

In recent years, acupuncture treatment of FD is still a hot topic in clinical research, but there is still a lack of systematic research in this field. Based on bibliometrics, this study conducted a knowledge map analysis of the literature in the clinical field of acupuncture and moxibustion treatment of FD in order to comprehensively and objectively integrate and explain the research status and future development trends in this field, and provide a reference basis for subsequent clinical research.

Research Data and Methods

Data Source

The literature related to functional dyspepsia was derived from Science citation Index Expanded (SCI-expand) in the WOS core database, and all English literatures were retrieved with [“Pharmacopuncture” OR “Acupuncture” OR “Acupuncture Therapy” OR “Acupuncture Treatment*” OR “Pharmacopuncture Treatment” OR “Acupotomy” OR “Acupotomies” OR “Acupuncture Point” OR “Moxibustion” OR “electroacupuncture”] AND [“Dyspepsia*” OR “Indigestion*” OR “functional dyspepsia” OR “functional dyspepsia fd” OR “functional gastrointestinal disorders” OR “postprandial distress syndrome” OR “irritable bowel syndrome”] as the subject word. The publication date was set to November 1, 2024, and the literature type was set to be original research, that is, “Article” or “Review Article”. Remove duplicates and non-English articles with EndNote. By reading the title and abstract, excluding studies unrelated to acupuncture treatment of functional dyspepsia (such as animal experiments, mechanism studies did not involve clinical efficacy, etc). The search results were stored in text format, and the information of countries, institutions, authors and publication time of all literatures was included, and duplicate literatures and literatures with incomplete information were excluded. This study was a secondary literature analysis. All data were published academic publications and do not involve ethical review requirements.

This study focuses on the bibliometric analysis of acupuncture and moxibustion treatment of FD, aiming to sort out the research trends, cooperation networks and knowledge structure in this field. Therefore, the literature search strategy was not included in the direct comparison of acupuncture with other therapies (such as medication or psychotherapy). If

the literature also involves a comparison between acupuncture and other interventions (eg acupuncture vs proton pump inhibitors), it is excluded because its research focus deviates from the analysis goal of acupuncture monotherapy.

Descriptive Analysis

The complete records of the documents derived from WOS (including authors, institutions, countries, keywords, citation information, etc.) were saved in plain text format. The data was normalized using the bibliometrix package of the R language (version 4.4.1). The bibliometrix package in R 4.4.1 was used to analyze the annual number of publications related to functional dyspepsia, as well as the number of relevant publications and related citations of countries, institutions, authors, journals and literatures. The data analysis of high-frequency keywords also used the bibliometrix package, which was visually presented as a word cloud map and a tree map.

Collaborative Network Analysis and Keyword Co-Occurrence Analysis

Using the networkPlot function in bibliometrix, based on the co-occurrence matrix of the author and the country, the network diagram was generated using the force-oriented layout algorithm (Fruchterman-Reingold) to analyze the cooperative relationship between the authors of the literature related to functional dyspepsia. The cooperation network, timeline and density map were drawn, and the keyword co-occurrence network map was analyzed and drawn. The node size and connection strength reflect the number of publications and the frequency of cooperation, respectively. Through the wordcloud package, the word cloud map is generated, and the minimum word frequency threshold is set to 10 times; the co-occurrence network is clustered by VOSviewer algorithm, and the similarity threshold is set to 0.5. The larger the number of related posts is, the larger the node is, the closer the node is, the wider the connection is, and the node shows the same color to indicate similar types or close cooperation.

Results

Global Annual Publication

A total of 534 English literatures related to acupuncture and moxibustion for functional dyspepsia were retrieved and screened from the WOS website. There was no duplicate literature. After reading the title and abstract, 45 unrelated articles were excluded. Finally, 489 English literatures related to acupuncture and moxibustion for functional dyspepsia were included for analysis.

The research on acupuncture and moxibustion treatment of functional dyspepsia in Web of science was first published in 2009. Since 2013, the number of related publications has increased rapidly. In 2020 and 2022, there were two peaks of publications, and the overall number of publications increased in volatility. The number of related publications reached a peak of 61 in 2022. Since then, the number of related publications has a downward trend but the direction is still hot, which has great research value and development potential (Figure 1).

Countries (Regions) Issued and Cited

The number of publications related to acupuncture treatment of functional dyspepsia, the number of single country publications (SCP), the number of multiple country publications (MCP) and the number of citations in the countries (regions) of the corresponding authors were counted. Figure 2A shows the top ten countries in terms of relevant citations, with China ranking first (relevant citations: 4478) and the United States ranking second (2508). Chinese related publications and citations ranked first in the world, indicating that Chinese international recognition and influence in this research field were among the top. Most of the documents published by countries with the highest number of publications, such as China, the United States and South Korea, were SCP. The number of MCPs showed that China and other countries have more cooperation with other countries in the world (Figure 2B and Table 1). A total of 27 countries (regions) have contributed to this research field (see Figure 2C for the map of national publications, the deeper the color, the more publications). Table 1 is the top ten countries in terms of the number of related publications. Among them, China ranked first with 328 related publications, the United States ranked second with 65 related publications, and South Korea ranked third with 27 related publications. The results of the changes in the number of papers issued by various

