

Geriatric mental health research at a glance: a 10-year bibliometric mapping

Abstract

Background: The geriatric population is particularly affected by mental health disorders, however they are frequently overlooked due to societal neglect of the elderly and the notion that they have lived their lives. This assumption worsens their susceptibility, reducing their quality of life and help seeking behavior. Geriatric mental health is a dynamic topic with growing research contributions. A bibliographic evaluation provides information relating to publication trends, influential authors, collaboration patterns, and thematic evolution. Thus bibliometric mapping will be a useful tool to uncover the contribution in this subject area.

Objectives: The purpose of this study is to determine the most influential publications, authors, countries, institutions, and journals in geriatric mental health research, analyze collaboration patterns between researchers and institutions, examine thematic evolution, and highlight emerging research areas over the last decade.

Methods: A bibliometric analysis was conducted on articles published between 2015 and 2024 using Biblioshiny and VOS viewer. Data were retrieved from a Dimensions database after filtering and were analyzed based on publication trends, citation metrics, authorship distribution, institutional and country contributions, and keyword analysis.

Results: A total of 542 relevant articles were analyzed, showing an annual publication growth of 7.09%. The American Journal of Geriatric Psychiatry emerged as the leading journal, while Harvard University led institutional contributions. Key themes included dementia, depression, and psychiatric care relating to geriatric population. Collaboration analysis revealed concentrated research efforts among a few institutions and countries.

Conclusion: Research on geriatric mental health has advanced substantially during the last decade, although global participation remains limited. Promoting international collaboration and multidisciplinary approaches can help bridge the gaps and promote advancement in this field. This study has several advantages, including a comprehensive analysis of trends and contributors. However, its drawbacks include the exclusion of non-English articles, the use of a single database, and a focus on bibliometric indicators rather than study quality or clinical impacts. Future study should strive to include multiple types of sources.

Keywords: mental health, geriatric mental health, geriatric psychiatry, biblioshiny, Vos viewer, bibliometric analysis

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Abbreviations: TC, total citation; DOI, digital object identifier; NP, number of publications; PY, publication year; TLS, total link strength

Introduction

The number and proportion of people aged 60 and above in the population are increasing. In 2019, there were 1 billion persons aged 60 and above. This figure will rise to 1.4 billion by 2030, and 2.1 billion by 2050. This rise is occurring at an unprecedented rate and will intensify in the future decades, especially in developing countries.¹ This demographic shift has profound implications for public health, particularly in the area of mental health. As the population ages, there is a growing recognition of the unique mental health needs of older adults, a group often overlooked in broader mental health research. Geriatric mental health, which focuses on the mental well-being of older adults, has thus emerged as a critical area of study. However, despite its increasing importance, mental health disorders among older adults remain under-addressed, underdiagnosed, and underfunded globally.² As such, mapping the research trends and progress in this field is essential for understanding its evolution and guiding future interventions.

The historical trajectory of geriatric mental health research has

been shaped by several key milestones. In the mid-20th century, mental health concerns in older adults were often dismissed, with psychiatric conditions viewed as a natural part of aging. However, the latter half of the century witnessed a paradigm shift, as scholars and practitioners began to recognize that mental health disorders in older adults were not inevitable and that they could be treated, managed, and even prevented.³ In the 1970s and 1980s, research into conditions such as depression, dementia, and anxiety in the elderly began to gain momentum, laying the foundation for modern geriatric psychiatry. Despite these advances, there is still a stigma surrounding mental health in aging populations, and many individuals fail to seek care due to misconceptions or lack of access to services.^{4,5}

Today, geriatric mental health encompasses a wide range of conditions, including depression, anxiety, dementia, and cognitive decline, all of which significantly impact quality of life. Approximately 15% of adults aged 60 and older suffer from a mental disorder, with depression being the most prevalent.² Furthermore, the prevalence of neurodegenerative diseases, such as Alzheimer's and Parkinson's, is expected to rise dramatically as the global population ages.^{6,7} As a result, this growing burden on individuals, families, and healthcare systems necessitates a robust understanding of geriatric mental health, not only to improve care but also to drive policy changes and enhance the quality of life for older adults.

