

# Unravelling the Movements in the Transgender Health Research of the Past 20 Years

Hasbi Alikunju\*

Department of Library and Information Science, School of Communication, Central University of Tamil Nadu, Thiruvaur, Tamil Nadu, INDIA.

## ABSTRACT

Despite the unprecedented global visibility that transgender individuals are receiving, they continue to represent one of the most vulnerable minority groups across various dimensions-mentally, physically, financially, culturally, socially, and in other areas. Their health conditions often fluctuate due to challenges related to gender incongruity and the complexities of sex reassignment, with the medications and treatments required being lifelong commitments. Consequently, transgender health represents a research domain that necessitates particular attention and financial support to ensure the provision of appropriate, equitable, and accessible healthcare resources. This study investigates the trends in transgender health research over the past two decades. A total of 1,005 research publications were retrieved from the Scopus database, revealing a notable upward trend in this area, particularly in recent years. MS-Excel, Biblioshiny of RStudio package and VOSviewer were used for the analysis and visualization. The majority of research efforts are concentrated in the fields of medicine and social sciences, with the United States emerging as the leading contributor to this research, characterized by a high number of prolific authors, productive research institutions, and significant funding agencies. The current research trend in this field has also been unraveled. Through this study, researchers can understand the hot topic in transgender health research, and thereby identify common barriers and effective interventions to promote health equity for transgender individuals globally.

**Keywords:** Transgender People, Transgender Health, Health Research, Scientometric study.

## Correspondence:

**Ms. Hasbi Alikunju**

PhD Scholar, Department of Library and Information Science, School of Communication, Central University of Tamil Nadu, Thiruvaur, Tamil Nadu, INDIA.

Email: hasbiali13@gmail.com

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## BACKGROUND

The transgender community has recently been getting unprecedented visibility in every sphere of their lives (Skinner *et al.*, 2024). The term "transgender" serves as an inclusive label for individuals whose gender identities, expressions, or behaviours do not conform to the norms typically linked to their sex assigned at birth (Lyttan and Laloo, 2019). These individuals are frequently classified according to their gender vector, which includes Male-to-Female (MTF) and Female-to-Male (FTM) categories. MTF individuals are those assigned male at birth who identify as female and are generally referred to as Trans women. On the other hand, FTMs are individuals assigned female at birth who identify as male and are typically known as trans men (Kenagy, 2005).

Transgender health is an emerging, but significant area of research because of the increased vulnerability of their mental and physical health, which is frequently influenced by gender

incongruence and the journey of gender and sex transition. Additionally, these individuals need continuous medical attention and lifelong health support to meet their specific requirements. They are at increased risk for certain types of chronic diseases, cancers, mental health problems and more (Rich *et al.*, 2020). Moreover, they experience high rates of depression and anxiety, often exacerbated by social stigma and limited support (Puckett *et al.*, 2020).

Gender-affirming hormone therapies and related treatments play a substantial role in the transgender medical journey facilitating them to align their physical characteristics with their gender identity (Silva *et al.*, 2021). Additionally, these individuals face significant health disparities influenced by various social determining factors, including discrimination, economic instability, and limited access to healthcare (Garcia and Crosby, 2020). Hence, these structural, institutional, social, and individual barricades have the potential to prevent them from receiving appropriate medical care (Freeman and Stewart, 2022). Therefore, these studies indicate that research on transgender health is important to address various health challenges, discover novel medical treatments, and guarantee accessible and equitable healthcare, along with societal support and legal protections,



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which is essential to ensuring the health and dignity of these people.

Research on transgender health began in the early 1900s (Sweileh, 2018). Even though it is a specific area compared to any others, several studies have been conducted on the various aspects of transgender health. This includes transgender-related medicines, therapies, surgical procedures, hormone treatments, doctors and other healthcare providers, hospitals and other healthcare centres, related rights and legal provisions, health crises they face and more.

Transgender individuals encounter distinctive health challenges and disparities starting from the initial stages of their gender identity journey (the coming out stage). These challenges include significantly higher rates of mental health issues, suicidal behavior, and premature mortality when compared to the general population (Gotfried, 2020; Mori *et al.*, 2020). Many individuals experience gender dysphoria, which can profoundly affect their overall well-being (Gotfried, 2020). Healthcare providers often have limited experience and knowledge when it comes to caring for transgender patients, which can result in potential negative outcomes and dissatisfaction with the healthcare received (James, 2013). To tackle these issues, transgender-affirming healthcare is essential as it acknowledges patients' inherent identities and offers appropriate medical interventions, including cross-sex hormones and gender-affirming surgeries (Gotfried, 2020). Enhancing cultural competency among healthcare providers and adapting clinical environments can significantly improve care for this underserved population (Selix and Rowniak, 2016). Primary care providers are essential in addressing the unique health needs of transgender individuals and enhancing their overall quality of life (James, 2013; Selix and Rowniak, 2016).