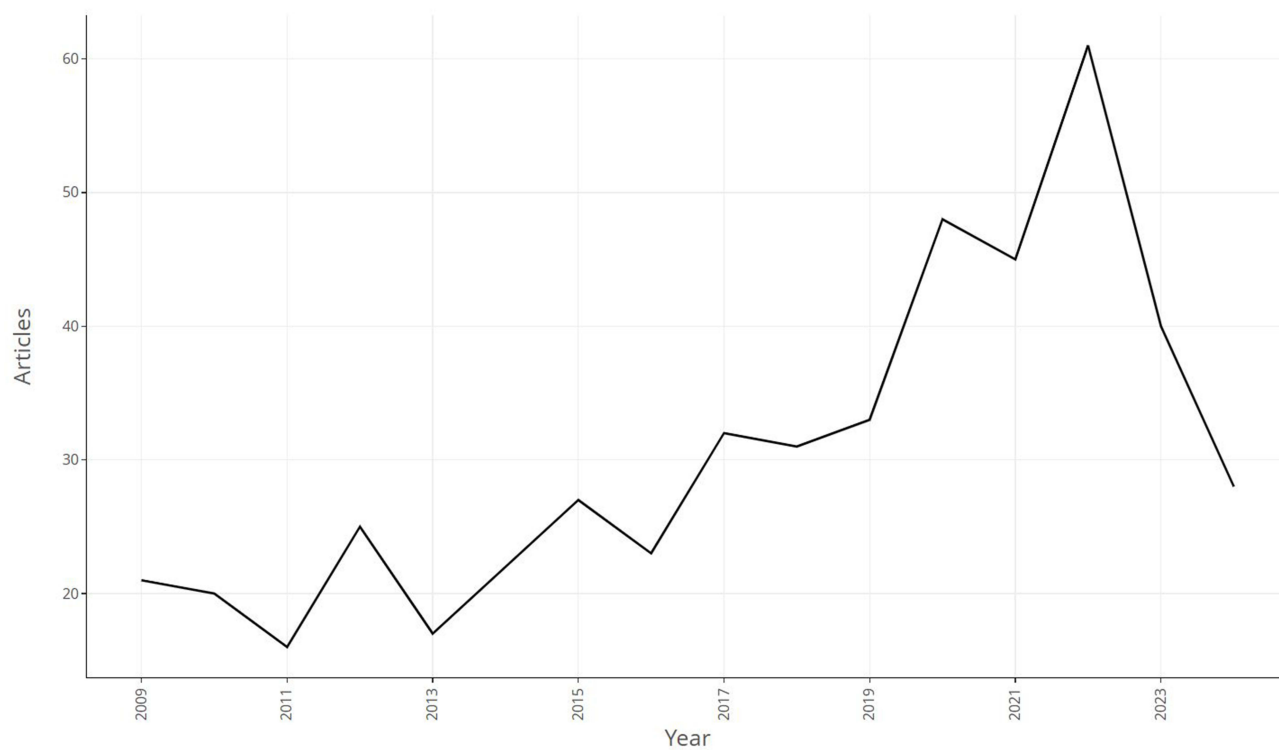


Figure 1 The publication of relevant literature.

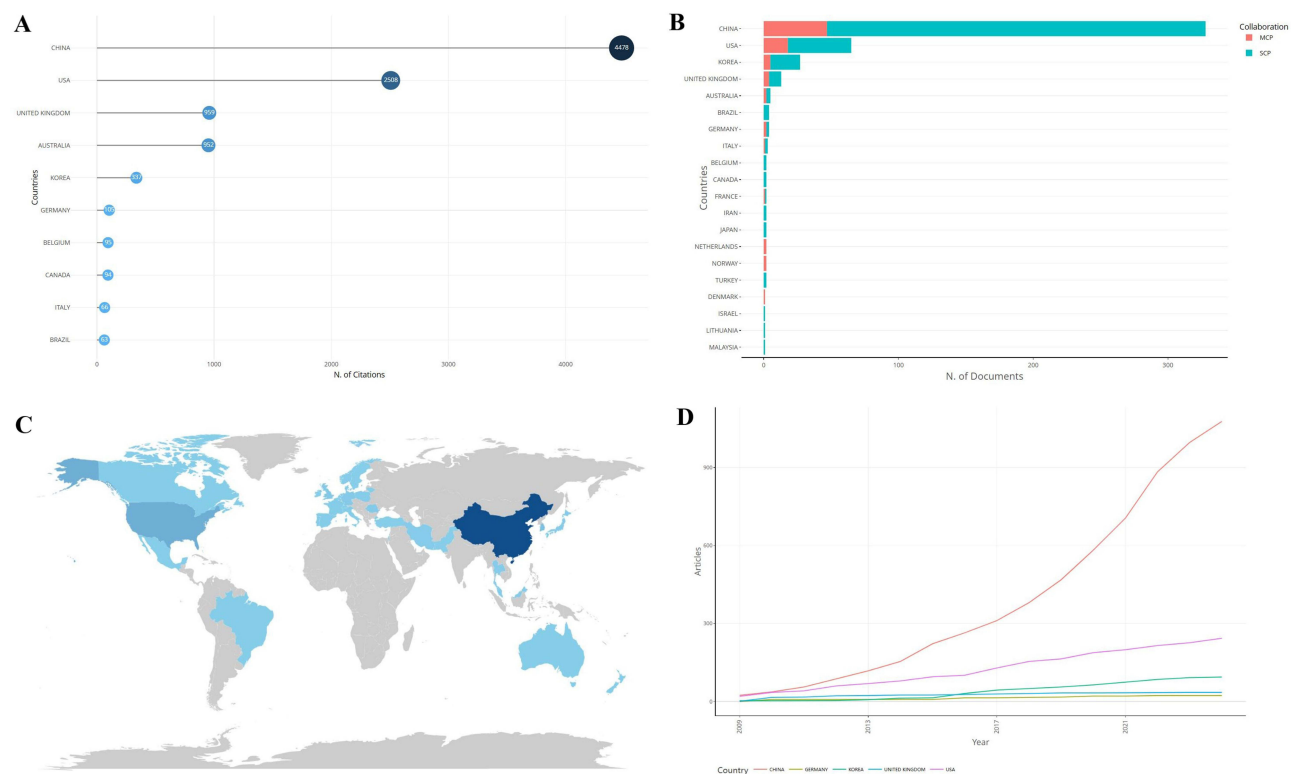


Figure 2 The publication and citation of countries. **(A)** the top ten countries cited in the relevant literature; **(B)** SCP and MCP publications; **(C)** national distribution map; **(D)** The cumulative growth of the article over time.