In response to this, the increasing focus on geriatric mental health has led to a surge in research activity, as scholars explore the unique challenges and opportunities for intervention in this field. However, despite this increase in research output, there remains limited knowledge of how the field has evolved over time and the key trends that have shaped its development. Therefore, to uncover these trends, a bibliometric study will be very useful.

Bibliometric analysis is a sophisticated quantitative method that examines scholarly publications using statistical techniques to identify new research trends based on citation patterns and scientific content.^{8,9} Bibliometrics is essentially the measurement of many features of publications and their readership, which aids in determining the reach and impact of academic work. This method is especially useful for tracing the progress of research since it identifies major trends, influential authors, leading institutions, and prominent countries in a topic. By evaluating these patterns, bibliometric analysis provides an excellent method for understanding the growth and direction of academic subjects.¹⁰

Although numerous bibliometric studies have been carried out on general mental health concepts, there is an obvious gap in research that focuses on the evolution of geriatric mental health publications. This study aims to fill the gap by conducting a comprehensive bibliometric analysis of geriatric mental health research from 2015 to 2024. Using tools such as Biblioshiny and VOS viewer, the study aims to identify the most influential articles, authors, and journals that impact the field. Furthermore, it will explore patterns of collaboration among researchers and institutions around the world, as well as how significant themes in geriatric mental health have evolved over time.

Material and methods

Data for this study was obtained from the Dimensions database, which is a comprehensive and multidisciplinary research database containing publications in the form of articles, grants, patents, and clinical trials.¹¹ The Dimension database was used for this analysis because of its extensive coverage of academic articles.

The publications were retrieved on February 4, 2025. To ensure consistency and avoid any discrepancies in citation counts due to daily database updates, both the search and download were carried out on the same day.

The following search query was used in searching the Dimensions database to gather the relevant publications:

((("Geriatric Psychiatry") OR ("Geriatric Mental Health")) OR ("Aged Mental Health")) OR ("Aged Psychiatry").

Only publications published between January 1, 2015, and December 31, 2024, were considered. Filters were applied to include only articles, publications from "Health Sciences".

This search yielded a total of 682 articles, which were further screened to focus exclusively on Geriatric Mental Health that were written in English. Publications that passively mentioned geriatric mental health but did not focus on it were excluded. Duplicate articles were also removed, leaving 542 publications, which were downloaded in csv format for further analysis.

Bibliometric analysis was conducted using the Bibliometrix and Biblioshiny tools in combination with VOS viewer software. Bibliometrix, an R package designed for scient metric research, was installed and loaded into R Studio (version 4.4.2). The Biblioshiny application was initiated by running the command "Biblioshiny" in

the R console. Biblioshiny is a web-based application that enables users to leverage the Bibliometrix package within the R programming language [10]. Additionally, the VOS viewer software (version 1.6.18) was employed to assist with bibliometric mapping.¹²

Bibliometric mapping was performed to uncover collaboration patterns, institutional linkages, and international connections. The mapping includes co-authorship mapping and keywords mapping. Co-authorship mapping focuses on the collaborative interactions among authors and institutions, while the keyword mapping analyzes the relationship between title's keywords used in the publications.

Results

Publication output

A total of 682 publications were retrieved from the database using the search strategy and filters as stated in the methodology. After manual screening and exclusion of duplicate articles and studies that were not pertinent to our study aim we obtained 542 articles. These 542 articles were then included in the bibliometric analysis. Because our filter included only articles, all the publications included in this analysis were articles and they were all written in English.

The publication date of the published articles included in this study spanned between 2015 and 2024. The scientific production over time as well as the trend of annual production, can be seen in (Figure 1). The trend is positive, with an annual growth measure of 7.09%. Average article citations per year can be seen in (Figure 2).

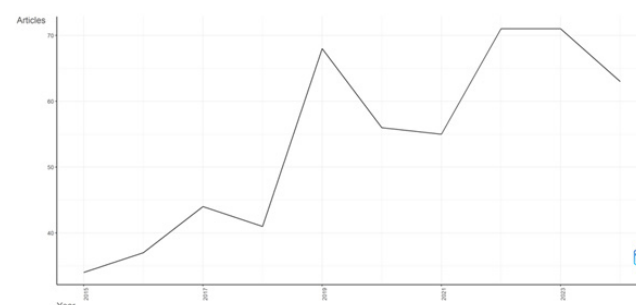


Figure 1 Annual scientific production.

