

# Hot Topics and Trends in Anti-depression Research on Cyperi Rhizoma: A Bibliometric Analysis Based on CiteSpace

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**Abstract** [ **Objectives** ] This study was conducted to perform visual analysis of the research hotspots and development trends of Cyperi Rhizoma in the field of antidepressant based on CiteSpace, so as to explore the application and development direction of Cyperi Rhizoma in the field of antidepressant. [ **Methods** ] Highly-relevant literatures were selected from the core database of China National Knowledge Infrastructure (CNKI), and CiteSpace and WPS office software were employed to visually analyze relevant contents such as publishing institutions, scholars, keywords, publishing time, and citation frequency. [ **Results** ] A total of 297 domestic relevant literatures were selected. Most of the publications, institutions and authors were concentrated in universities, affiliated institutions and scientific research institutes of traditional Chinese medicine in China, and no relatively novel applied research direction has emerged. At present, the hot spots and frontiers of application were mostly concentrated in its role in treating depression, anxiety, gynecological diseases and other disorders. [ **Conclusions** ] The research on Cyperi Rhizoma for its antidepressant effects in China originated in the late 20<sup>th</sup> century. From 2004 to 2024, studies have primarily focused on its pharmacological principles, mechanisms of action, and classification, while the exploration of its application in specific depressive disorders was limited. Overall, research progress has been relatively slow. Currently, further efforts are needed to optimize the active antidepressant components of Cyperi Rhizoma and clarify its mechanisms of action, which will facilitate its broader application in treating various stages of depressive disorders.

**Key words** Cyperi Rhizoma; Antidepressant; CiteSpace; Visualization analysis; Research hotspot

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Depression is a significant and persistent mood disorder characterized by core clinical symptoms including depressed mood, anhedonia, and diminished interest. It exhibits high morbidity, high recurrence rate, high disability rate, and high suicide risk<sup>[1]</sup>. The global prevalence of depression is approximately 5%<sup>[2]</sup>, and the World Health Organization predicts that by 2030, depression will become the leading cause of global disease burden<sup>[3]</sup>.

Cyperi Rhizoma, the dried rhizome of *Cyperus rotundus* L. (Cyperaceae), is renowned for its effects of soothing liver stagnation, regulating qi, alleviating depression, and relieving menstrual pain. It is traditionally regarded as the "chief commander of qi disorders and the leading herb in gynecology"<sup>[4]</sup>. Modern research has identified active components in its volatile oil, such as cyperone and pinene, which exhibit pharmacological effects including analgesia, anti-inflammatory activity, and antidepressant properties<sup>[5]</sup>. Notably, Cyperi Rhizoma demonstrates significant efficacy in treating depression, as well as conditions like liver qi stagnation, breast distending pain, dysmenorrhea, and irregular menstruation<sup>[6]</sup>. As a core traditional Chinese medicine for soothing the liver and regulating qi, the research on Cyperi Rhizoma has evolved from traditional empirical knowledge to modern science, demonstrating multifaceted value in the fields of neuropsychiatric disorders, gynecological diseases, and digestive system diseases. Currently, studies on the antidepressant effects of Cyperi Rhizoma primarily focus on the screening of active antidepressant

components and their dose-effect relationships, as well as the multi-component, multi-target and multi-pathway mechanisms and pharmacological action mechanisms underlying its antidepressant properties.

In recent years, as the prevalence of depression continues to rise, this disease not only severely undermines patients' mental health and quality of life but also imposes a heavy burden on families and society. Currently, pharmacotherapy remains the primary treatment for depression. However, its slow onset of action and potential adverse effects such as 5-hydroxytryptamine (5-HT) syndrome, metabolic syndrome, sexual dysfunction, gastrointestinal reactions, cardiovascular complications, and risk of manic switching<sup>[7]</sup>, lead to reduced patient adherence, driving an urgent demand for safer and more effective treatment options. With growing public health awareness and increasing recognition of traditional Chinese medicine, natural medicines are gaining attention for their potential in antidepressant therapy. As a classical herb for soothing liver stagnation and relieving depression, Cyperi Rhizoma has been extensively studied for its antidepressant effects, demonstrating advantages such as multi-target regulation and relatively mild side effects, aligning with patients' demand for gentle yet sustained treatment. Perfecting and developing, systematizing and exploring the application and development direction of Cyperi Rhizoma in the field of antidepressant has become a research hotspot.

