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Mapping of scholarly research in women's rights: A scientometric analysis

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Abstract

Introduction: This research delves into the global publications on Women's Rights between 2019 and 2023, drawing data from the Web of Science (WoS) core collection database. To analyze the data, the study utilized Bibexcel and VoSviewer tools and presented the results using MS Excel.

Results: The study discovered that there were a total of 4518 publications during this period, with the highest number of papers (965 or 21.36%) published in 2019. The study utilized various methods such as citation analysis, keyword analysis, document type, AGR, EGR, and relative growth rate and doubling time to present research published on Women's Rights. The findings revealed that multi and mega-author contributions dominated the Women's Rights research landscape, with various institutions involved in publishing articles. The study also identified the top most productive institutions and predicted a slight increase in the research output of the source journal in the future.

Conclusion: This research provides valuable insights into the Women's Rights research field, outlining key trends and patterns. These findings can be useful for researchers, policymakers, and other stakeholders interested in Women's Rights research.

Keywords: Women's rights, Scientometric, Web of Science, Relative growth rate and doubling time, Economic, Health

Introduction

The freedoms and advantages that women and girls around the world demand are known as women's rights. They served as the cornerstone for the feminist movements of the 20th and 21st centuries as well as the women's rights movement of the 19th century. These rights are either institutionalised or upheld by local customs, laws, and behaviour in certain nations, whereas they are disregarded and suppressed in others. Their allegations of an ingrained historical and conventional prejudice against women's and girls' exercise of rights in favour of men's and boys' sets them apart from more expansive conceptions of human rights. In 1871, Susan B. Anthony and Elizabeth Cady Stanton founded the National Woman Suffrage Association (NWSA), which petitioned Congress to grant women the right to vote and to be heard on the House floor.

Women's rights are often linked to issues such as maintaining their bodily integrity and autonomy, not being sexually abused, voting, holding public office, signing contracts, having equal rights in family law, working, receiving fair wages or equal pay, having the ability to procreate, owning property, and receiving an education. As human beings, we are all entitled to live a life that is free from violence and discrimination. This means that we should be able to attain the highest level of physical and mental well-being, receive an education, own property, vote, and earn a fair wage for our labour. Everyone must have equal access to decision-making, economic and social freedoms, education, and the ability to pursue their desired career path. To promote gender equality, we must empower women and focus on areas that are crucial to their overall well-being. The National Organization for Women (NOW) is a prominent liberal feminist group in the United States. NOW's primary goal is to advocate for gender equality within the current political system. The organization campaigns for equal rights under the Constitution, economic justice, reproductive rights, LGBTQIA+ rights, and racial justice. Furthermore, NOW opposes violence against women.

Women's rights encompass a multitude of issues, including the right to bodily integrity and autonomy, the right to vote, the right to be free from sexual violence, the right to hold public office, the right to enter into legal contracts, the right to equal rights in family law, the right to work, the right to receive fair wages or equal pay, the right to reproductive rights, and the right to own property.

According to Tague-Sutcliffe (1992), Scientometrics is “*the study of the quantitative aspects of science as a discipline or economic activity. It is a part of the sociology of science and has applications to science policy making.*” The term was introduced and came into prominence with the founding of the journal named ‘Scientometric’ by T. Braunin in 1977, originally published in Hungary and currently from Amsterdam. The scope of the journal is to publish all those studies of quantitative aspects of science as a discipline or economic activity. Scientometrics is part of the sociology of scientific activities, including among others, publication, and so overlaps bibliometrics to some extent. Scientometrics is a branch of the ‘Science of Science’. Nalimov and Mulchenko define this term, “as a sub-field which applies quantitative methods to the study of science as an information process”. In this information model, Publications are carriers of information and promoters of communication