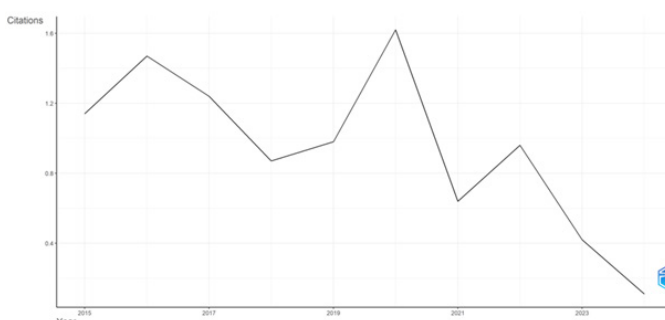


Figure 2 Average articles citations per year.

There were fluctuations in yearly publication output, with an overall increasing trend. The number of publications grew from 34 in 2015 to a peak of 71 in 2022 and 2023, before slightly declining to 63 in 2024. A notable drop in 2020 and 2021 may reflect the impact of the COVID-19 pandemic on research activities as there was a shift in research priorities.¹³ A detailed summary of yearly publication output is presented in Table 1.

Table 1 The annual publication output

Years	Number of publications
2015	34
2016	37
2017	44
2018	41
2019	68
2020	56
2021	55
2022	71
2023	71
2024	63

Source

The 542 articles were published in 129 journals. The top 10 journals, ordered by the number of articles published, can be seen in Table 2. A total of 293 publications (54.06%) were recorded in the American Journal of Geriatric Psychiatry, making it the most represented journal. This is followed by the International Journal of Geriatric Psychiatry with 28 publications, while other journals published significantly fewer articles, typically under 10.

Table 2 Ten most productive journals

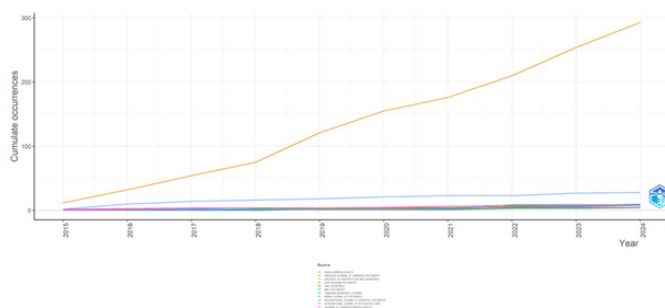
Journals	Number of publications (%)
American Journal of Geriatric Psychiatry	293 (54.06%)
International Journal of Geriatric Psychiatry	28 (5.17%)
Journal of Geriatric Mental Health	10 (1.85%)
Indian Journal of Psychiatry	9 (1.66%)
Aging & Mental Health	8 (1.48%)
Australasian Psychiatry	8 (1.48%)
BMC Psychiatry	8 (1.48%)
International Journal of Integrated Care	5 (0.92%)
Archives of Gerontology and Geriatrics	4 (0.74%)
BMC Geriatrics	4 (0.74%)

In terms of impact, as contained in Table 3, the American Journal of Geriatric Psychiatry also recorded the highest h-index (17) and g-index (32), along with 1186 total citations, indicating strong influence in the field. The average h-index across the journals is 5.6, with an average g-index of 9.5, reflecting moderate research impact. The BMC Psychiatry and Indian Journal of Psychiatry show promising growth based on their m-index values (0.571 and 0.375, respectively).