CiteSpace is a bibliometric software that transforms literature into visualized scientific knowledge maps based on specified relationships<sup>[8]</sup>. It can identify research trends and display the latest developments in a given field<sup>[9]</sup>. In this study, to better demonstrate the research advantages of Cyperi Rhizoma in treating depression and explore its application for specific types of depressive disorders, the scientific visualization analysis of CiteSpace and

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WPS Office software were combined to systematically sort out research hotspots and development trends in this field. This study addresses the limitations of fragmented studies, providing reference directions for the identification of potential research gaps and future investigations.

## Materials and Methods

### Data sources

The China National Knowledge Infrastructure (CNKI) database was selected as the data source for literature retrieval, with the literature source limited to Chinese-language publications. The retrieval period spanned from January 1, 2004, to December 30, 2024, and the search terms included "pharmacological effects of Cyperi Rhizoma", "antidepressant", and "antidepressant effects of Cyperi Rhizoma". A total of 1 628 relevant papers were initially identified. After screening and deletion, 297 papers were ultimately included as the data analysis samples for this study.

### Data inclusion and exclusion criteria

**Inclusion criteria** The topics included "pharmacological effects of Cyperi Rhizoma", "antidepressant", "antidepressant effects of Cyperi Rhizoma", "clinical research", and "clinical efficacy". The research level was limited to technical research, clinical research and applied basic research, and the document types were restricted to review articles and research papers.

**Exclusion criteria** Duplicate publications; documents with incomplete basic information; unavailable full-text articles; conference abstracts, expert consensus or case reports; non-Chinese publications; research patents, scientific achievements, news reports or briefings.

### Research methods

Microsoft Excel was employed to statistically analyze the annual publication number of the included documents, followed by generating a trend analysis chart of annual publications. The selected data samples were then visualized and analyzed using CiteSpace software to create knowledge maps and draw comprehensive conclusions. The included papers were analyzed for collaboration networks, research hotspots, keyword co-occurrence, and clustering to generate corresponding knowledge maps. We not only organized existing studies, but also provided a comprehensive overview of research trends and focal points regarding the antidepressant effects of Cyperi Rhizoma.

### Visual mapping analysis

The size and color of nodes and the number of connection lines between nodes in the generated visualization maps should be observed. The node and font sizes represent the frequency of extracted terms. The connecting lines between nodes indicate relationships between terms<sup>[10]</sup>. The thickness of lines reflects the strength of association between terms, and the colors of nodes and lines represent different years<sup>[11]</sup>. A rainbow color spectrum was selected, with rightward colors indicating more recent years. All selected data were sorted by correlation or quantitative indices such as frequency.

## Visualization Analysis of Research Hotspots and Trends for the Antidepressant Effects of Cyperi Rhizoma Using CiteSpace

### Annual number of publications

The variation in the annual number of publications reflects the development pace and patterns of academic research, serving as an important indicator for assessing disciplinary academic level<sup>[12]</sup>. Through systematic retrieval in WOS via CiteSpace, 1 628 papers related to the topic and keywords were identified from 2004 to 2024, and 297 papers were ultimately included after screening. As shown in Fig. 1, during the period from 2004 to 2014, the annual number of publications demonstrated a slow fluctuating upward trend, gradually increasing from 4 publications in 2004 to 7 publications in 2014. The publication number began to climb significantly from 7 to 12 publications from 2014 to 2016, and reached its first peak at 25 publications in 2017. During 2016 – 2022, the publication number showed fluctuations with an overall wave-like pattern. Subsequently, from then until 2024, the number of publications increased sharply, reaching a peak of 36 papers in 2024. The publication number evolved from relatively low levels through fluctuations to a rapid growth trend, with particularly remarkable increases in the later period. Therefore, studies related to the keywords "Cyperi Rhizoma" and "antidepressant" since 2004 could be divided into the following stages: dormant period (2004 – 2014), growth period (2014 – 2022), and outbreak period (2022 – 2024). Judging from the publication number in recent years, research on the antidepressant effects of Cyperi Rhizoma remains a hot topic in scientific research, making it practically significant to systematically review its research hotspots and development trends.