Review of literature

Hasan *et al.* conducted a scientometric review titled "Gender Inequality in the Construction Industry" in 2021. The study explored the underrepresentation of women in different occupations within the construction industry. The review analyzed 128 journal articles published between 2000 and 2019 and identified four significant research clusters, including gender roles, glass walls, job satisfaction, and gender diversity initiatives. The study revealed that there is a need for more comprehensive research to address gender inequality in construction and incorporate recommendations made by different researchers. Kumar (2016) ^[10] used scientometric techniques to study the evolution of women empowerment (WE) research between 1985 and 2018. The study identified 15 topic clusters, 4 author-based co-citation clusters, 4 journal-based co-citation clusters, and 5 clusters covering hot topics and new topics in the study of WE. The analysis revealed patterns of convergence and divergence and the diversity of topics, specialization, and interdisciplinary engagement in WE research. Dehdarirad, Villarroya, and Barrios (2015) ^[5] analyzed 1415 articles and reviews published between 1991 and 2012 to study the development and growth of scientific literature on women in science and higher education. The study revealed an upward trend in both the number of papers and authors per paper. However, international collaboration did not increase with the growth in the number of authors. The study identified 3064 authors from 67 countries contributing to 86 research areas. Education and Educational Research had the highest frequency of papers. Finally, the study showed that countries with higher levels of gender inequality tended to exhibit higher relative values of scientific productivity in the field. Palomo, Figueroa-Domecq, and Laguna (2017) ^[12] conducted a bibliometric analysis of 321 articles published in peer-reviewed journals between 1918 and 2013 to examine the scientific production on women, peace, and security. The

study found a high dispersion of literature in terms of authors and journals focused on the topic, low collaboration, and a focus on the impact of conflict on civilians and civil society. Women were the first, second, and third authors of most papers, and qualitative methodologies were the most commonly used. The study identified research opportunities and contributed to a better understanding of the scientific literature on this topic.

Materials and Methods

To gather information for their research, the scholars employed a range of Women's rights-related search terms and sifted through the Web of Science bibliographic database, published by Thomson Reuters. The study was conducted for five years, from 2019 to 2023, resulting in 4518 records being obtained. The team utilized several analytical tools, such as Hitscite, Bibexcel, and VOS Viewer, to produce maps based on the collected data. In addition, Excel was utilized to deduce findings from the processed data.

Objectives of the Study

The following are the main objectives of this study

- Determine the publication of records every year
- Find the Relative Growth Rate (RGR) and Doubling Time
- Identify the distribution of records based on language
- Determine the distribution of records based on document type
- Calculate the Annual growth rate (AGR) and Exponential growth rate (EGR)
- Identify the distribution of publications based on the country

Data analysis and interpretations

Table 1: Year-wise Publication with Citations

S. No	Year	Records	Percentage	Citation	H-Index
1	2023	764	16.91%	10250	42
2	2022	895	19.81%	7206	33
3	2021	933	20.65%	4766	25
4	2020	961	21.27%	2135	16
5	2019	965	21.36%	419	7
Total		4518	100%	24776	123

Table 1 brings out the growth pattern of research productivity at the Global level in Women's rights for the year 2019 to 2023. The results mirror that the maximum number of scientific papers is more than three digits. The highest number of research articles (965, 21.36%) were published from all over the Global output in 2019 with 419 Citation articles and 7 H-index. It is identified from Table 1 based on the papers at the global level, the colossal number of (961, 21.27%) articles were published in 2020 with 2135 citations and 16 H-index. Moreover, the least number of papers (764, 16.91%) and below were found almost before 2023. The growth rate has gradually decreased except in 2020 in terms of Global productivity and the growth rate has slightly decreased compared with Global literature on Women's rights during the study period.