Table 1 Top 10 Countries in Terms of Quantity of Relevant Documents Issued

Rank	Country	Reference	SCP	MCP	MCP ratio(‰)
1	CHINA	328	281	47	14.3
2	USA	65	47	18	27.7
3	KOREA	27	22	5	18.5
4	UK	13	9	4	30.8
5	AUSTRALIA	5	3	2	40.0
6	BRAZIL	4	4	0	0.0
7	GERMANY	4	2	2	50.0
8	ITALY	3	2	1	33.3
9	BELGIUM	2	2	0	0.0
10	CANADA	2	2	0	0.0

countries over time showed that the number of papers issued by China and the growth rate are much higher than other countries (see Figure 2D).

Periodicals Published and Cited

The journals that published the literature on acupuncture and moxibustion treatment of functional dyspepsia were statistically analyzed. The top ten journals were shown in Figure 3A, of which GASTROENTEROLOGY was the first with 1140 citations. The analysis of the journals most related to the treatment of functional dyspepsia with acupuncture and moxibustion showed that EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDIC published the most articles related to the topic of this study, with 52 articles from this journal (Figure 3B). The ranking of journal influence showed that EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDIC journals had the highest influence (Figure 3C). The results showed that from 2012 to 2024, the cumulative number of articles published

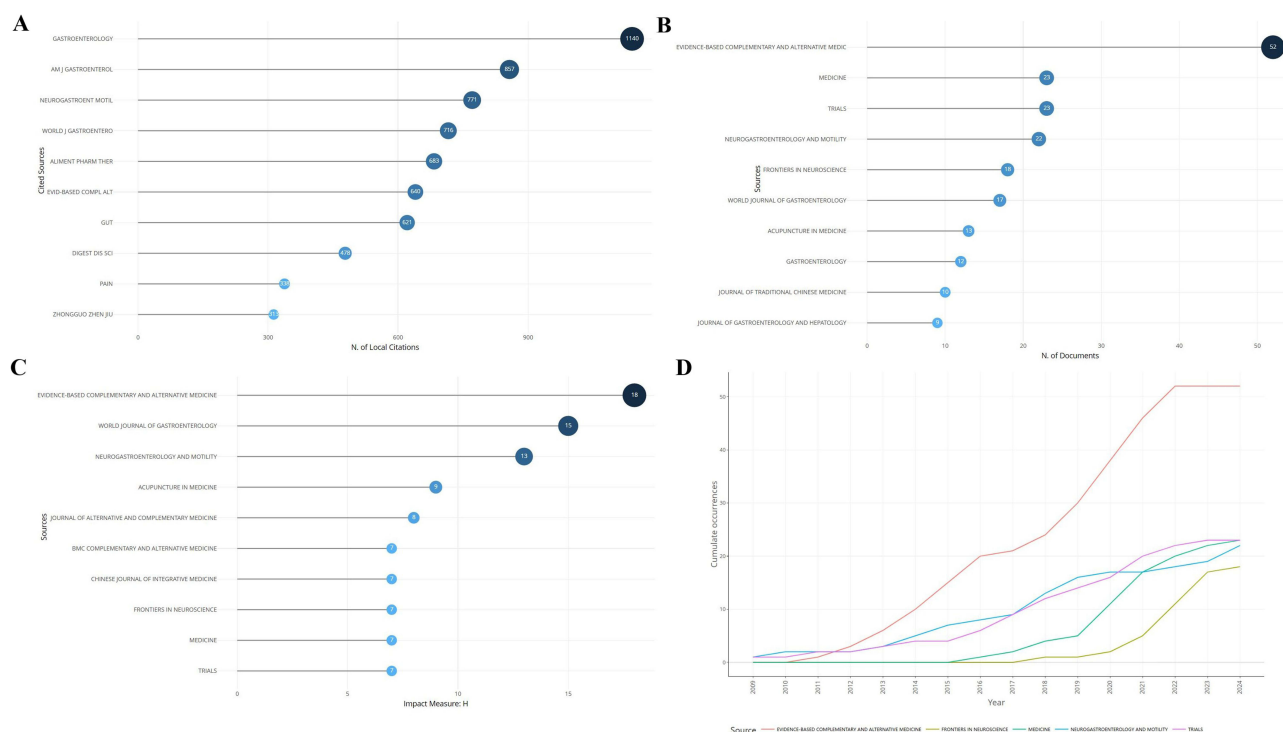


Figure 3 Journals published and cited. (A) Citation ranking of each journal; (B) the number of publications in each journal; (C) the ranking of the influence of each journal; (D) The cumulative number of publications in each journal changes over time.

by EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDIC was the first, and there was a big gap with other journals (Figure 3D).

Citation of Articles

The number of citations published in the literature on acupuncture treatment of functional dyspepsia was counted. The top 10 articles in the relevant citations were shown in Figure 4. Among them, the top three articles in the global cited rankings were from LANCET (866 times), ANESTHESIOLOGY (508 times), PLOS MED (489 times) journals (Figure 4A); the top three articles cited locally were from journals: AM J GASTROENTEROL (48 times), ALIMENT PHARM THER (46 times), AM J GASTROENTEROL (42 times), see Figure 4B. The most cited articles in this analysis were the articles published by OUYANG H et al in the ALIMENT PHARM THER journal (60 times), as shown in Figure 4C. The results of the citation co-occurrence network showed that it was mainly divided into two categories, see Figure 4D, and the citation network heat map was shown in Figure 4E.