### Publishing institutions

This study analyzed publications from 129 institutions conducting research in this field, including Nanjing University of Chinese Medicine, Beijing University of Chinese Medicine and other domestic institutions. As shown in Fig. 2, the map contains 129 nodes and 49 connecting lines, showing a network density of 0.004 9. Fig. 3 presents the publication count, central, year and institution names (keywords) for the top 20 institutions by publication number. Among them, Nanjing University of Chinese Medicine exhibited the highest publication count with 19 papers in 2004, followed by Beijing University of Chinese Medicine with 11 publications in 2005, and Liaoning University of Traditional Chinese Medicine with 10 papers in 2022 (Table 1). From a temporal perspective, institutions published papers continuously between 2004 and 2022, with multiple institutions simultaneously publishing during certain years (*e. g.*, 2007, 2012, 2015). The research institutions encompassed universities of Chinese medicine, affiliated organizations, and research institutes, such as College of Psychology, Nanjing University of Chinese Medicine and Shanghai R&D Center for Standardization of Chinese Medicine. However, from the perspective of institutional collaboration networks, Nanjing University of Chinese Medicine and other institutions have

made outstanding contributions in this research field. Some institutions show connection with other institutions, indicating a certain level of collaboration, but the overall network does not exhibit a highly dense collaborative pattern. It suggests that a tightly-knit collaborative network among institutions has yet to be formed, and there remains room for improvement in the breadth and depth of

cross-institutional cooperation. Therefore, it is hoped that future efforts in this field can strengthen cross-institutional and cross-temporal collaboration, integrate resources to enhance the systematicity and depth of research, and overcome the limitations of single-institution studies through cooperative exchanges, ultimately driving the field toward broader development.

Table 1 Top 20 institutions by publication number

No.	Count	Central	Year	Keywords
1	19	0	2004	Nanjing University of Chinese Medicine
2	11	0	2005	Beijing University of Chinese Medicine
3	10	0	2022	Liaoning University of Traditional Chinese Medicine
4	9	0	2015	Guangxi University of Chinese Medicine
5	6	0	2019	Shanghai University of Traditional Chinese Medicine
6	6	0	2012	Shandong University of Traditional Chinese Medicine
7	5	0	2007	Changchun University of Chinese Medicine
8	5	0	2007	Beijing University of Chinese Medicine
9	5	0	2011	Guangzhou University of Chinese Medicine
10	5	0	2022	Jiangxi University of Chinese Medicine
11	4	0	2018	College of Psychology, Nanjing University of Chinese Medicine
12	4	0	2006	Shanghai R&D Center for Standardization of Chinese Medicine
13	4	0	2012	Central South University
14	3	0	2015	Key Laboratory of Traditional Chinese Medicine Encephalopathy, Nanjing University of Chinese Medicine
15	3	0	2015	The First Affiliated Hospital of Guangxi University of Chinese Medicine
16	3	0	2013	Institute of Integrated traditional Chinese Medicine and Western Medicine, Xiangya Hospital, Central South University
17	3	0	2004	Chengdu University of Traditional Chinese Medicine
18	3	0	2021	Tianjin University of Traditional Chinese Medicine
19	3	0	2020	Huazhong University of Science and Technology
20	2	0	2020	Anhui University of Chinese Medicine

Author collaboration network

A total of 178 authors have published research literature in this field. As shown in Fig. 3, the network consists of 178 nodes and 117 connecting lines, showing a network density of 0.0074. Authors such as Chen Gang, Xue Wenda and Ren Li have contributed a relatively high number of publications and exhibit certain collaborative relationships with other authors (Table 2). Meanwhile, scholars including Yang Shengming, Liu Hu, and Cheng Min, though less engaged in collaboration, still maintain significant influence through their individual research achievements. Other authors, such as Wang Xiaohui, Zhang Lanhua, Yang Yuying, and Song Ruihua, have relatively fewer publications but exhibit tightly-knit, web-like collaboration. The network illustrates diverse collaborative patterns, ranging from broad cooperation led by core authors, to closely-knit small groups, to independent yet influential individual research by individual scholars, reflecting the multifaceted nature of collaboration in this field.