The Standards of Care (SOC) established by the World Professional Association for Transgender Health (WPATH) offer evidence-based guidelines for the healthcare of transgender individuals (Fraser, 2015). Now in its eighth edition, the SOC has evolved to encompass a spectrum understanding of gender and emphasize overall health instead of focusing solely on treatment (Coleman *et al.*, 2022). These standards highlight the importance of personalized care, informed decision-making, and harm-reduction strategies. Nevertheless, there are notable discrepancies between Spanish healthcare protocols and international standards, especially concerning diagnostic timelines, access to hormone therapy, and surgical criteria (Guijarro de Armas *et al.*, 2013). A comprehensive transgender healthcare system necessitates a multidisciplinary approach that includes psychological support, hormone therapy, and surgical interventions. One of the significant challenges is managing juvenile gender dysphoria and gender variance. Effective coordination of care hinges on the engagement of families and organizations, along with ongoing communication with health

authorities, the judiciary, and the media, to guarantee high-quality and accessible services for transgender individuals (De Antonio and Gómez-Gil, 2013).

Surgical interventions for transgender individuals comprise a diverse array of procedures designed to align their physical characteristics with their gender identity. For transgender women, common options include facial feminisation, breast augmentation, and genital reconstruction surgery (Monstrey *et al.*, 2014; Wesp and Deutsch, 2017). On the other hand, transgender men typically undergo chest masculinisation-considered the most frequently performed procedure-along with various genital surgeries such as metoidioplasty and phalloplasty (Frey *et al.*, 2017). Hormone therapy frequently serves as a preparatory step prior to surgical interventions; for transfeminine individuals, this includes androgen blockade and estrogenic supplementation. Research has demonstrated that these treatments significantly enhance quality of life and yield positive mental health outcomes for the individuals involved. Despite the benefits of surgical procedures, access may be hindered by financial constraints and extended waiting times, which can pose significant barriers to care (Wesp and Deutsch, 2017). Achieving optimal results in transgender healthcare necessitates a collaborative, multidisciplinary approach that includes mental health professionals, experienced physicians, and skilled surgeons working together cohesively (Arrowsmith, 2018; Monstrey *et al.*, 2014).

The present study assesses the trends in transgender health research during the 2004-2023 periods through scientometric tools and techniques. There have been number of research analyses conducted on various aspects of transgender health, in a broader spectrum of LGBTQ+ health such as mental health (de Castilho *et al.*, 2024), HIV-related issues (Nguyen *et al.*, 2023), Gender-Affirming Surgery (Oleru and Rohde, 2024) and more. This study examines the leading authors in this field, focusing on their publication output and the total citations they have received. Additionally, it evaluates key institutions and journals contributing to the research. The study also identifies which subject areas are most actively engaged in transgender health research and highlights the trending topics within this domain.

## OBJECTIVES

To assess the annual growth rate of publications in the field of transgender health from 2004 to 2023.

To identify the most prolific authors, leading research institutions and highly influential journals in the domain of transgender health.

To visualize citation analyses pertaining to authors and journals within this research area.

To determine the most highly cited articles in transgender health literature.

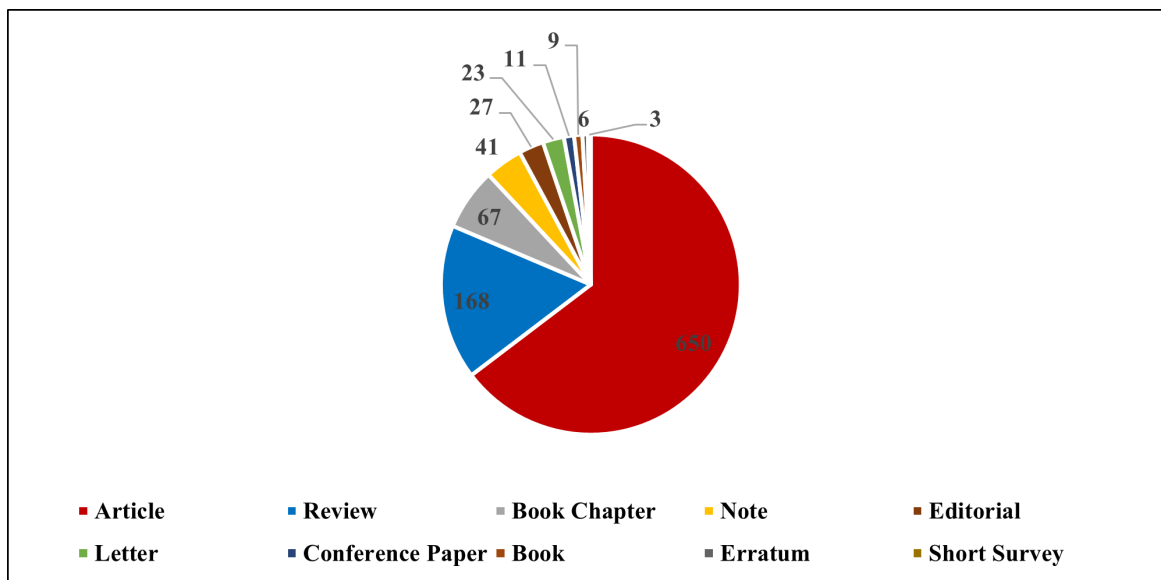


Figure 1: Types of Documents.