Fig 1: Year wise publications

Table 2: EGR (Exponential Growth Rate)

S. No	Year	Records	EGR
1	2023	764	
2	2022	895	1.17
3	2021	933	1.04
4	2020	961	1.03
5	2019	965	1.00
Total		4518	4.25

Table 3: AGR (Annual Growth Rate)

S. No	Year	Records	AGR
1	2023	764	
2	2022	895	17.15
3	2021	933	4.25
4	2020	961	3.00
5	2019	965	0.42
Total		4518	6.20

Table 2 presents the exponential growth rate of publications about Women’s rights Research over thirty years from 2019 to 2023. The data reveals a consistent decrease in the growth rate during this interval. In the year 2022, the highest growth rate of 1.17 was observed, followed by 1.04 in 2021 and 1.03 in 2020, respectively. Conversely, the lowest growth rate of 1.00 was recorded in 2019. On average, the exponential growth rate over the study period was 4.25. These findings have important implications for the research community, as they suggest a growing interest in Women’s rights Research and its potential for continued advancements in the field.

Table 3 shows the Annual Growth Rate (AGR) of publications for Five years (2019-2023). AGR is commonly used to measure the growth of publications and indicates the increase or decrease in the number of publications annually. The growth rate ranged from 0.42 to 17.05 over the years, indicating fluctuations in the number of publications. The highest growth rate was observed in 2022, with an annual growth rate of 17.15, followed by 4.25 in 2021. This suggests that the number of papers published each year does not increase at the same rate every year and there are fluctuations in the growth rate of publications.

Table 4: Relative Growth Rate and Doubling Time

Year	Records	Cumulative	W1	W2	W2-W1	Mean RGR	Dt = 0.693/R(A)	Mean Dt
2023	764	764	6.64	6.64	0	1.12	0.69	0.69
2022	895	1659	6.79	7.41	0.62			
2021	933	2592	6.84	7.86	1.02			
2020	961	3553	6.87	8.18	1.31			
2019	965	4518	6.87	8.42	1.55			
Total	4518							

Table 4 describes the analysis of the Relative Growth Rate (RGR) and Doubling Time (DT) for the total research output of Women’s rights at the global level. It is calculated that globally 965 research publications were found in (2019), and it will decrease gradually to 725 in 2022. It can be observed that the relative growth rate of Women’s rights falls between 1.55 in 2019 and 0.62 in the year 2022. It also evaluated the

doubling time for the literature output of Women’s rights at the global level. It revealed that the declining trend and range was from 0.45 in 2019 to 1.12 in 2022. Therefore, the results show that the relative growth rate has an increasing trend in terms of publications. In contrast, the doubling time has seen the increasing movement in Women’s rights during the research period.

Table 5: Document Types

S. No	Documents	Records	Percentage
1	Art Exhibit Review	1	0.02%
2	Article	4,016	88.89%
3	Biographical-Item	2	0.04%
4	Book Chapters	6	0.13%
5	Book Review	90	1.99%
6	Correction	3	0.07%

7	Early Access	1,803	39.91%
8	Editorial Material	123	2.72%
9	Letter	10	0.22%
10	Meeting	1	0.02%
11	Meeting Abstract	8	0.18%
12	Music Performance Review	1	0.02%
13	News Item	7	0.16%
14	Proceeding Paper	13	0.29%
15	Retracted Publication	2	0.04%
16	Review Article	256	5.67%

Table 5 provides a detailed analysis of document types in Women’s rights research literature. A total of 4,016 records (88.89%) are articles, showing the emphasis on original research contributions. Review articles make up 5.67% (256 records), highlighting the importance of synthesizing existing knowledge. Proceeding papers represent 0.29% (13 records), indicating the significance of conferences in disseminating research findings. Editorial material (2.72%, 123 records), and book chapters (0.13%, 6 records). News items (0.10%, 5 records) and corrections (0.06%, 3 records) are infrequent. Retracted publications make up only 0.16% (7 records), which demonstrates the importance of scientific integrity in Women’s rights research. This comprehensive breakdown shows the multifaceted and collaborative nature of scholarly communication in the global Women’s rights research community.