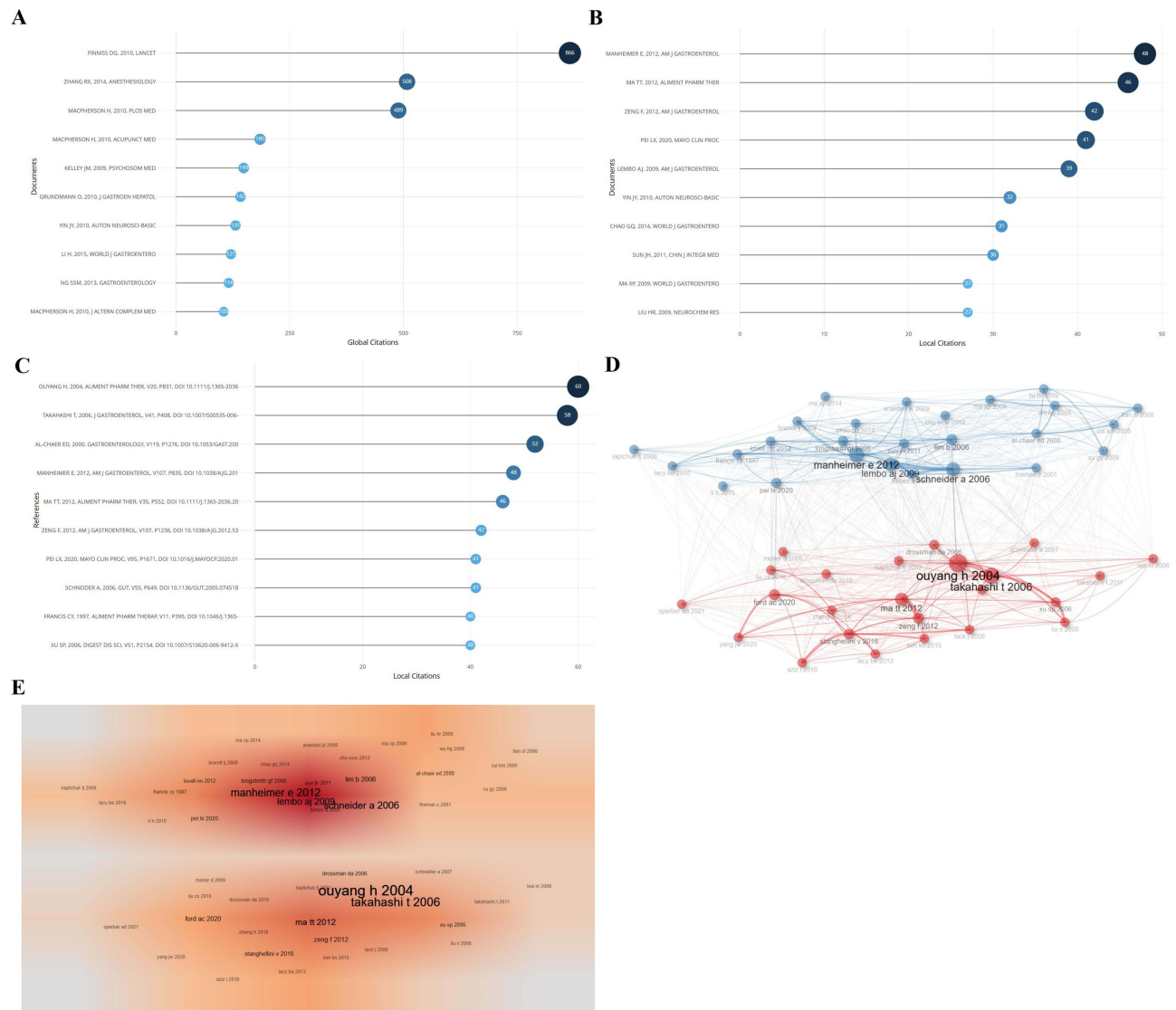


Figure 4 (A) Ranking of the most cited articles in the world; (B) ranking of the most cited articles in the local; (C) the most cited literature in each article; (D) Citation network clustering analysis; (E) Hotspot map of citation network.

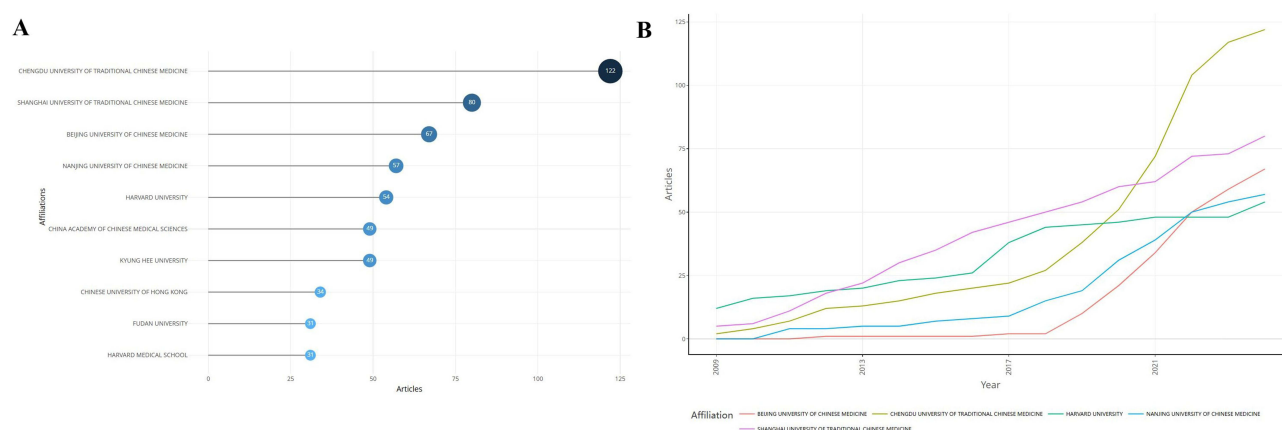


Figure 5 The situation of institution publication. (A) Ranking the number of institutional publications; (B) The changes in the number of papers issued by the top 5 institutions over time.

Issuance of Agency Papers

A total of 354 institutions have contributed to this field. The top ten institutions in the number of publications were shown in Figure 5A. The top five were CHENGDU UNIVERSITY OF TRADITIONAL CHINESE MEDICINE, SHANGHAI UNIVERSITY OF TRADITIONAL CHINESE MEDICINE, BEIJING UNIVERSITY OF CHINESE MEDICINE, NANJING UNIVERSITY OF CHINESE MEDICINE, HARVARD UNIVERSITY. The trend of the number of papers published by the top five institutions over time was shown in Figure 5B. Among them, CHENGDU UNIVERSITY OF TRADITIONAL CHINESE MEDICINE, HARVARD UNIVERSITY, SHANGHAI UNIVERSITY OF TRADITIONAL CHINESE MEDICINE have the earliest publishing time and gradually increased the number of papers over time.