Distribution of publishing countries

The relevant literature data selected for this paper were all sourced from CNKI (China National Knowledge Infrastructure), and no relevant foreign literature was selected. No analysis was conducted on the distribution of publishing countries.

Table 2 Top 20 authors by publication number

No.	Count	Central	Year	Keywords
1	10	0	2016	Chen Gang
2	7	0	2017	Xue Wenda
3	5	0	2015	Ren Li
4	4	0	2006	Wei Xiaohui
5	4	0	2018	Wang Wei
6	3	0	2007	Wang Zhengtao
7	3	0	2010	Zhang Chunhu
8	3	0	2013	Wu Zhengzhi
9	3	0	2015	Wu Haoxin
10	3	0	2016	Zhang Hailou
11	3	0	2016	Zhu Dandan
12	3	0	2017	Tang Juanjuan
13	2	0	2005	Feng Zhicheng
14	2	0	2006	Shen Jingshan
15	2	0	2007	Li Qingya
16	2	0	2009	Li Shuqi
17	2	0	2012	Huang Peishan
18	2	0	2014	Qiu Juan
19	2	0	2015	Liu Tai
20	2	0	2016	Ni Xinqiang

Application fields

**Research hotspots** Keywords play a crucial role in academic literature. On one hand, they align with search preference, enhancing the visibility and accessibility of papers. On the other hand, they compensate for readers' lack of prior knowledge about the literature, helping them form a preliminary understanding before reading. The keywords of a paper are closely tied to the core content of the paper, serving as a comprehensive summary of the research and representing its central themes and concepts. Frequently-used keywords highlight the paper's focus, reinforcing the significance and persuasiveness of its content. Moreover, keywords themselves serve as strong sources of evidence<sup>[13]</sup>. As shown in Fig. 4, analyzing keywords from the past 20 years revealed that research hotspots in Cyperi Rhizoma for antidepressant effects primarily focused on depression, antidepressant activity, Yueju Pill, and related areas. The keyword co-occurrence clustering map<sup>[14]</sup> mainly reflects the associations within clusters and the historical scope of relevant literature. Fig. 5 presents a clustering map of keywords constructed using CiteSpace. The study generated a total of 15 clusters, with the largest module being #0 depressive disorder, followed by relatively large modules such as #1 Cyperi Rhizoma and #2 antidepressant. It indicates that Cyperi Rhizoma remains a key focus in current antidepressant research. Meanwhile, modules #3 depression, #4 depression syndrome, along with #0, #1, and #2, collectively form the main search terms in the literature. Modules #5 Yueju Pill, #6 alcohol extract, #7 tissue metabolomics, #8 mechanism, and #9 medication law were primarily clustered around research on the treatment mechanisms and drugs for #0 depressive disorder. Table 3 clearly lists the top 20 keywords by frequency over the past two decades, among which "depressive disorder" appeared 91 times, "antidepressant" appeared 29 times, and "Cyperi Rhizoma" appeared 18 times. These three terms showed significantly higher frequencies compared with other keywords. From both statistical and visualization perspectives, the result of this study reveals research hotspots in the field (such as depressive disorder, Yueju Pill, and antidepressant), research methods (*e. g.*, data mining), and the research context of specific traditional Chinese medicines (*e. g.*, Cyperi Rhizoma). This study provides a clear perspective for understanding the research structure and development direction of this field.

**Research trends** Fig. 6 shows the changes in high-frequency keywords related to Cyperi Rhizoma in antidepressant research in different periods. Based on this, the application and development trend of Cyperi Rhizoma's antidepressant effects in the next few years was roughly predicted.