Figure 2: Descriptive data.

To visualize the co-occurrence of keywords in transgender health publications.

To evaluate the global collaboration landscape of transgender health research.

## Research Methods

This study analyzed the research outputs on transgender health from 2004 to 2023 using evaluative scientometric methods. A total of 1005 publications were retrieved in early August 2024 from the Scopus database using the following keywords. The selected terms have been searched in the fields "article title, abstract and keywords". The search query used was: ((TITLE-ABS-KEY("transgender mental health") OR TITLE-ABS-KEY("transgender health") OR TITLE-ABS-KEY("transgender physical health") OR TITLE-ABS-KEY("transmale health") OR TITLE-ABS-KEY("transfemale health") OR TITLE-ABS-KEY("transsexual health") OR TITLE-ABS-KEY("transwomen health") OR TITLE-ABS-KEY("transmen health"))) AND PUBYEAR>2003 AND PUBYEAR<2024 AND (LIMIT-TO (LANGUAGE,"English"))). The selected keywords denote the fundamental ways in which transgender individuals seek and access information.

The data were collected from various publications, including articles, reviews, book chapters, short surveys, conference papers, and others (Figure 1).

These research papers included bibliographical details such as publication growth, author profiles, high-ranking journals, significant keywords, affiliations' names and funding agencies. All publications included in the study were in English. The main objective of the study was to analyse trends in publications and citations. The data were downloaded in CSV format for analysis using bibliometric software such as the Bibliometrix package of RStudio and VOSviewer. In addition, Microsoft Excel was used for data analysis and tabulation.

## Data Analysis

Web-based Biblioshiny software was used to retrieve and analyze all documents and the results were used to inform readers and other researchers about how information from 1005 documents about transgender health research was distributed. Every publication record, along with its abstract, was carefully analyzed to compile information such as the title, authors and their affiliations, year of publication, journal name, country of the researchers, the journal's disciplinary categories, and sources



**Figure 3:** Coverage of Subject Domains.

of funding. Following this, a thorough analysis of the gathered data was performed to clarify global publication trends, research activities in various geographic regions, areas of publication, and collaborative initiatives across different disciplines among researchers. Figure 1 shows that, between 2004 and 2023, 153 single-author publications accounted for 3017 authors. Of these collaborative authors, 13.13% were international co-authors. The fact that knowledge has been shared among collaborative authors from different affiliations and countries shows how widely the understanding of transgender health has spread globally. A total of 504 reputable and well-known scientific sources have published 1005 documents. Figure 2 displays extensive information about the examined metadata.

A total of 1,005 research publications on transgender health research were retrieved from 20 different subject areas. Figure 3 indicates that most research communication occurs in the medical field, followed by social science and psychology. The font size in the word cloud reflects the prominence of each subject domain.

### Annual production of Publications

Over the past two decades, there has been a significant increase in transgender health outcomes. Figure 4 In 2004, only three research articles were published, while by 2023, that number had risen to 150. This represents a remarkable volume of publications, especially considering it is a highly specialized area of study. Notably, in 2009, the number of publications jumped to 25, a substantial increase from just five in the previous year. However, in the subsequent years (2010, 2011, 2012, and 2013), a downward trend in publication numbers was observed until 2014.

### Performance Analysis of Prolific Authors

Productive authors contribute extensively to the body of knowledge in their fields through a high volume of publications and their publication records significantly increase the visibility

of research topics and findings. Table 1 reveals the most productive contributors in transgender health research during 2004-2023 with the respective affiliation, h index, total number of publications and citations. Bocking Walter of Columbia School of Nursing holds the top position with 22 publications (12.15%), citation count of 3244 and an h index of 14. However, Tangpricha Vin with 17 publications has the highest citation received (4895), followed by Reisner Sari L with a citation of 4002 and 21 publications.

### Performance Analysis of Productive Research Institutions

Productive research institutions play an important role in academia by fostering innovation, enhancing research outcomes, and contributing remarkably to the overall academic environment. They create supportive frameworks that enable researchers to thrive and produce high-quality work, which has direct implications for knowledge generation, societal impact, and academic reputation. Figure 5 displays the 10 most productive research institutions based on the number of publications. The University of California holds the top position with 96 publications on transgender health research, followed by Harvard Medical School with 64 publications, and the University of Michigan with 46. The majority of the research institutions is from the US and developed nations.

### Performance Analysis of Influential Journals

This section examines the ten most highly cited journals in transgender health research, detailing their respective publishing houses, the total number of publications, h-index, and total citations received. Leading the field is the International Journal of Transgenderism, published by Taylor and Francis, which has 66 publications, a total of 4,256 citations, and an h-index of 24. Following closely is Transgender Health, published by Mary Ann Liebert, with 61 publications and a total of 1,366 citations.