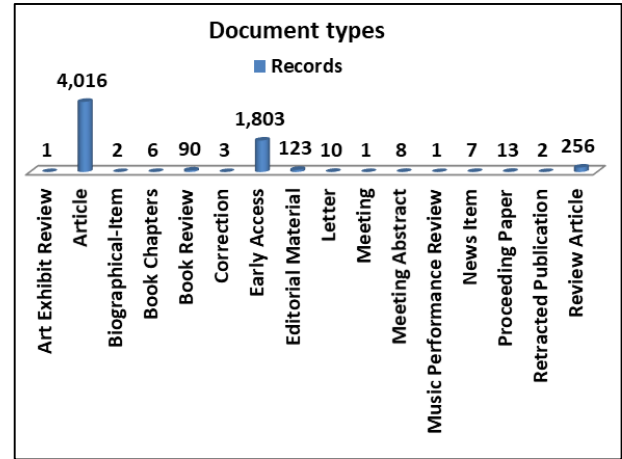


Fig 2: Document types

Table 6: Most Prolific Authors (Top 20)

S. No	Authors	Records	Percentage
1	Ahinkorah BO	5	0.11%
2	Bohren MA	6	0.13%
3	Coates D	6	0.13%
4	Cooper M	8	0.18%
5	Creedy DK	8	0.18%
6	Crowther S	6	0.13%
7	Dahlen HG	13	0.29%
8	Davis D	7	0.16%
9	Fardouly J	6	0.13%
10	Gamble J	8	0.18%
11	Hauck Y	6	0.13%
12	Loxton D	6	0.13%
13	Manson JE	6	0.13%
14	Mulgrew KE	7	0.16%
15	Prichard I	6	0.13%
16	Rosen NO	6	0.13%
17	Schmied V	8	0.18%
18	Shadyab AH	10	0.22%
19	Sweet L	11	0.24%
20	Thomson G	6	0.13%

Table 6 provides an Author-wise distribution at global level, which shows the scientific output of each author along with the number of authors received. The study has focused on the top 20 most productive authors in Women’s rights research at a global level. The first position is held by “Ahinkorah BO

”, who has published 5, (0.11%) papers in this field, In second place is “Bohren MA,” with 6 (0.13%) papers published. These numbers show that these authors have made significant contributions to the field of Women’s rights research

Table 7: Languages Wise Distribution (Top 15)

S. No	Language	Records	Percentage
1	Chinese	2	0.04%
2	Croatian	2	0.04%
3	English	4,380	96.95%
4	French	49	1.09%
5	German	8	0.18%

6	Hungarian	1	0.02%
7	Italian	5	0.11%
8	Lithuanian	2	0.04%
9	Norwegian	2	0.04%
10	Polish	4	0.09%
11	Portuguese	20	0.44%
12	Russian	11	0.24%
13	Spanish	26	0.58%
14	Swedish	4	0.09%
15	Turkish	2	0.04%

Table 7 presents a breakdown of records across different languages in the Women’s rights research literature, providing insights into the language distribution. The majority of records, constituting a significant 96.95% of the total (4380), are in English, highlighting its dominance as the primary language for scientific communication in the Women’s rights research field. The second most prevalent language is French with 49 records (1.09%), followed by Portuguese with 20 records (0.44%) and Spanish with 26

records (0.58%). The inclusion of Russian, with 11 records (0.24%), is an interesting and less common occurrence, showcasing the diversity in languages involved in Women’s rights research, albeit on a smaller scale. Overall, this language distribution provides valuable insights into the linguistic landscape of Women’s rights literature, with English playing a predominant role while acknowledging the contributions of other languages to the global and collaborative nature of Women’s rights research.