The Author's Posting Situation

A total of 1841 authors have contributed to this field. The top ten authors were shown in Figure 6A, and the top three were WU HG (33 articles), LIU HR (31 articles) and LI Y (27 articles). In the ranking of local citations, WU HG ranked first with a citation frequency of 310 (Figure 6B). WU HG also ranked first in the author's influence ranking (Figure 6C); the author's output showed that from 2009 to 2023, each author in this field has a lot of article output in succession (Figure 6D); Figure 6E shows that most of the authors are from China, followed by the United States and South Korea. These authors are mostly from Shanghai University of traditional Chinese medicine and Chengdu University of traditional Chinese medicine.

Cooperation Network Analysis

The results of the cooperative network analysis of the included authors showed that there were a total of 6 cooperative groups, among which the teams such as ZENG F and WU HG have the closest cooperation within the team, and the cooperation between the teams was relatively independent, and the cooperation between each other was less (Figure 7A). The national cooperation map showed that China had the strongest connection with other countries. In this cooperation network centered on China, it had the closest cooperation with the United States, Australia and Canada (Figure 7B).

High-Frequency Keywords and Keyword Co-Occurrence Network Analysis

Keywords were the extraction of key information from a literature. By understanding the high-frequency keywords in related research, the core and hot spots in this research field can be roughly inferred. The high-frequency keywords in the literature related to acupuncture and moxibustion treatment of functional dyspepsia were statistically analyzed, and the word cloud map (Figure 8A) and tree map (Figure 8B) were drawn. The larger the area of keywords, the higher the frequency of occurrence. As shown in the figure, the top three high-frequency words were irritable bowel syndrome (152 times, 10%), followed by

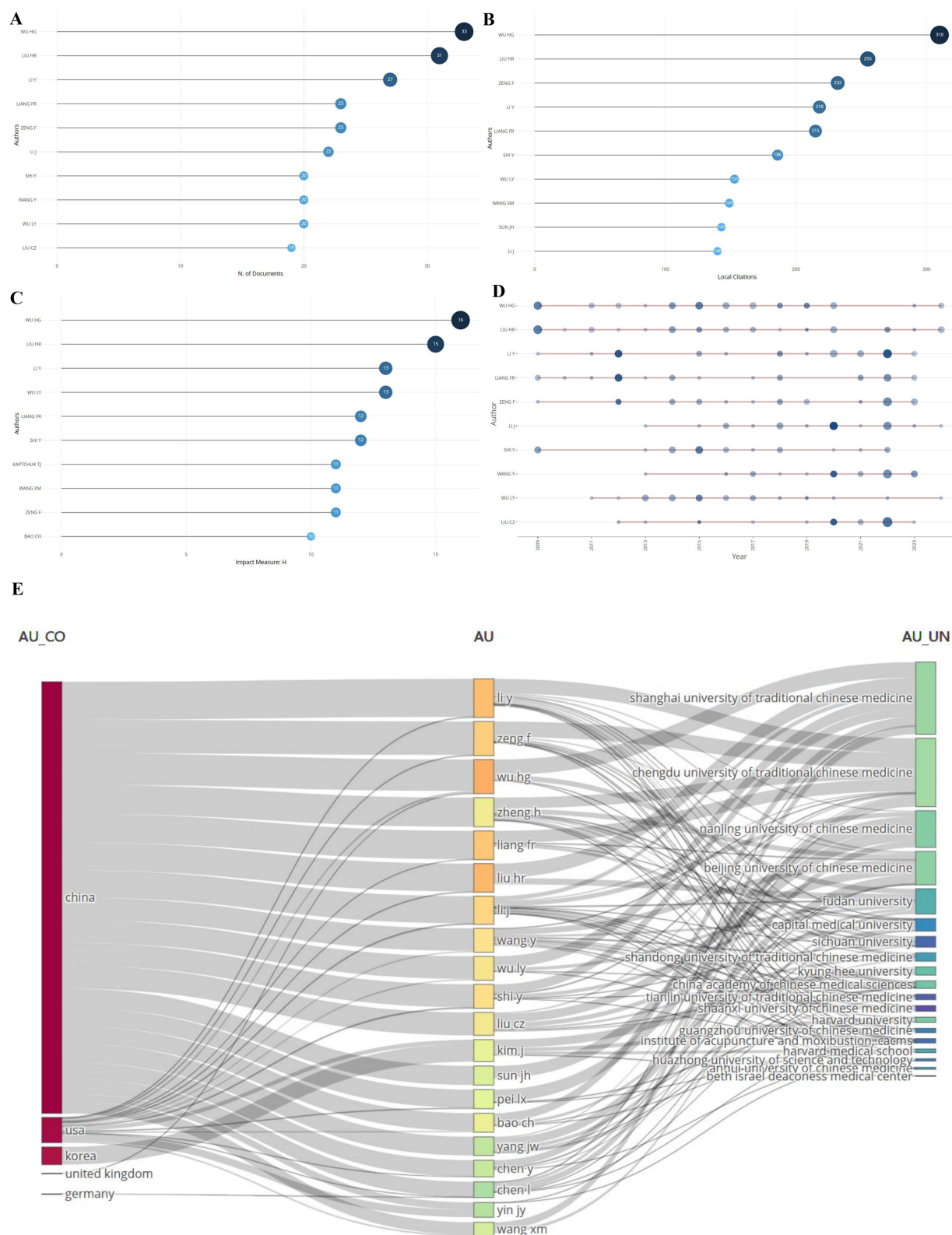


Figure 6 The author's publication. (A) Ranking of the number of publications; (B) local citation ranking; (C) influence ranking; (D) the change of the number of articles published by the author over time; (E): the author's country and the keywords used in the article (the left side is the country name, the middle is the author name, and the right side is the organization name).