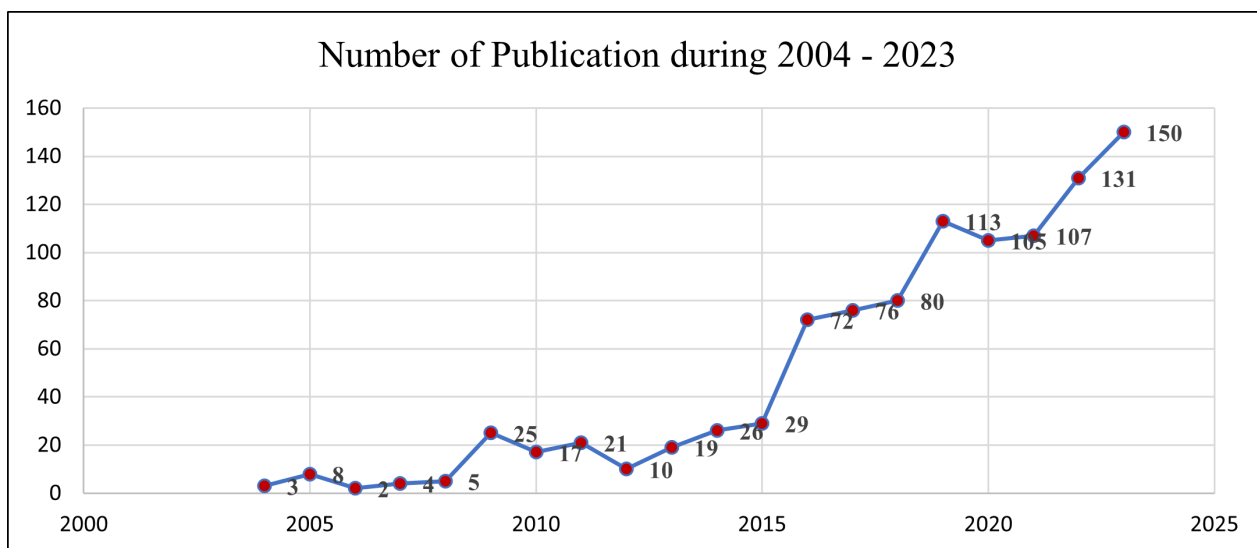


Figure 4: Transgender Health Publication of 2004-2023 periods.

Table 1: Top Ten Authors Based on the Number of Publications.

Author	Affiliation	h_index	TC	NP	Share (%)
Bockting Walter	Columbia School of Nursing.	14	3244	22	12.15
Reisner Sari L.	University of Michigan.	18	4002	21	11.60
Knudson Gail	University of British Columbia.	12	3896	21	11.60
Arcelus Jon	University of Nottingham.	14	2117	20	11.05
Bouman Walter Pierre	University of Nottingham.	13	1560	20	11.05
Safer Joshua D.	Icahn School of Medicine at Mount Sinai.	12	1627	20	11.05
Tangpricha Vin	Emory University.	13	4895	17	9.39
Nieder Timo O.	University Medical Center Hamburg-Eppendorf.	10	1353	16	8.84
Fraser Lin	Saint Francis Memorial Hospital, San Francisco.	8	3481	12	6.63
Coleman Eli	University of Minnesota.	7	3433	12	6.63

[Note: TC-Total Citations, NP-Number of Publications].

The other journals in the list are the Journal of Sexual Medicine, LGBT Health, American Journal of Public Health, Archives of Sexual Behavior, International Journal of Transgender Health, The Lancet, Journal of Adolescent Health and Plastic and Reconstructive Surgery.

### Highly Cited contributors

The citations attributed to an author recognize their intellectual contributions to a specific field of research. Figure 6 illustrates the authors with the highest citation counts. Out of the 3,180 authors in the dataset, only 447 meet the established threshold of at least two citations. Notably, the largest group of interconnected contributors comprises 399 authors, organized into 19 clusters, featuring 3,149 links and a total link strength of 4,751. Tonia C. Poteat emerges as the leading contributor in this domain, boasting 1,879 citations, 9 published works, and a total link strength of 195. She is closely followed by Sari L. Reisner, who has received

1,813 citations, authored 16 publications, and achieved total link strength of 178.