Table 8: Countries Wise Distribution

S. No	Countries	Records	Percentage
1	Australia	467	10.34%
2	Belgium	55	1.22%
3	Brazil	138	3.05%
4	Canada	251	5.56%
5	Denmark	56	1.24%
6	England	584	12.93%
7	Ethiopia	62	1.37%
8	France	137	3.03%
9	Germany	154	3.41%
10	Ghana	50	1.11%
11	India	119	2.63%
12	Ireland	54	1.20%
13	Israel	64	1.42%
14	Italy	115	2.55%

Table 8 indicates the international collaborative research on Women’s rights in Global level. Out of 123 scientific publications, the maximum number of outputs (467, 10.34%) in Australia research outputs. The other countries such as England (584, 112.93%), and Germany (154, 3.05%) got the third position

and then India got 11th place (119, 2.63%) in the research field of Women’s rights. Moreover, other countries are Brazil, Canada Italy, France, Ghana, Ireland etc. respectively. The results indicate that very few papers were published by some big countries and it shows that the collaborative countries.

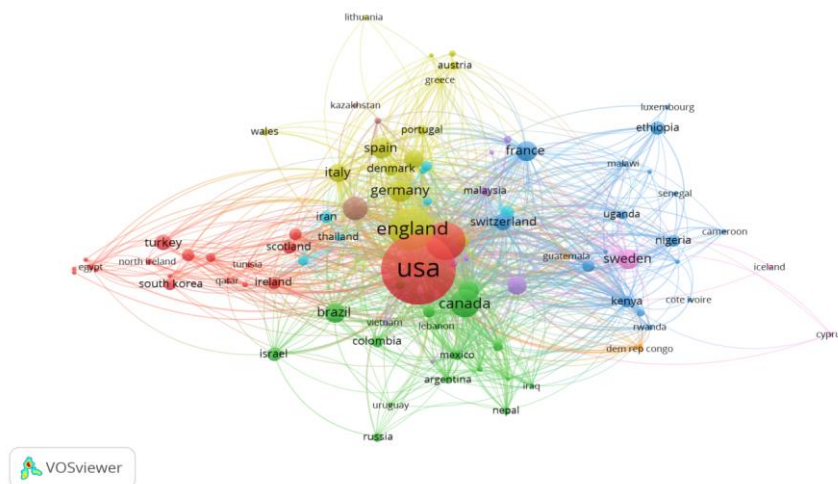


Fig 3: Countries Wise Distribution

Table 9: Institutions and University-based distribution (Top 10 out of 533)

S. No	Institutions	Records	Percentage
1	Brigham Women S Hospital	45	1.00%
2	Columbia University	39	0.86%
3	Emory University	42	0.93%
4	Flinders University South Australia	39	0.86%
5	Harvard Medical School	50	1.11%
6	Harvard University	119	2.63%
7	Johns Hopkins University	53	1.17%
8	Monash University	66	1.46%
9	Pennsylvania Commonwealth System Of Higher Education Pcshe	65	1.44%
10	State University of New York Suny System	40	0.89%

Table 9 indicates the literature outputs from Institutions and Universities in the field of Women’s rights during the study period. Out of 533 institutions, we have chosen to analyse only the top most productive research papers which are published by the eminent scholars and faculty members of the Women’s Rights Department. Table 9 illustrates the results with the highest number of articles 119 (2.63%) published by “Harvard University” and the same articles with 66 (1.46%)

published by “Monash University” they have placed in the first and second positions. The third place was “Pennsylvania Commonwealth System of Higher Education Pcshe” with 65 (1.44%). After fifth place, other institutions and universities are below 50 publications. The other institutions and universities listed in the table above have been placed in the next-level positions based on the research papers on Women’s rights.