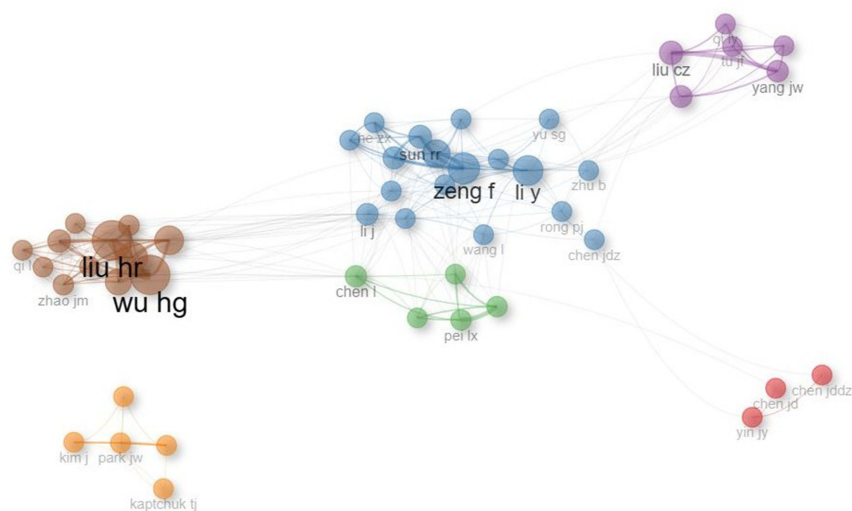
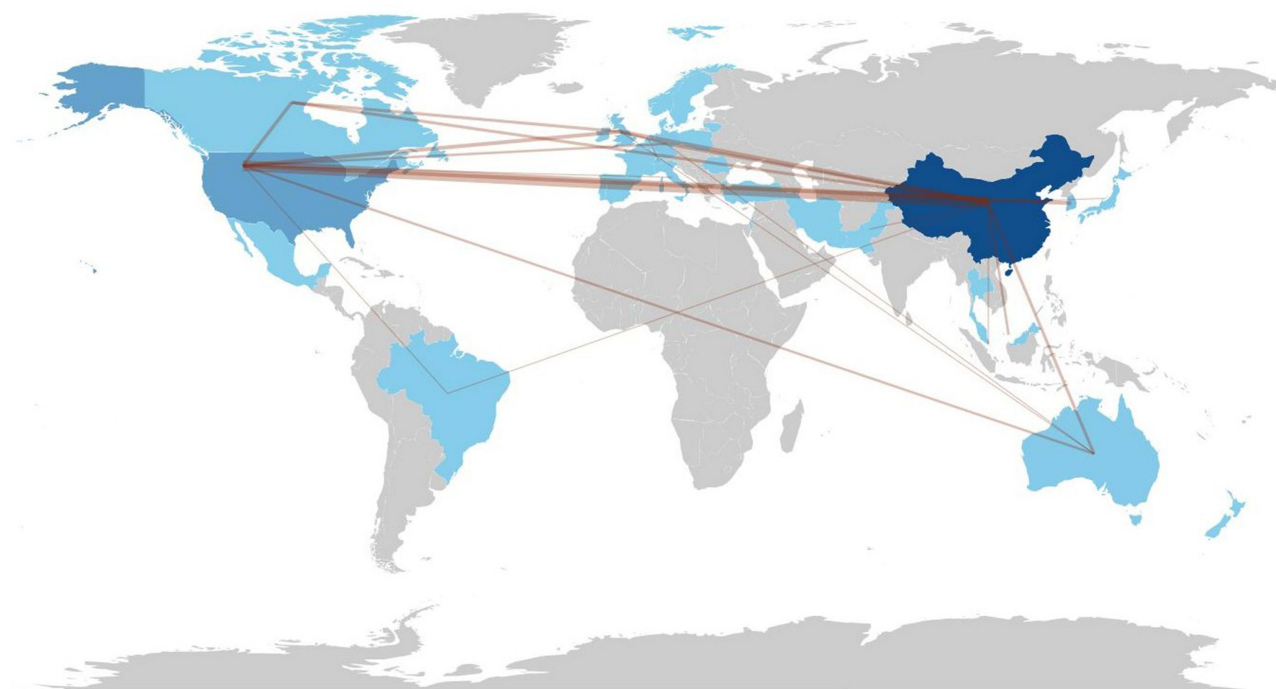
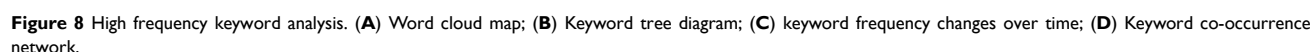
A**B**

Figure 7 (A) author cooperation network diagram; **(B)** National cooperation network diagram.

acupuncture (115 times, 8%) and electroacupuncture (88 times, 6%). The change of keyword frequency over time showed that the frequency level of each keyword increased with time, among which irritable-bowel-syndrome and acupuncture increased the fastest (Figure 8C). The co-occurrence analysis of 1050 keywords in the literature related to acupuncture and moxibustion treatment of functional dyspepsia was carried out. The co-occurrence network and clustering situation were shown in Figure 8D, which were divided into two categories. Cluster 1 was dominated by irritable-bowel-syndrome, acupuncture, etc. Cluster 2 was mainly based on quality of life, symptoms, etc.

Discussion

Functional dyspepsia (FD) is a common clinical digestive system disease, accounting for about 40% of the number of digestive clinics in China.¹⁷ The main clinical manifestations are recurrent upper abdominal pain, anorexia, noisy, early



Through the systematic study of the publication year and the number of publications in this field, it is found that the number of relevant publications in this field has increased rapidly since 2013. Although the number of publications in occasional years has decreased, it is in line with the law of academic development, and the research heat has been high. The journals included in this study are the core journals included in the WOS database. The results show that the journals that include the literature in the field of acupuncture and moxibustion treatment of functional dyspepsia are widely distributed, and there are many articles included. There has been a certain number of published high-quality and high-impact literatures

in this field. Analyze the number of institutions in which authors and institutions can clearly publish literature in this field, and measure the coverage of literature; to clarify the core figures and core institutions of research in related academic fields.²⁴ In this study, the institutions with the largest number of publications are CHENGDU UNIVERSITY OF TRADITIONAL CHINESE MEDICINE and SHANGHAI UNIVERSITY OF TRADITIONAL CHINESE MEDICINE. The research in this field by Chengdu University of Traditional Chinese Medicine involves curative effect observation, mechanism research, literature research, review, famous doctor experience and so on.^{25,26}