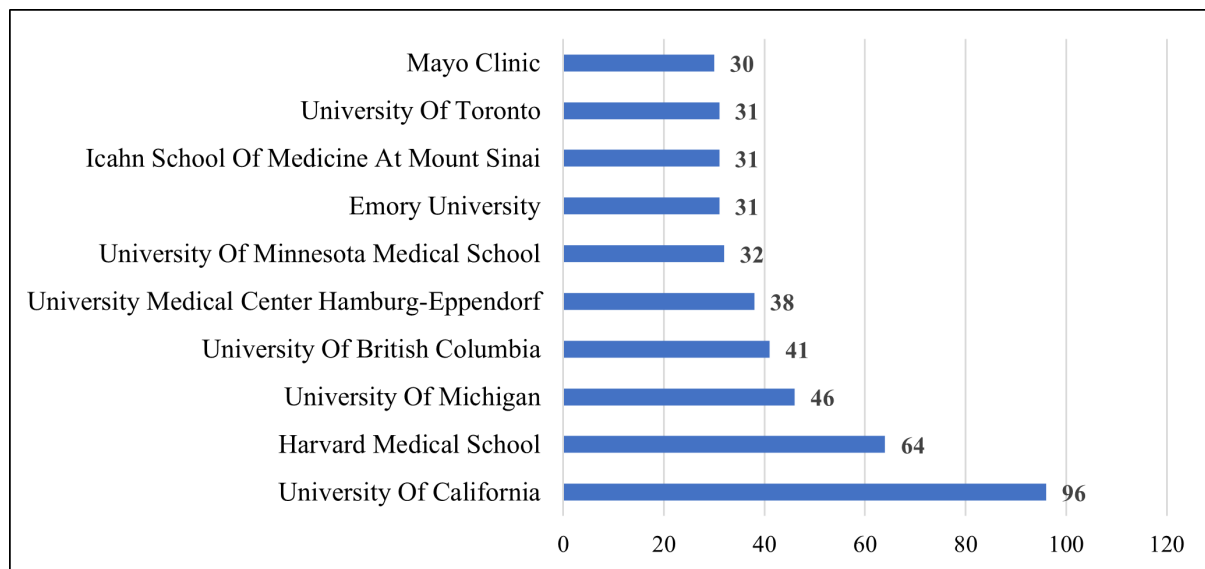
### Highly Cited Journals

Highly cited journals play a significant role in the academic and research landscape. They indicate impactful research that has contributed to a particular discipline or field. Figure 7 shows the collaboration map of the prominent journals in transgender health research with a minimum frequency of 2 for each, meeting 333 the threshold. It includes 65 clusters with 934 links and 1210 total link strengths. Leading ten journals are International Journal of Transgenderism (TC=4256), American Journal of Public Health (TC=1753), Transgender Health (TC=1366), The Lancet (TC=1239), Journal of Sexual Medicine (TC=1064), International Journal of Transgender Health (TC=1005), Journal of Clinical Endocrinology and Metabolism (TC=932), LGBT Health (TC=767), Social Science and Medicine (TC=562) And International Review of Psychiatry (TC=556) Table 5.

**Table 2: Top Ten Cited Journals with Corresponding Publishers, Total Publications, Citations, and H Index.**

Journals	Publisher	h-index	TC	NP	Share (%)
International Journal of Transgenderism	Taylor and Francis	24	4256	66	28.33
Transgender Health	Mary Ann Liebert	21	1366	61	26.18
Journal of Sexual Medicine	Elsevier	15	1064	24	10.30
LGBT Health	Mary Ann Liebert	13	767	22	9.44
American Journal of Public Health	American Public Health Association	8	1753	13	5.58
Archives of Sexual Behavior	Springer	8	303	10	4.29
International Journal of Transgender Health	Taylor and Francis	6	1005	10	4.29
The Lancet	Elsevier	5	1239	10	4.29
Journal of Adolescent Health	Elsevier	6	236	9	3.86
Plastic and Reconstructive Surgery	Lippincott Williams and Wilkins	6	185	8	3.43

[Note: TC-Total Citations, NP-Number of Publications].

**Figure 5:** Top Ten Highly Productive Research Institutions.

### Highly Cited Research Articles

A remarkable book can greatly contribute to the progress of scientific research. A key indicator of this is the favourable responses from readers and fellow authors around the globe regarding the published works. Although the citation count may not reliably measure an article's influence, the high number of citations it receives still serves as evidence of its impact. The top ten articles with the most citations are displayed in Table 3. Of 1005 articles related to transgender health, the average number of citations per document was 29.61. The article "Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7" published in the *International Journal of Transgenderism* in 2012 by (Coleman *et al.* (2012) holds the top cited position obtaining total citations of 2316 and total citations per year of 178.15. This paper sheds light on the various medical protocols that have to be followed in

transgender healthcare and it acts as a good source of information for medical professionals and other healthcare providers.