Table 3 Journal impact

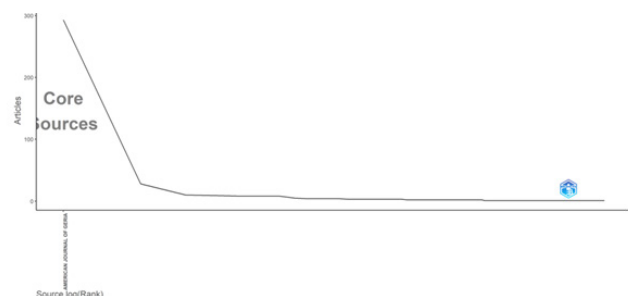
Journals	h-index	g-index	m-index	TC	NP	PY Start
American Journal of Geriatric Psychiatry	17	32	1.545	1186	293	2015
International Journal of Geriatric Psychiatry	15	24	1.364	606	28	2015
Aging & Mental Health	4	8	0.364	68	8	2015
Archives of Gerontology and Geriatrics	4	4	0.364	68	4	2015
BMC Psychiatry	4	7	0.571	52	8	2019
Canadian Geriatrics Journal	3	4	0.333	21	4	2017
Indian Journal of Psychiatry	3	6	0.375	37	9	2018
Australasian Psychiatry	2	4	0.182	17	8	2015
BMC Geriatrics	2	4	0.2	36	4	2016
BMJ Case Reports	2	2	0.25	6	2	2018

(Figure 3) shows the cumulative publication trends of various journals from 2015 to 2024. The American Journal of Geriatric Psychiatry shows the highest publication growth, indicating its dominance in the field. Other journals, such as the International Journal of Geriatric Psychiatry and Aging & Mental Health, exhibit steady but lower contributions. Some sources show minimal growth, reflecting limited engagement.

**Figure 3** Journal production over time.

The analysis of core sources using Bradford's Law as depicted in (Figure 4) reveals that a small number of journals contribute the majority of publications on geriatric mental health. The American

Journal of Geriatric Psychiatry emerges as the most influential, with the highest article output. Other journals show a steep decline in publication volume, reinforcing the concentration of research within a few key sources (Table 3).

**Figure 4** Core sources by Bradford's law.

Authors

The analysis of authorship distribution in Table 4 & Table 5 shows that the majority of authors (84.1%) contributed to only one document, indicating a high prevalence of single-publication authors. Only 9.6% of authors contributed to two documents, and this percentage gradually decreases as the number of authored documents increases. This trend suggests that relatively few researchers have multiple

contributions, indicating potential transitory engagement in geriatric mental health research.

Table 4 Authorship distribution

Number of documents written	Number of authors	Proportion of authors	Percentage of authors (%)
1	1583	0.841	84.1
2	180	0.096	9.6
3	60	0.032	3.2
4	26	0.014	1.4
5	14	0.007	0.7
6	7	0.004	0.4
7	4	0.002	0.2
8	3	0.002	0.2
9	2	0.001	0.1
10	1	0.001	0.1

Table 5 The 10 most productive authors

Author	Number of articles	Articles fractionalized
Vahia I	15	3.05
Vahia IV	11	3.18
Lavretsky H	10	3.26
Forester BP	9	2.26
Reynolds CF	9	2.34
Carlson C	8	1.09
Filips J	8	1.2
Trivedi R	8	1.09
Ahmed I	7	2.37
Gould C	7	1.04

Vahia I leads the list of most productive authors with 15 publications, followed by Vahia IV (11) and Lavretsky H (10). Fractionalized authorship shows contribution weight, with Lavretsky H (3.26) and Vahia IV (3.18) having the greatest impact. The data reveals that a small number of authors drive significant research output, emphasizing key contributors to the field.

Furthermore, study of author impact metrics, as shown in Table 6, reveals that Jeste DV and Vahia IV have the greatest h-index (6), indicating a substantial citation influence. Jeste DV also has the most overall citations (483). The m-index, which accounts for career length, identifies Jeste DV, Vahia IV, and Aprahamian I as influential researchers. The data show that research contributions have increased since 2016, with newer researchers such as Aprahamian I and Chen H emerging in 2021 (Figure 5).

Table 6 Author impact metrics

Author	h-index	g-index	m-index	TC	NP	PY-Start
Jeste DV	6	7	0.6	483	7	2016
Vahia IV	6	11	0.6	278	11	2016
Forester BP	4	9	0.5	170	9	2018
Kunik ME	4	4	0.4	98	4	2016
Reynolds CF	4	9	0.4	278	9	2016
Aprahamian I	3	3	0.6	37	3	2021
Blazer DG	3	6	0.3	384	6	2016
Chen H	3	3	0.6	12	3	2021
Choi NG	3	4	0.5	86	4	2020
Eyre HA	3	3	0.5	22	3	2020

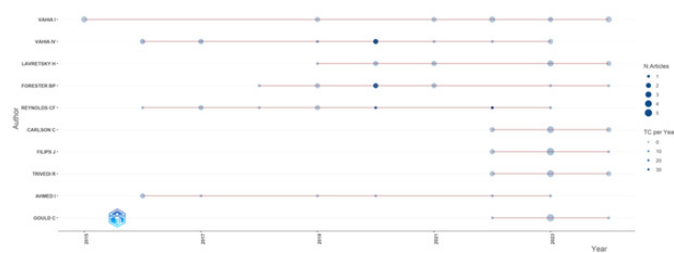


Figure 5 Authors' production over time.