Keywords refer to words that can reflect the core content of an article or a book, reflecting the central point of view of the literature.²⁷ In this study, the keyword irritable bowel syndrome has the highest frequency of occurrence. This is because both functional dyspepsia (FD) and irritable bowel syndrome (IBS) belong to functional gastrointestinal disorders (FGIDs). They have similar risk factors. Although there are no obvious organic and metabolic changes, the symptoms are complex and the course of disease is prolonged. In particular, the overlap between the two diseases increases the difficulty of clinical diagnosis and treatment. IV In the FD series, it is pointed out that other individual digestive symptoms or symptom groups, such as other digestive symptoms from gastroesophageal reflux disease (GERD) and IBS, may coexist with PDS and EPS.¹ For example, EDWARDS, BAI et al²⁸ used IV as the diagnostic criteria, and found that the probability of FD overlapping IBS was significantly higher than that of the same group of patients using III. In common with the overlap of FD subtypes, there are a number of²⁹ data show that patients with FD overlap IBS have more severe sleep disorders and anxiety and depression than patients with a separate disease, and there is a similar “positive feedback” relationship between emotions and symptoms, that is, FD, IBS or FD overlap IBS patients, if they are combined with sleep disorders, depression and / or anxiety, the overlap of gastrointestinal symptoms is more obvious.

At present, there are still many articles published every year on the treatment of functional dyspepsia by acupuncture and moxibustion. The time of publication of the literature can reflect the academic research process and development speed in this field to some extent. According to the results of this study, it is reasonable to believe that the study of acupuncture treatment of functional dyspepsia will continue and dynamically, so the study has further significance and value. In the following research, we first need to integrate the literature of multiple databases, so that the data obtained from the screening can be as comprehensive as possible, and actively communicate with scholars in related fields, understand the frontier dynamics of the field, enhance and deepen the objective cognition of the field, and avoid the subjectivity of individuals in analysis and interpretation as much as possible.

Of course, influenced by some objective factors, this study also has some limitations. First of all, this study only selected the core collection network database of the journal article scientific index, excluding other databases, which will inevitably lead to the problem that the analysis data is not comprehensive enough. In the future research, we will integrate multiple databases, expand the coverage of the literature, and reduce the selection bias by manually supplementing the literature of important journals in the region. In addition, quantitative analysis needs to analyze and explain the data, which requires researchers to have a deeper and more comprehensive understanding of the field, otherwise there will be some subjectivity. Some exclusion criteria may be misjudged due to differences in researchers' understanding. Therefore, future research needs to further reduce the potential impact of geographical bias and subjectivity on the results through cross-database retrieval and algorithm-assisted analysis. Finally, the literature included in this study is mainly from Chinese research institutions, which may be closely related to acupuncture as the core therapy of traditional Chinese medicine. China's long-term practice and scientific research investment in the field of acupuncture and moxibustion have promoted the output of a large number of high-quality studies. However, this geographical concentration may limit the universality of the research results. For example, there may be differences in acupuncture operation standards, patient baseline characteristics or efficacy evaluation methods in different countries. Future studies need to include more international multicenter clinical trials to verify the effectiveness of acupuncture in different cultural backgrounds.

Conclusion

In conclusion, this bibliometric study revealed that research on acupuncture for functional dyspepsia (FD) has grown significantly since 2009, with China leading in both publications and citations. The author and institutional collaboration networks indicated fragmented research clusters, with the strongest cooperation observed among Chinese institutions and international partners. The co-occurrence network identified two dominant research clusters were mechanistic and

therapeutic exploration and symptom management and quality of life. The keyword evolution analysis revealed a shift from foundational studies toward applied research, indicating maturation in the field. These findings provide a structural blueprint for future research, emphasizing the need to strengthen international collaboration and address gaps in mechanistic and comparative effectiveness studies.

Ethics Approval and Consent to Participate

An ethics statement is not applicable because this study is based exclusively on published literature.