From 2004 to 2010, the high-frequency keywords included depressive disorder, Cyperi Rhizoma, antidepression, depression, depression syndrome, Yueju Pill, mechanism, metabolomics, and antidepressant. Research combining Cyperi Rhizoma with antidepressant effects was relatively fundamental during this period, primarily focusing on the treatment principles of depression, the pharmacological effects of Cyperi Rhizoma, and its application in

treating depressive disorder. It reflected preliminary investigations into the potential antidepressant pharmacological effects of Cyperi Rhizoma.

Table 3 Top 20 keywords by frequency

No.	Count	Central	Year	Keywords
1	91	0.84	2004	Depressive disorder
2	43	0.89	2004	Yueju Pill
3	29	0.64	2004	Antidepressant
4	28	0.12	2019	Data mining
5	20	0.38	2006	Depression
6	18	0.20	2009	Cyperi Rhizoma
7	17	0.23	2017	Medication law
8	11	0.05	2012	Chemical component
9	10	0.07	2009	Metabonomics
10	8	0.09	2015	Coronary heart disease
11	7	0.05	2019	Depression syndrome
12	7	0.20	2012	Chinese herbal medicine
13	6	0	2012	Mechanism of action
14	6	0.15	2007	Traditional Chinese medicine
15	6	0	2017	Pharmacological action
16	6	0.05	2011	Clinical application
17	6	0.18	2007	Clinical research
18	5	0.06	2022	Anxiety
19	5	0.07	2017	Compound Chinese medicinal preparation
20	4	0.23	2019	Clinical observation

From 2010 to 2020, the high-frequency hotspot keywords were Cyperi Rhizoma, antidepression, anxiety-type depression syndrome, alcohol extract, mechanism, and medication law, which were reflected several aspects. The first is studying the clinical applications of Cyperi Rhizoma in different compound formulas for antidepressant effects. For instance, in Wang Liansheng's publication *Antidepressant Application of Cyperi Rhizoma and Its Compound Formulas*, various compound formulas primarily composed of Cyperi Rhizoma were more widely applied in depression treatment, particularly Chaihu Shugan Powder and Yueju Pill. Their mechanisms involve regulating monoamine neurotransmitters and receptor expression, reducing neuronal damage and apoptosis, modulating HPA axis function, and improving brain-derived neurotrophic factors, providing theoretical support for clinical applications<sup>[15]</sup>. The second is the applicaiton of Cyperi Rhizoma in the treatment of anxiety-type depression syndrome. For instance, in the study *Data Mining-Based Summary of Professor Li Qiyi's Clinical Experience in Treating Insomnia with Comorbid Depression and/or Anxiety*, through cluster analysis of high-frequency herbs and factor analysis, Professor Li Qiyi's core herbal combination for treating insomnia with comorbid depression and/or anxiety was identified as: *Bupleuri Radix*, *Cyperi Rhizoma*, *Nardostachyos Radix Et Rhizoma*, *Cortex Albiziae*, *Semen Platycladi*, *Semen Ziziphi Spinosae*. In clinical practice, additional herbs like *Margaritifera Concha*, *dragonsbones*, and *Radix Et Rhizoma* were often incorporated as foundational formulas<sup>[16]</sup>. The third is the antidepressant effects of Cyperi Rhizoma's alcohol extract, Liu Huan's study *Antidepressant Activity Evaluation and GC-MS Analysis of Volatile Oil from Vinegar-made*

*Cyperi Rhizome* demonstrated that vinegar-processed *Cyperi Rhizoma* volatile oil exhibited antidepressant effects, with one of its mechanisms being the elevation of 5-HT levels in brain tissue<sup>[17]</sup>. The fourth is exploring the antidepressant mechanism of *Cyperi Rhizoma*. For instance, in Jia Hongmei's publication *Exploration of Mechanism of Antidepressant of Cyperus rotundus based on Network Pharmacology*, the results of network pharmacology analysis preliminarily revealed that *Cyperi Rhizoma* exerts its antidepressant effects through a synergistic mechanism involving multiple components, targets, and pathways<sup>[18]</sup>. Additionally, related literature on mechanisms and medication laws further refined the research towards microscopic precision.