### Research Trends

Keywords serve as a concise summary and refinement of the article's core content, effectively representing its main themes. The visualization map of keyword occurrences helps to identify the most prominent and frequently occurring theme of the transgender health research field. This helps to identify the hot topics and trace future paths of research in this area. Analyzing keywords along with intellectual structures gives a better understanding of research gaps. Here the author-assigned keywords have been considered, with a minimum frequency of 5 for each term, of the 1701 keywords 130 meet the threshold. Figure 8 shows 130 keyword terms grouped into 8 thematic clusters with 993 links and 1484 total link strengths. The size of the node is directly proportional to the frequency of the term. Based on the

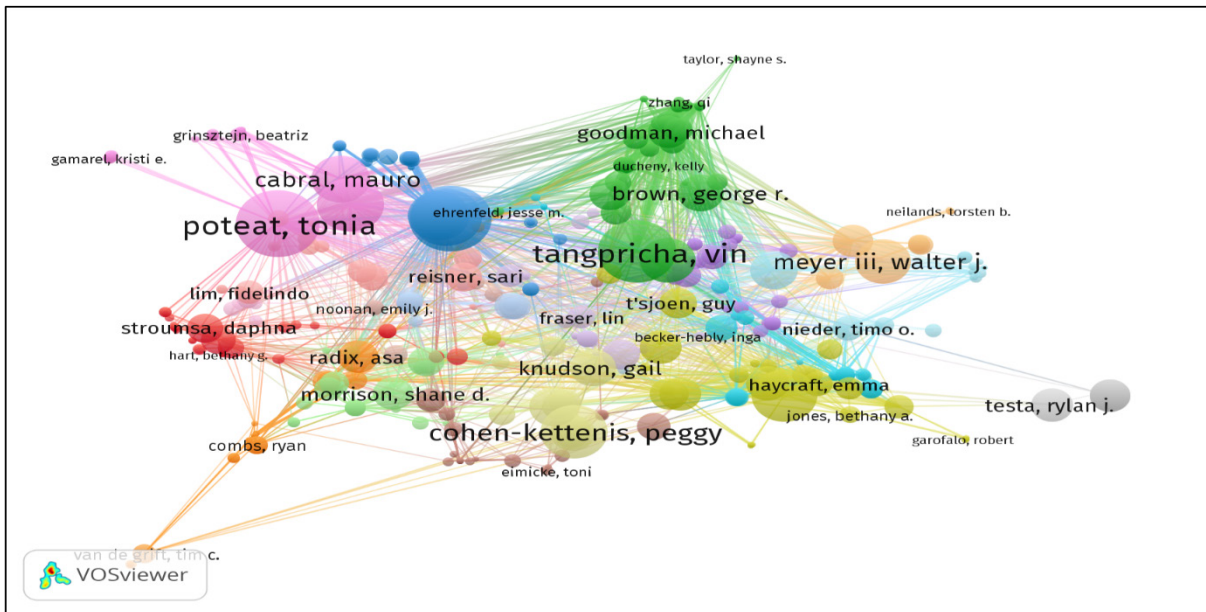


Figure 6: Collaboration Network of the Top Contributors in Transgender Health Research.

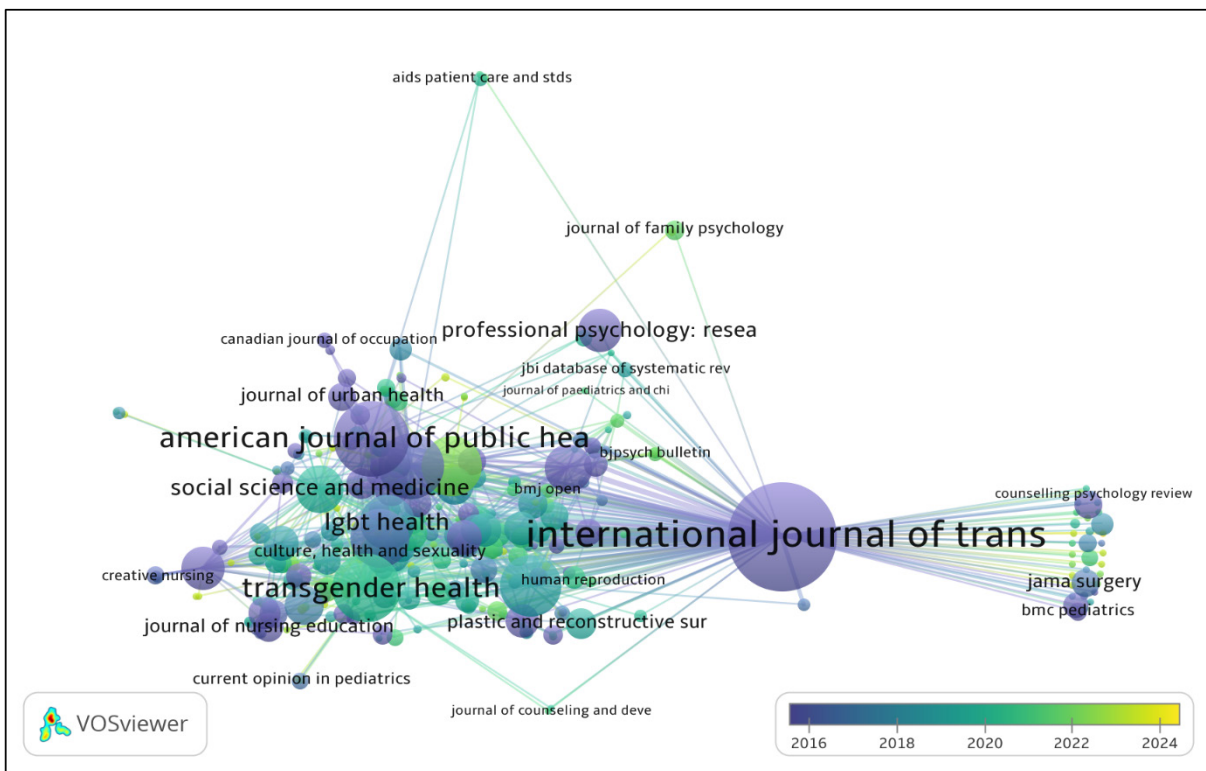


Figure 7: Collaboration Network of the Top Journals.