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Disclosure

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References

1. Stanghellini V, Chan FK, Hasler WL, et al. Gastroduodenal disorders. *Gastroenterology*. 2016;150(6):1380–1392. PMID: 27147122. doi:10.1053/j.gastro.2016.02.011
2. Gottschalk L, Andresen V, Løyer P. Reizdarmsyndrom und funktionelle dyspepsie: diagnostik und Therapie [Irritable bowel syndrome and functional dyspepsia: diagnosis and treatment]. *Internist*. 2022;63(1):51–61. PMID: 35006319. doi:10.1007/s00108-021-01218-3
3. Nam Y, Kwon SC, Lee YJ, Jang EC, Ahn SH. Relationship between job stress and functional dyspepsia in display manufacturing sector workers: a cross-sectional study. *Ann Occup Environ Med*. 2018;30:62. PMID: 30364417; PMCID: PMC6194695. doi:10.1186/s40557-018-0274-4
4. Li Y, Gong Y, Li Y, et al. Sleep disturbance and psychological distress are associated with functional dyspepsia based on Rome III criteria. *BMC Psychiatry*. 2018;18(1):133. PMID: 29776354; PMCID: PMC5960153. doi:10.1186/s12888-018-1720-0
5. Sander GB, Mazzoleni LE, Francesconi CF, et al. Helicobacter eradication relief of dyspeptic symptoms trial investigators. Influence of organic and functional dyspepsia on work productivity: the HEROES-DIP study. *Value Health*. 2011;14(5 Suppl 1):S126–9. PMID: 21839884. doi:10.1016/j.jval.2011.05.021
6. Kim SE, Kim N, Lee JY, et al. Prevalence and risk factors of functional dyspepsia in health check-up population: a nationwide multicenter prospective study. *J Neurogastroenterol Motil*. 2018;24(4):603–613. PMID: 29938463; PMCID: PMC6175566. doi:10.5056/jnm18068
7. Ford AC, Mahadeva S, Carbone MF, Lacy BE, Talley NJ. Functional dyspepsia. *Lancet*. 2020;396(10263):1689–1702. PMID: 33049222. doi:10.1016/S0140-6736(20)30469-4
8. Talley NJ, Locke GR, Saito YA, et al. Effect of amitriptyline and escitalopram on functional dyspepsia: a multicenter, randomized controlled study. *Gastroenterology*. 2015;149(2):340–9.e2. PMID: 25921377; PMCID: PMC4516571. doi:10.1053/j.gastro.2015.04.020
9. Masuy I, Van Oudenhove L, Tack J. Review article: treatment options for functional dyspepsia. *Aliment Pharmacol Ther*. 2019;49(9):1134–1172. PMID: 30924176. doi:10.1111/apt.15191
10. Liu HG, Zhang GS, Liu HJ, et al. Acupuncture therapy with point selection based on syndrome differentiation along the meridians for functional dyspepsia: a randomized controlled trial. *J Acupunct Tuina Sci*. 2020;18(5):352–358. doi:10.1007/s11726-020-1201-0
11. Mounsey A, Barzin A, Rietz A. Functional Dyspepsia: evaluation and Management. *Am Fam Physician*. 2020;101(2):84–88. PMID: 31939638.
12. Ouyang X, Li S, Zhou J, Chen JD. Electroacupuncture ameliorates gastric hypersensitivity via adrenergic pathway in a rat model of functional dyspepsia. *Neuromodulation*. 2020;23(8):1137–1143. PMID: 32282996. doi:10.1111/ner.13154
13. Qiu JP. The definition of bibliometrics and its research object. *J Libr Sci China*. 1986;2:71.
14. Guo Y, Wang XW, He W, Yang MQ. Chinese and international dynamic research into low carbon technology based on bibliometrics and knowledge mapping. *Information Science*. 2015;33(4):139–148.
15. Liu XY, Su ZQ, Fan QY, et al. Visualization analysis of research status and trends of melasma treated by Chinese medicine in recent 20 years based on citeSpace. *Acta Chinese Medicine*. 2020;35(11):2480–2486. doi:10.16368/j.issn.1674-8999.2020.11.547
16. Mo JH, Huang YF, Ren ZX, et al. Analysis of progress in Chinese materia medica injection for the treatment of chronic kidney disease based on citespace. *J Hunan Univ Chin Med*. 2020;40(11):1389–1395. doi:10.3969/j.issn.1674-070X.2020.11.018
17. Tack J, Carbone F. Functional dyspepsia and gastroparesis. *Curr Opin Gastroenterol*. 2017;33(6):446–454. PMID: 28832359. doi:10.1097/MOG.0000000000000393
18. Zhang SS, Qin DP, Zhou Q, et al. China association of Chinese medicine, spleen and stomach disease branch. traditional Chinese medicine diagnosis and treatment guideline for common diseases of digestive system functional dyspepsia (Primary Doctor Edition). *Chin J Tradit Chin Med Pharm*. 2019;34(8):3619–3625.
19. Sayuk GS, Gyawali CP. Functional dyspepsia: diagnostic and therapeutic approaches. *Drugs*. 2020;80(13):1319–1336. doi:10.1007/s40265-020-01362-4
20. Pinto-Sanchez MI, Yuan Y, Hassan A, Bercik P, Moayyedi P. Proton pump inhibitors for functional dyspepsia. *Cochrane Database Syst Rev*. 2017;11(11):CD011194. PMID: 29161458; PMCID: PMC6485982. doi:10.1002/14651858.CD011194.pub3

21. Zhang S, Li S, Liu Y, et al. Electroacupuncture via chronically implanted electrodes improves gastric dysmotility mediated by autonomic-cholinergic mechanisms in a rodent model of functional dyspepsia. *Neurogastroenterol Motil.* **2018**;30(10):e13381. doi:10.1111/nmo.13381
22. Zhang S, Liu Y, Li S, Ye F, Yin J. Autonomic and cytokine mechanisms of acute electroacupuncture in a rodent model of functional dyspepsia. *Neurogastroenterol Motil.* **2024**;36(1):e14702. doi:10.1111/nmo.14702
23. Liao X, Tian Y, Zhang Y, et al. Acupuncture for functional dyspepsia: bayesian meta-analysis. *Complement Ther Med.* **2024**;82:103051. doi:10.1016/j.ctim.2024.103051
24. Chen GS, Ni J, Luo JY, Qu HC, Yin XB. Bibliometric analysis on study of oridonin based on CNKI. *Chin J Inform Trad Chin Med.* **2019**;26(9):104–109. doi:10.3969/j.issn.1005-5304.2019.09.023
25. Guo M, Yang QF, Huang M, Huang Y, Tan XX, Ma J. Study on the clinical application of moxibustion in the treatment of functional dyspepsia. *World Latest Med Inform.* **2019**;19(71):74–76. doi:10.19613/j.cnki.1671-3141.2019.71.032
26. Zhao Y, Wang YN, Long T, Zhang PY, Hu YP, Chen Y. To explore the brain response mechanism of acupuncture in the treatment of functional dyspepsia based on brain imaging technology. *J Pract Med.* **2018**;34(21):3641–3643. doi:10.3969/j.issn.1006-5725.2018.21.036
27. Editorial department of Chinese Journal of Minimally Invasive Neurosurgery. Standardization of keyword indexing. *Chin J Minimall Invasive Neurosurg.* **2021**;26(02):89.
28. Bai T, Xia J, Jiang Y, et al. Comparison of the Rome IV and Rome III criteria for IBS diagnosis: a cross-sectional survey. *J Gastroenterol Hepatol.* **2017**;32(5):1018–1025. PMID: 27862281. doi:10.1111/jgh.13642
29. Zhang X, Zhao W, Chen QY, et al. A clinical investigation of patients with functional gastrointestinal disorders complicated with sleep disorders. *Chin J Dig.* **2018**;38(9):618–622. doi:10.3760/cma.j.issn.0254-1432.2018.09.010

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