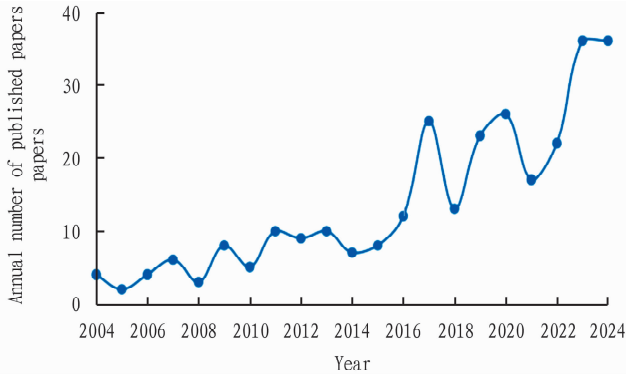


Fig. 1 Annual publication trend of research literature on antidepressant effects of *Cyperi Rhizoma*



Fig. 2 Visualization map of institutional collaboration network

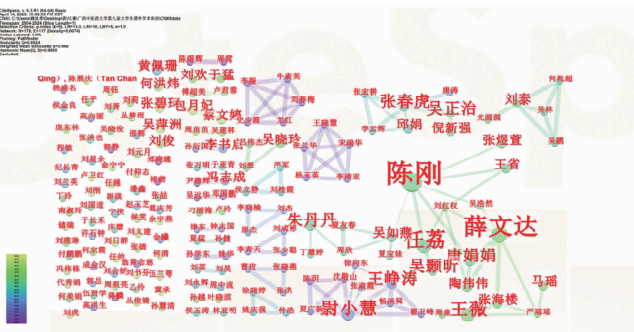


Fig. 3 Visualization map of author collaboration network

From 2020 to 2024, the high-frequency hotspot keywords remained largely unchanged but included a new application area: postpartum depression. Analyzing keyword frequencies over these

fourteen years (2010 – 2024) revealed that the antidepressant research of *Cyperi Rhizoma* is still limited to superficial drug use. However, in terms of experimental research, there is relatively little research on the antidepressant effect of single herb *Cyperi Rhizoma*. The specific targets and pathways of its therapeutic effects remain unclear, and its application in specific subtypes of depression such as *Cyperi Rhizoma* for anxiety-type depression or postpartum depression has been documented in fewer than 10 studies. It indicates these emerging research focuses are still in the experimental phase and may represent future developmental trends in this field.