(Figure 6) shows the research productivity of the top authors in geriatric mental health from 2015 to 2024. Vahia I and Vahia IV have made continuous contributions throughout the years. Lavretsky H, Forester BP, and Reynolds CF have extensive research output, including several highly cited articles. The bubble size symbolizes the number of articles, and the color intensity represents the total number of citations every year. Carlson C and Filips J have made significant contributions in recent years.

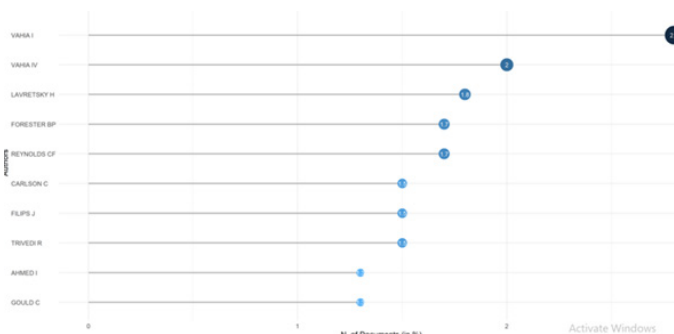


Figure 6.

Furthermore, the examination of author productivity using Lotka's Law, as shown in (Figure 7), reveals that a small number of authors produce the most publications, while most writers publish fewer papers. The significant fall in the start suggests that more than 80% of authors have created only one document. The ratio of authors who contribute considerably drops as the quantity of papers increases. This supports Lotka's inverse-square law of scientific production, which asserts that "the number of authors making n contributions is approximately $1/n^2$ of those making one contribution".¹⁴

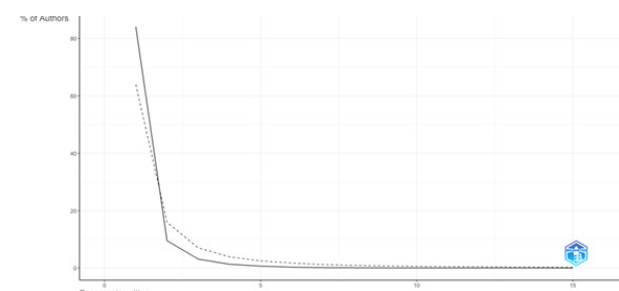


Figure 7 Author productivity through Lotka's law.

(Figure 8) depicts the authors' local impact as measured by the H-index, with Jeste DV and Vahia IV having the maximum impact (H-index = 6). Forester BP, Kunik ME, and Reynolds CF follow with a value of 4, while others, such as Aprahamian I and Blazer DG, have an H-index of 3. The distribution reveals that most authors have a low impact, with only two standing out significantly. The varying bubble sizes illustrate the difference in influence, highlighting the most important contributors.



choi, nam-kee g.
 bruce, martha l.
 alexopoulos, george s
 aizenstein, howard
 lyness, jeffrey m.
 rapoport, mark
 moussaoui, ghizlane
 segal, marilyn
 rej, soham
 brupeau, marie-andr  e
 friedland, jess
 vahlia, ipsit
 tampi, rajesh
 lavretsky, helen
 jeste, dilip v
 butters, meryl a.
 colman, sarah

Sanjour
 Vosviewer

Table 8 Most globally cited article**Table 9** The most frequent title keywords

Keyword	Occurrence
geriatric	263
psychiatry	187
health	132
mental	119
care	99
session	63
adults	56
study	56
dementia	54
depression	46



Figure 10 Word cloud.