visualization map, gender dysphoria, gender identity, mental health, transsexual, health disparities, standards of care, gender identity disorder, gender-affirming surgery, transgender persons and vaginoplasty are the most prominently used ten keywords for transgender health research.

### Global Collaboration of the Transgender Health Research

Collaborative efforts across borders allow researchers to better understand and tackle the significant health disparities faced by transgender populations. These include access to care, mental health issues, and specific health needs related to transition and gender-affirming treatments. Moreover, global collaboration allows researchers to incorporate diverse cultural perspectives,

**Table 3: Top Ten Cited Articles with Respective Total Citations, Total Citation per Year and Year of Publication.**

Title	Journal	TC	TC/Y	YP
Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7.	International Journal of Transgenderism	2316	178.15	2012
Standards of Care for the Health of Transgender and Gender Diverse People, Version 8.	International Journal of Transgender Health	941	313.67	2022
Global health burden and needs of transgender populations: a review.	The Lancet	872	96.89	2016
Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline	Journal of Clinical Endocrinology and Metabolism	833	52.06	2009
Experiences of Transgender-Related Discrimination and Implications for Health: Results from the Virginia Transgender Health Initiative Study.	American Journal of Public Health	682	56.83	2013
Managing uncertainty: A grounded theory of stigma in transgender health care encounters.	Social Science and Medicine	500	41.67	2013
Mental health and gender dysphoria: A review of the literature.	International Review of Psychiatry	385	42.78	2016
Transgender Health: Findings from Two Needs Assessment Studies in Philadelphia.	Health and Social Work	370	18.50	2005
The Amsterdam Cohort of Gender Dysphoria Study: Trends in Prevalence, Treatment, and Regrets.	The Journal of Sexual Medicine	369	52.71	2018
Transgender Health in Massachusetts: Results from a Household Probability Sample of Adults.	American Journal of Public Health	345	26.54	2012

[Note: TC-Total Citations, TC/Y-Total Citations per year, YP-Year of Publication].

**Table 4: Top Ten Countries and Number of Publications.**

Country	Number of Publications	Share (%)
United States	701	68.06
Canada	77	7.48
United Kingdom	77	7.48
Australia	40	3.88
Belgium	36	3.50
Netherlands	28	2.72
Germany	21	2.04
Italy	21	2.04
New Zealand	15	1.46
India	14	1.36

which is essential for understanding the unique health needs of transgender individuals in different regions of the world. Figure 5 shows that the US is the leading country in transgender health research, collaborating with Canada ( $n=37$ ), Belgium ( $n=15$ ), the UK ( $n=15$ ), and Australia ( $n=9$ ). The UK follows closely, partnering with Belgium 12 times, Australia 10 times, and Italy 8 times. Countries with more advanced transgender health policies and practices can share their knowledge and experience with others through research collaboration, helping to elevate the standard of care globally.

From Table 4, the United States is seriously dedicated to transgender health research. It had 701 publications (68.06%) during two decades. Canada and the UK followed, with 77 publications each (7.48%). Developed countries in the world hold the top ten positions in this particular research domain, except India, which is in the tenth position with 14 publications (1.36%).

### Prominent Funding Agencies

Funding agencies facilitate collaboration among researchers, healthcare providers, and community organizations dedicated





**Table 5: Top Ten Funding Agencies and Number of Publications.**

Funding Sponsors	NP	Share (%)
National Institutes of Health (Pittsburgh, US).	68	31.05
U.S. Department of Health and Human Services.	35	15.98
National Institute of Mental Health (Columbus, US).	31	14.16
Eunice Kennedy Shriver National Institute of Child Health and Human Development (US).	17	7.76
National Institute of Child Health and Human Development (US).	16	7.31
National Center for Advancing Translational Sciences (US).	12	5.48
National Institute on Drug Abuse (US).	12	5.48
National Cancer Institute (US).	11	5.02
National Institute of Allergy and Infectious Diseases (US).	10	4.57
Canadian Institutes of Health Research.	7	3.20

[Note: NP-Number of Publications].

in transgender health research allows for a deeper understanding of the specific health disparities that transgender individuals face. Through this lens, researchers can identify patterns related to mental health, chronic conditions, and access to care. Such insights are critical for developing targeted interventions and programs to address the unique health challenges within this population. The findings of the present study suggest that “gender dysphoria”, “gender identity”, “mental health”, “transsexuality”, “health disparities”, “standards of care”, “gender identity disorder” etc. are some trending topics within this area. Previous literature states that these are the hot topics in this domain. A comprehensive understanding of research trends encourages partnerships that can elevate collective efforts and generate improved health resources.