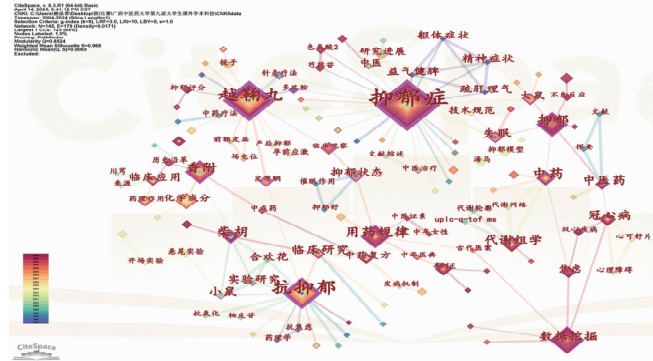


Fig. 4 Visualization map of core research hotspots

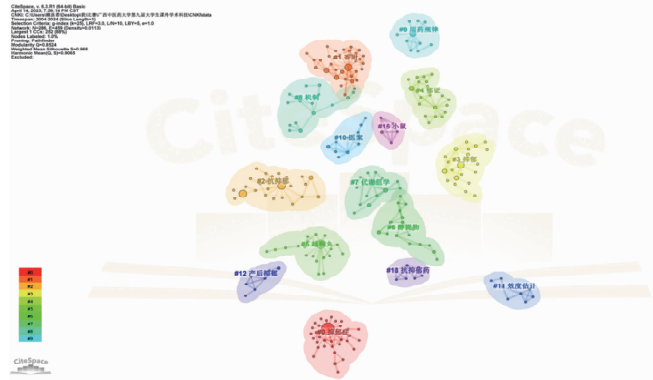


Fig. 5 Keyword clustering map

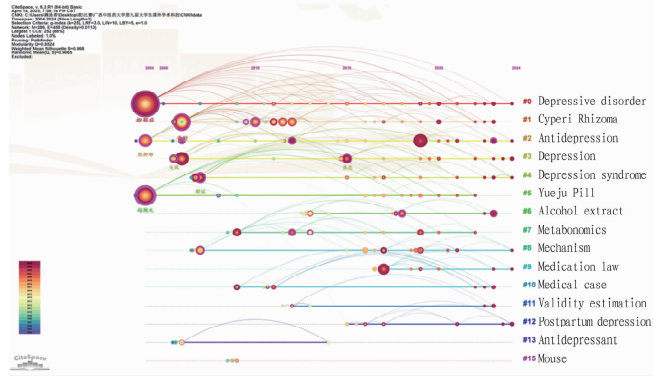


Fig. 6 Timeline diagram of relevant research keywords

Analysis of recent research trends reveals that studies on *Cyperi Rhizoma* for antidepressant effects remain limited and progress slowly, predominantly focusing on traditional compound

formulations and their modifications. While numerous publications exist, the research direction lacks prominence. Although investigations have shifted from traditional applications to microscopic levels and begun subdividing research content into various depressive disorders, relevant literature remains scarce. The specific pharmacological actions and mechanisms of Cyperi Rhizoma for treating depression still require further investigation. Only through optimization of its active antidepressant components and clarification of its mechanisms can it be better applied in depression treatment.

**Research frontiers** Burst terms refer to words that appear frequently within a specific period. Their variations reflect scholars' research focus during that period<sup>[19]</sup>, demonstrating a sharp rise in attention toward particular directions within the field and thereby revealing emerging research trends in the discipline. As shown in Fig. 7, analysis of keyword burst detection revealed that from 2009 to 2014, burst terms were primarily "Cyperi Rhizoma", "depression model", "alcohol extract", and "hippocampus". From 2014 to 2021, keywords such as "ketamine", "Yueju Pill", "antidepression", "mechanism" and "stagnation of liver qi and spleen deficiency" frequently appeared and became subjects of intensive scholarly investigation, showing a corresponding increase in related literature. For instance, Hou Wen's publication *Research Progress on Pharmacological Effects of Rhizoma Cyperi in Different Physiological Systems for Human Body*<sup>[20]</sup> included findings that Rhizoma Cyperi can improve depression and alleviate anxiety in the nervous system, while also moderately regulating excessive estrogen levels in the reproductive system. From 2021 to 2024, keywords shifted to "mechanism of action", "data mining", and "medication law", indicating that the specific pharmacological effects and mechanisms of Rhizoma Cyperi in antidepressant applications remain key research focuses. However, most studies focus on investigating the antidepressant effects of compound formulas including Rhizoma Cyperi, and relatively few studies explore its efficacy as a single herb. Only by deeply investigating and clarifying the antidepressant mechanism of Rhizoma Cyperi can it be better applied in depression treatment and potentially provide more reference directions for related research on its antidepressant properties.