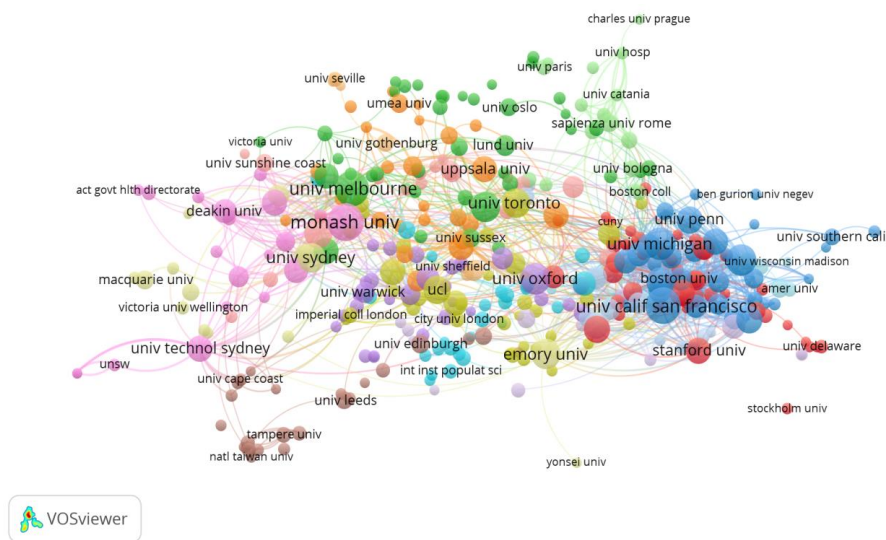


Fig 4: Institutions and University-based distribution

Table 10: Web of science categories

S. No	Web of science categories	Records	Percentage
1	Area Studies	97	2.15%
2	Communication	89	1.97%
3	Development Studies	137	3.03%
4	Economics	237	5.25%
5	Environmental Studies	80	1.77%
6	Family Studies	81	1.79%
7	History	279	6.18%
8	International Relations	104	2.30%
9	Law	131	2.90%
10	Medicine General Internal	96	2.13%

The Web of Science Categories provides valuable

information on research related to Women’s rights. The table above presents a global overview of collaborative research efforts on this subject. Out of the 131 scientific publications, "Economics" accounted for the highest number of research outputs with 237 (5.25%), followed by "History" and "Development Studies " with 137 (3.03%) and 279 (6.18%) research outputs respectively. Research outputs on Women’s rights. Categories such as Area Studies, Communication, Environmental Studies, Family Studies, International Relations, Medicine General Internal, Law, etc have less than 1000 records. These findings provide insight into the research trends and areas of focus, which may inform future research and clinical practice in the field of Women’s rights.

Table 11: Web of Science Index

S. No	Web Of Science Index	Records	Percentage
1	Arts & Humanities Citation Index (A&HCI)	589	13.04%
2	Book Citation Index – Social Sciences & Humanities (BKCI-SSH)	6	0.13%
3	Book Citation Index – Science (BKCI-S)	1	0.02%
4	Index Chemicus (IC)	1	0.02%
5	Conference Proceedings Citation Index – Social Science & Humanities (CPCI-SSH)	10	0.22%
6	Conference Proceedings Citation Index – Science (CPCI-S)	8	0.18%
7	Science Citation Index Expanded (SCI-EXPANDED)	1,933	42.78%
8	Social Sciences Citation Index (SSCI)	3,346	74.06%

Table 4.37 presents the distribution of publications across 8 different Web of Science Indexes, including Science Citation Index Expanded (SCI-EXPANDED), Conference Proceedings Citation Index – Science (CPCI-S), Social Sciences Citation Index (SSCI), Book Citation Index – Science (BKCI-S), Arts & Humanities Citation Index (A&HCI), Conference Proceedings Citation Index – Social Science & Humanities (CPCI-SSH), and Index Chemicus