Author’s affiliation

The affiliation analysis, performed with disambiguation, consolidates similar institution names to ensure accurate attribution. Upon analysis, Harvard University appears to be the most productive Institution with 49 articles followed by Yale University with 30 articles, then McLean Hospital with 29. Other notable institutions include the University of Toronto (21), University of Pittsburgh (19), University of California, San Diego (17), and University of California, Los Angeles (13). Cornell University (12), VA Palo Alto Health Care System (11) and McGill University (10) complete the top ten. This distribution underscores the strong involvement of key institutions in geriatric mental health.

Figure 11 shows the growth of article production across various academic affiliations from 2015 to 2025. Harvard University and other top institutions show a steady increase, with some experiencing sharper rises post-2020. The upward trend indicates growing research output, with affiliations competing closely (Table 10).

Table 10 10 Most productive institution

Institution	Number of articles
Yale University	30
McLean Hospital	29
Harvard University	49
University of Toronto	21
University of Pittsburgh	19
University of California, San Diego	17
University of California, Los Angeles	13
Cornell University	12
VA Palo Alto Health Care System	11
McGill University	10

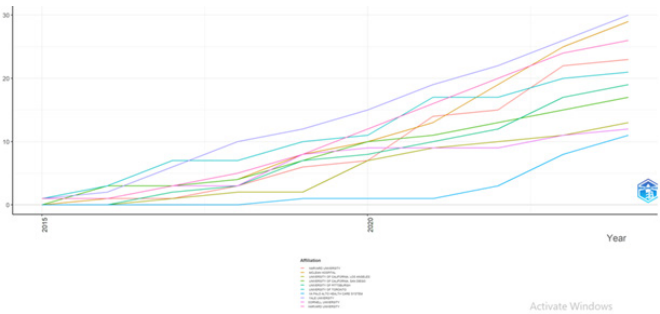


Figure 11 Affiliation’s production over time.

A bibliometric analysis of institutional collaboration was conducted using VOS viewer, applying a minimum requirement of two documents per author and five citation thres hold. Among 141 institutions that qualified, 113 were included in the final evaluation. The analysis identified 10 clusters, 525 links, and a total link strength of 743, reflecting institutional research networks. Harvard University emerged as the most collaborative institution, with 358 citations, and the highest total link strength of 101. Table 11 ranks the top five collaborative institutions by total link strength (Figure 12).

Table 11 5 Most collaborative institutions

Institutions	TC	TLS
Harvard University	358	101
McLean Hospital	298	59
University of California, San Diego	546	49
University of Toronto	258	49
Yale University	83	47

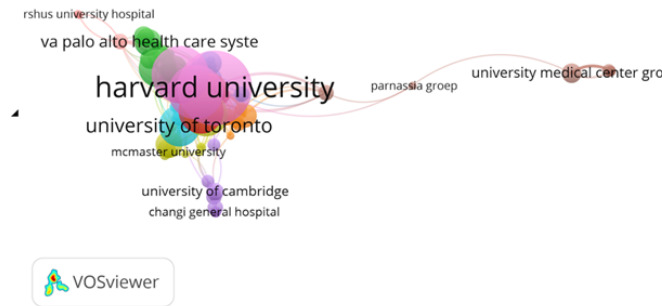


Figure 12 Collaborative network among institutions.

Contributing countries

Table 12 shows a bibliometric analysis of countries’ contributions in the field, revealing that the United States dominates in research production with 304 articles published, and far surpassing other countries. Canada follows with 40 publications, while the United Kingdom, India, and Australia provide 26, 22, and 21 articles, respectively.

Table 12 5 Most productive countries

Countries	Number of articles
USA	304
Canada	40
United Kingdom	26
India	22
Australia	21

Figure 13 describes the contributions of these countries on a map, with darker tones signifying increased research production. The United States has far higher research production, which is rapidly increasing, significantly surpassing other countries. Other countries, like the United Kingdom, Canada, Australia, China, Germany, India, and the Netherlands, are experiencing steady but gradual growth.