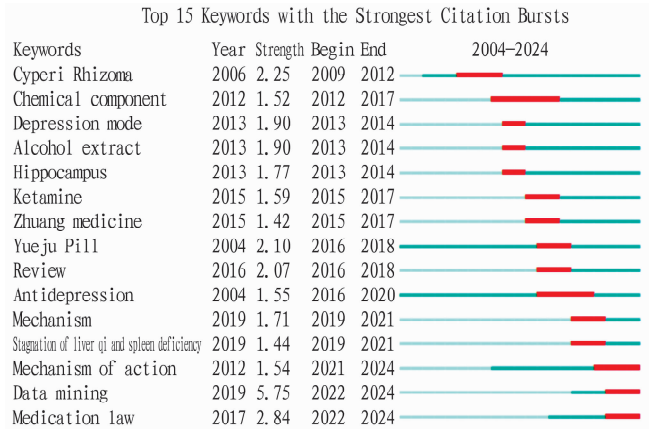


Fig. 7 Keyword burst chart

Discussion

This study employed CiteSpace software to conduct a visual analysis of 297 data samples related to Zhuang medicine acupuncture, and 286 datasets among them met the computational requirements of the software. Through in-depth analysis of the clustering map generated from these data samples, we systematically examined the dynamic evolution of literature on Rhizoma Cyperi for antidepressant effects in different developmental stages. It enabled us to summarize the general situation of applied research, identify research hotspots, and predict future development trends.

Analysis of annual publication number, publishing institutions and author collaboration

In terms of annual publication number, the initial growth was relatively slow, followed by a more rapid increase after 2016, showing an overall wavelike upward trend. It indicates growing attention to Rhizoma Cyperi for antidepressant effects in China in recent years. From the perspective of country/region, institution, and author publication number and centrality, the publishing countries were predominantly China. Research institutions were mainly concentrated in universities of traditional Chinese medicine, affiliated hospitals, and research academies. Some institutions collaborated with others to a certain extent, but the overall network does not exhibit a highly dense pattern of cooperation. Among the publishing authors, there were both broad collaborations led by core researchers and close-knit teamwork within smaller groups, as well as influential studies conducted by independent scholars. Generally speaking, in the future, it is hoped that this field can strengthen inter-institutional and inter-temporal cooperation, integrate resources to enhance the systematicness and depth of research, break through the research limitations of single-institution studies through cooperation and exchange, driving the field toward broader development.

Research hotspots, trends and frontiers

Through CiteSpace analysis of keywords in the data samples, the main research hotspots and frontiers in the antidepressant research of Rhizoma Cyperi over the past 20 years were identified in this study. In terms of medication, the research frontiers focus on Rhizoma Cyperi-containing compound formulas, alcohol extract of Rhizoma Cyperi, and combination therapies. From the perspective of publication types, the research frontiers have shifted from review articles to clinical studies and summaries of medication laws.

In terms of research direction, previous studies mainly focused on its mechanism of action, pharmacological effects, and Rhizoma Cyperi-containing compound formulas, while current research has shifted to the alcohol extract of single herb Rhizoma Cyperi and efficacy studies on specific depressive disorders. Although these research frontiers are relatively recent and the related publications have not yet formed a comprehensive framework, studies on Rhizoma Cyperi for anxiety-type depression, alcohol extract, mechanism, medication law and postpartum depression have become hotspots in the past five years. Modern pharmacological research on Rhizoma Cyperi indicates that it contains components such as anisylacetone and ether extracts, which can influence neurotransmitter balance, exerting effects of resisting depression, regulating mood, promoting sleep, and alleviating anxiety. Compared with some Western medicines, Rhizoma Cyperi exhibits fe-

wer side effects and enables multi-target regulation. It not only improves liver function and relieves emotional symptoms by soothing the liver and regulating qi, but also enhances sleep quality and reduce anxiety by alleviating depression and calming the mind. These characteristics highlight its dual advantages of efficacy and safety in depression treatment, making it a trending research focus in the field of antidepressants.

## Conclusions

The research on the antidepressant effects of *Rhizoma Cyperi* originated in the late 20<sup>th</sup> century in China. In its early stages, publications on *Rhizoma Cyperi* for depression treatment were scarce, and progress was relatively slow. It was not until 2016 that literature on its antidepressant properties began to surge significantly. However, most studies focused on its mechanism of action, pharmacological effects, and *Rhizoma Cyperi*-containing compound formulas, while research on the alcohol extract of single herb *Rhizoma Cyperi* and its efficacy for specific depressive disorders remains limited. The exact targets and pathways of its antidepressant effects remain unclear, and its application to specific subtypes of depression is still insufficient. Therefore, further efforts are needed to explore the antidepressant mechanisms of *Rhizoma Cyperi*, so as to promote its application in treating more specific conditions or new therapeutic areas.

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