Along with the exponential changes in academia, the past 20 years have seen significant developments in societal attitudes and healthcare policies affecting these individuals. By analyzing the research activities during this period, policymakers can gather evidence-based findings that will help shape legislation and public health initiatives aimed at improving access to gender-affirming care. The findings of the current study indicate that a total of 689 publication records originated from the medical field (68.55%), while 343 were generated within the social sciences domain (34.12%). Additionally, the study reported that 112 publication records emerged from psychology (11.14%), and 102 were attributed to the nursing field (10.14%).

The study provides visions into the global collaboration patterns in transgender health research. Even though the US and the UK are contributing exceptionally, many other countries need to be part of this research to promote collaborative research. Global collaboration has a crucial influence on transgender health

research, which often requires multidisciplinary approaches to address the complexity of health needs in this population. The University of California leads the field of transgender health research with an impressive total of 96 publications (9.55%). Following closely is Harvard Medical School, which has contributed 64 publications (9.35%), while the University of Michigan ranks third with 46 publications in this area (4.58%). In addition, The United States National Institutes of Health appears as a main financial supporter, with 68 publications (6.765%) citing it, followed by the U.S. Department of Health and Human Services having acknowledged it in 35 publications (3.48%).

Productive authors in transgender health research play a substantial role by contributing knowledge, shaping future research agendas, fostering collaboration and sharing, enhancing visibility, and guiding policy developments and implementations. Their extensive contributions significantly impact the understanding and improvement of health outcomes for transgender individuals. They influence the direction of future research in the field. By identifying key issues and gaps in knowledge, these authors help set research agendas that prioritize critical areas of inquiry. Their published findings can direct the focus of young researchers, ensuring that important questions about transgender health are consistently addressed. Bocking Walter of Columbia School of Nursing has the top number of research output, which is 22, followed by Reisner Sari L of the University of Michigan with 21 publication records. However, Tonia C. Poteat is the most cited author in this field, which is 1879.

The research paper by Coleman *et al.* (2012) is recognized as the most cited publication in transgender health research. Published by the World Professional Association for Transgender Health (WPATH), this work offers clinical guidance for

healthcare professionals to support transsexual, transgender, and gender-nonconforming individuals. It aims to facilitate safe and effective approaches for these individuals to achieve long-term comfort with their gender identity, ultimately enhancing their overall health, emotional well-being, and sense of fulfilment. Highly cited research papers in transgender health research not only serve as a remarkable knowledge contribution to the literature, but also shape future research agendas, influence policy development, foster international collaboration, and raise awareness of transgender health issues. Their impact is significant not only in academia but also in clinical practice and public health policy.

### Practical Implications

Transgender health research is significantly less common compared to other fields, particularly outside of the US and UK. This scarcity is due to a variety of factors, including inadequate funding, insufficient governmental support, low levels of public awareness, and a perceived lack of social urgency. Ensuring that transgender healthcare is equitable and accessible is crucial, as individuals in this community often face exploitation and harassment, largely stemming from a lack of health and medical awareness. Conducting research in this area is vital for raising awareness and educating transgender individuals about their healthcare rights and options. Therefore, it is essential for governments and universities to prioritize and support research in transgender health. Providing financial backing for these efforts would be a significant step forward in addressing these disparities.

### CONCLUSION

Transgender health research is crucial for several reasons, as it addresses the health disparities prevalent in the transgender healthcare sector and implements theoretical and practical measures to improve access to care. Moreover, it boosts mental health support and gender-affirming treatments while working to reduce stigma and discrimination. Additionally, this field informs public health interventions, supports legal and human rights, and contributes to achieving overall health equity.

Therefore, analysis of the trends in transgender health research over the past 20 years helps to understand how to improve health outcomes, influence policy, promote collaborative efforts, guide future research directions, and thereby, empower transgender communities. The observation that a significant proportion of research contributors, institutions, and funding agencies are based in the United States serves as a wake-up call for other countries. It points out the necessity of focusing more intensely on this field to achieve an equitable transgender healthcare system and foster inclusivity within society.

Collaborative research efforts are instrumental in developing standardized healthcare guidelines that can be implemented

across various countries. This ensures that transgender individuals receive consistent and high-quality healthcare regardless of their geographic location. Furthermore, collaboration enhances the voice of this community on a universal scale, making it easier to advocate for necessary changes and mobilize resources to address pressing health challenges.

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### CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

### ABBREVIATIONS

**FTM:** Female To Male; **HIV:** Human Immuno Virus; **LGBTQ+:** Lesbian, Gay, Bisexual, Transgender, Queer and more; **MTF:** Male To Female; **SOC:** Standard of Care; **WPATh:** World Professional Association for Transgender Health.

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