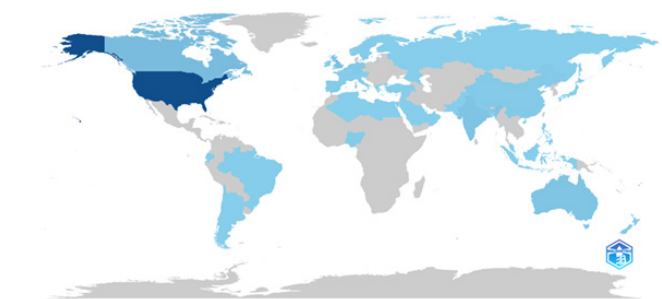


Figure 13 countries’ contribution map.

Figure 14 provides data on cross-national collaboration. Taking into account countries with at least two documents and five citations. Of the 25 countries that met the threshold, 23 were included in the final

analysis. The mapping revealed six clusters with 92 links each and a total link strength of 161, indicating global research collaboration. The United States led with 304 articles, 1,758 citations, and the highest total link strength of 58, followed by Canada, the United Kingdom, Australia, and Spain (Figure 15).

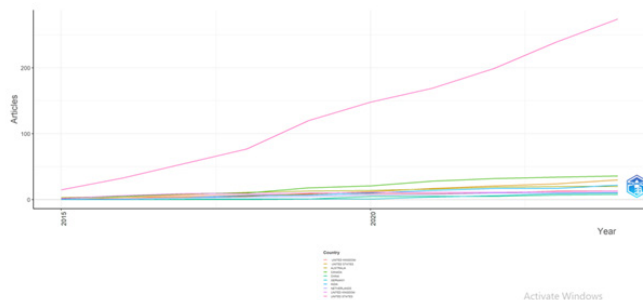


Figure 14 Country's production over time.

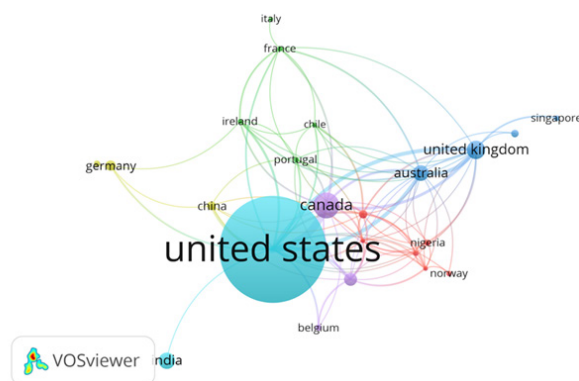


Figure 15 Collaborative network among countries.

Discussion

The bibliometric analysis of geriatric mental health research over the past decade reveals a steady increase in publication output, with an annual growth rate of 7.09%. This trend aligns with recent studies,^{15,16} which report heightened global attention to aging populations and their mental health needs. The slight decline in publications post-2023 may be attributed to shifting research priorities and funding reallocations.^{17,18} The impact of the COVID-19 pandemic on research activities in 2020-2021 is evident in disruptions in non-COVID-related research during this period.¹⁹

Journal impact analysis underscores the dominance of the American Journal of Geriatric Psychiatry, reflecting its central role in disseminating high-impact research. This observation resonates with findings from recent bibliometric studies,²⁰ which emphasize the concentration of specialized knowledge within a few leading journals with the American Journal of Geriatric taking the second position with just 1 publication lower than the Journal of Affective Disorder that topped the list. Similarly, author's contributions adhere to Lotka's Law, where a small proportion of authors generate the majority of research output.¹⁴ This suggests that expertise in geriatric mental health is concentrated among a select group of scholars, reinforcing the need for broader researcher engagement.

Institutional and national contributions highlight the USA's leadership in geriatric mental health research, consistent with prior research.²¹ The strong institutional networks, particularly Harvard University's extensive collaboration, indicate well-established research infrastructure. The implications of these findings are profound: increased scholarly collaboration, expanded research

funding, and greater interdisciplinary integration are necessary to sustain progress. Strengthening global research networks and diversifying funding sources could enhance inclusivity in geriatric mental health research and improve healthcare policies tailored to aging populations.

The focus on keywords such as “geriatric,” “psychiatry,” “health,” “dementia,” and “depression” indicates a concentrated research agenda on prevalent mental health conditions among the elderly. This thematic focus is consistent with global health priorities addressing aging populations.^{22,2} It is worthy of note that this study has several limitations. The inclusion of only English-language articles may exclude valuable research published in other languages. The reliance on a single database may result in the omission of relevant studies indexed elsewhere. The focus on bibliometric indicators does not account for the quality or clinical impact of the studies analyzed.