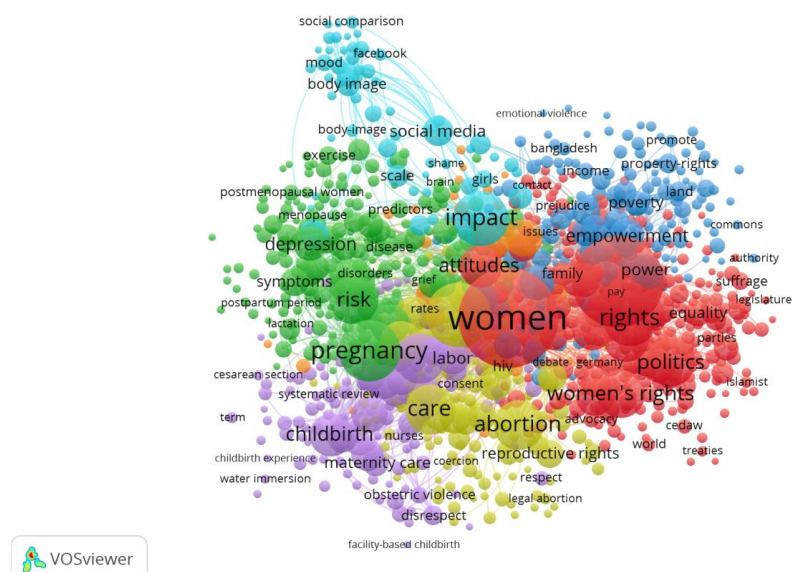
(IC). This table is an important contribution to Women’s rights research at a global level. The results show that the highest number of publications were found in the “Science Citation Index Expanded (SCI-Expanded)” with 1933 (42.78%), followed by “Social Sciences Citation Index (SSCI)” with 3346 (74.06%). On the other hand, the lowest numbers of publications were found in “Index Chemicus (IC)” with only 1 (0.02%) publication.

Table 12: Keywords wise publications

S. No	Keywords	Records
1	Women	532
2	Gender	368
3	Health	307
4	Impact	238
5	Rights	214
6	Pregnancy	196
7	Care	196
8	Risk	190
9	Experiences	180
10	Politics	174
11	Prevalence	171
12	Attitudes	131
13	Outcomes	125
14	Childbirth	110
15	Violence	104

Table 12 and the below picture reveals the frequency of Women’s rights research. The research has taken up the occurring words. The word “Women” in the database of the Web of Science on searching has been repeatedly used 532 times by Women’s rights research scientists during the study

period, followed by “Gender” 368 times. The word “Health” occupies the third position being used 307 times, and “Impact” with 238 records got fourth place in this research study.

**Fig 5:** Keywords wise publications

Findings and Conclusion

The present study conducted a scientometric analysis to provide a comprehensive overview of the scholarly research landscape in the field of women's rights. The study was conducted over five years, from 2019 to 2023, and involved an examination of 4518 records obtained from the Web of Science bibliographic database. The analysis employed various tools and techniques, including Hitscite, Bibexcel, and VOS Viewer, to map the research trends and patterns. The analysis revealed a fluctuating pattern in research productivity over the years, with the highest number of publications in 2019 (965) and a gradual decline thereafter. However, the exponential growth rate remained positive, indicating a sustained interest in women's rights research. The majority of publications were articles (88.89%), which highlights the emphasis on original research contributions. Review articles (5.67%) were also significant, indicating efforts to synthesize existing knowledge in the field. English dominated as the primary language of publication (96.95%), highlighting its role as the lingua franca of scientific communication in the field of women's rights research. Other languages, such as French, Portuguese, and Spanish, also contributed to the literature, albeit to a lesser extent. Australia emerged as the leading country in research output (10.34%), followed by England (12.93%) and Germany (3.41%). The collaborative nature of research was evident, with contributions from various countries across the globe. Institutional analysis revealed that Harvard University was the most prolific institution (2.63%), followed by Monash University (1.46%) and the Pennsylvania Commonwealth System of Higher Education (1.44%). These institutions played a significant role in advancing women's rights research. Economics, History, and Development Studies were the most prevalent research areas, indicating diverse interests and interdisciplinary engagement in women's rights research.

In conclusion, this scientometric analysis provides valuable insights into the scholarly landscape of women's rights research. The findings underscore the global interest and collaborative efforts in advancing knowledge in this important field. The identified trends and patterns can inform future research directions and policy interventions aimed at promoting gender equality and women's rights worldwide.

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