Conclusions

Research on geriatric mental health has advanced substantially during the last decade, although global participation remains limited. Promoting international collaboration and multidisciplinary approaches can help bridge the gaps and promote advancement in this field. This study has several advantages, including a comprehensive analysis of trends and contributors. However, its drawbacks include the exclusion of non-English articles, the use of a single database, and a focus on bibliometric indicators rather than study quality or clinical impacts. Future study should strive to include multiple types of sources.

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Ethics approval

This study is based on analysis from secondary data, thus, did not require ethical clearance.

Conflicts of interest

Authors have declared no competing interests exist.

References

1. World health organization (WHO), n.d. *Aging*. 2025.
2. World Health organization (WHO), Mental health of older adults. World Health Organization. 2023.
3. Cole MA, Sniadecki NJ, Scott CA. Geriatric psychiatry: An overview. *American Journal of Geriatric Psychiatry*. 2019;27(10):1033–1041.
4. Blazer DG. Depression in late life: review and commentary. *Journal of Clinical Psychiatry*. 2020;81(5): 20–35.
5. Chodosh J, Qiu W, Byers AL. Mental health and aging: The importance of early diagnosis and intervention. *Journal of the American Geriatrics Society*. 2022;70(10): 2432–2441.
6. Prince M, Comas HA, Knapp M, et al. World alzheimer report 2015: the global impact of dementia. an analysis of prevalence, incidence, cost and trends. alzheimer's disease international, London. 2015.
7. Alzheimer's disease International. World alzheimer report 2020: journey through the diagnosis of dementia. Alzheimer's disease international, London. 2020.

8. Cooper ID. Bibliometrics basics. *Journal of the medical library association*. 2015;103(4): 217–218.
9. Donthu N, Mukherjee D, Kumar S. How to conduct a bibliometric analysis: an overview and guidelines. *Journal of Business Research*. 2021;133:285–296.
10. Aria M, Cuccurullo C. Bibliometrix: an R-tool for comprehensive science mapping analysis. *Journal of Informetrics*. 2017;11(3):959–975.
11. Dimensions, n.d. About dimensions: A comprehensive research database. 2025.
12. Van Eck NJ, Waltman L. Software survey: VOS viewer, a computer program for bibliometric mapping. *Scientometrics*. 2010;84(2):523–538.
13. Volpe M, Ralli M, Isidori A. The impact of the COVID-19 pandemic on research activities: A survey of the largest Italian academic community. *PLoS One*. 19(6):e0304078.
14. Lotka AJ. The frequency distribution of scientific productivity. *Journal of the Washington Academy of Sciences*. 1926;16(12):317–323.
15. Cummings S, Li W, Kropf N. Aging and mental health: global perspectives. *Innovation in Aging*. 2017;1(Suppl 1): 640.
16. Reynolds CF, Jeste DV, Sachdev PS, et al. Mental health care for older adults: recent advances and new directions in clinical practice and research. *World psychiatry: official journal of the World Psychiatric Association*. 2022;21(3):336–363.
17. Duden GS, Gersdorf S, Stengler K. Global impact of the COVID-19 pandemic on mental health services: A systematic review. *Journal of psychiatric research*. 2022;154:354–377.
18. Ramyadarshni V, Sheikh S, Sarah EH, et al. Mental health in the post-COVID-19 era: challenges and the way forward. *General Psychiatry*. 2021;34:e100424.
19. Lapostolle F, Petrovic T, Goix L, et al. Impact of COVID-19 pandemic on non-COVID-19 publications. *Resuscitation*. 2021;162:102–103.
20. Chen H. Trends in geriatric psychiatry research: a bibliometric review. *International Journal of Geriatric Psychiatry*. 2023.
21. Neto LSS, Rosa TDS, Freire MD, et al. Geriatric and gerontology research: a scientometric investigation of open access journal articles indexed in the scopus database. *Annals of geriatric medicine and research*. 2023;27(3):183–191.
22. Thakur U, Varma AR. Psychological problem diagnosis and management in the geriatric age group. *Cureus*. 2023;15(4):e38203.